AGENDA NO.4

PLANNING COMMISSION CITY OF OCEANSIDE

DATE: June 23, 2025

TO: Chairperson and Members of the Planning Commission

FROM: Development Services Department/Planning Division

SUBJECT: **CONSIDERATION OF A GENERAL PLAN AMENDMENT (GPA22-00002), ZONE AMENDMENT (RZA22-00001), LOCAL COASTAL PROGRAM AMENDMENT (LCPA22-00004), VESTING TENTATIVE MAP (T22-00006), DEVELOPMENT PLAN (D22-00016), AND REGULAR COASTAL PERMIT (RC22-00011) FOR THE OCEANSIDE TRANSIT CENTER SPECIFIC PLAN TO ALLOW THE REDEVELOPMENT OF THE TRANSIT CENTER INTO A MIXED-USE PROJECT CONSISTING OF A MODERN INTERMODAL TRANSIT FACILITY, RESIDENTIAL, RETAIL, OFFICE, AND HOTEL USES ON A 10.15-ACRE SITE AT 235 SOUTH TREMONT – OCEANSIDE TRANSIT CENTER REDEVELOPMENT PROJECT – APPLICANT: TOLL BROTHERS APARTMENT LIVING**

RECOMMENDATION

Staff recommends that the Planning Commission by motion:

(1) Adopt Planning Commission Resolution No. 2025-15 recommending City Council certification of an Environmental Impact Report (SCH No. 2023010231) and approval of General Plan Amendment (GPA22-00002), Zone Amendment (RZA22-00001), Local Coastal Program Amendment (LCPA22-00004), Vesting Tentative Map (T22-00006), Development Plan (D22-00016), and Regular Coastal Permit (RC22-00011) for approval of the Oceanside Transit Center Specific Plan and redevelopment of the Oceanside Transit Center into a mixed-use development on a 10.15-acre site.

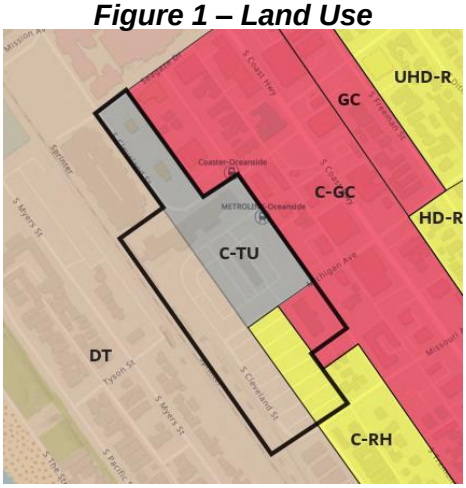
LOCATION AND BACKGROUND

The project site is located at the existing Oceanside Transit Center (OTC) at 235 South Tremont. Bordered by Seagaze Drive, South Tremont Street, and Missouri Avenue, the 10.15-acre site is owned and operated by the North County Transit District (NCTD) as an intermodal transit center with both bus and train facilities. OTC serves as a regional hub for NCTD's Coaster and Sprinter rail lines, Breeze bus service, as well as Metrolink and

Amtrak interregional rail service and Greyhound bus service. The existing transit facility is comprised of a bus transfer center, train platforms, NCTD offices, and two (2) public parking lots with 560 spaces that primarily serve weekday commuters and weekend beach-goers. The existing parking structure at Cleveland Street and Seagaze Drive is owned by the City and is excluded from the boundaries of the OTC project site.

The property is located entirely within the City's Coastal Zone with a portion of the site located within the boundaries of the Downtown District. As depicted in Figure 1, multiple coastal land use designations encompass the property, including Downtown (DT), Coastal Transportation and Utility (C-TU), Coastal Residential High Density (C-RH), and Coastal General Commercial (C-GC). Corresponding zoning consists of Downtown District: Public Transportation and Railroad (D-14) and High Density Residential (D-5). The remainder of the site is zoned Public Utility and Transportation (PUT), Office Professional, Coastal (OP), and Medium Density Residential, Coastal (R-3). Surrounding land uses consists of a variety of single and multi-family residential and commercial uses. Downtown is located directly north of the transit center.

Figure 1 – Land Use



In 2016, the NCTD Board of Directors adopted a policy that would pursue development of some of its real estate holdings, including OTC, with a goal of reducing automobile reliance, increasing transit ridership, and creating jobs and affordable housing. The NCTD Board selected Toll Brothers Apartment Living through a competitive proposal process to develop and implement the vision for OTC as an important regional transit hub. The revitalized OTC is envisioned as a vibrant, mixed-use hub with a modernized and efficient transit center, including bus and train connections and improved bicycle and pedestrian circulation.

Figure 2 – Project Site



Additionally, the NCTD Headquarters would be relocated from their current location at 810 Mission Avenue to a new office building at OTC. As a result, the Mission Avenue site would also be redeveloped as a mixed-use development with 206 multi-family dwelling units to create additional mixed-income housing opportunities. Fifteen percent of the units, both at the OTC and 810 Mission site, would be reserved as affordable for moderate and lower income households.

PROJECT DESCRIPTION

The proposed project would encompass redevelopment of the approximate 10.15-acre Oceanside Transit Center into a mixed-use, transit-oriented development featuring a

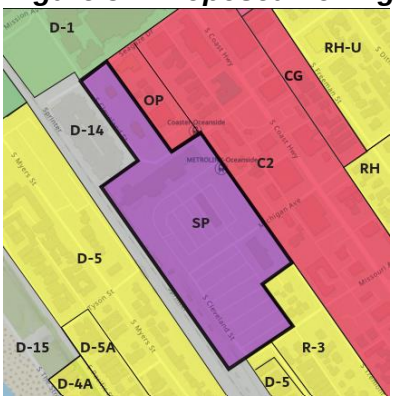
modern intermodal transit facility for travelers by bus and train. To facilitate the project, the applicant is requesting approval of a Specific Plan to serve as the regulating document for the property, including land use regulations, development standards, and design guidelines.

Requested Entitlements

1. **General Plan Amendment:** A request to change land use designations from Downtown (DT), Coastal Transportation and Utility (C-TU), Coastal Residential High Density (C-RH), and Coastal General Commercial (C-GC) to Specific Plan. The re-designation to Specific Plan would also remove the project site from the Downtown District.

2. **Zone Amendment:** A request to change existing zoning designations from Downtown District: Public Transportation and Railroad (D-14) and High Density Residential (D-5), Public Utility and Transportation (PUT), Office Professional, Coastal (OP), and Medium Density Residential, Coastal (R-3) to Specific Plan and consideration of the OTC Specific Plan to serve as the regulating document.

Figure 3 – Proposed Zoning



3. **Local Coastal Program Amendment:** A request to amend the Land Use Plan of the Local Coastal Program concurrent with the GPA and ZA in accordance with the California Coastal Act and establish the OTC Specific Plan as part of the implementing document of the Local Coastal Program.

4. **Vesting Tentative Map:** A request to subdivide the project site into eight parcels to align with the development plan.

5. **Development Plan:** A request for the construction a mixed-use development project consistent with land use regulations, development standards, and design guidelines of the OTC Specific Plan and in compliance with applicable City ordinances. The Development Plan includes the proposed site layout, site improvements, architectural plans, and additional details related to aesthetics, building orientation, circulation, and landscaping.

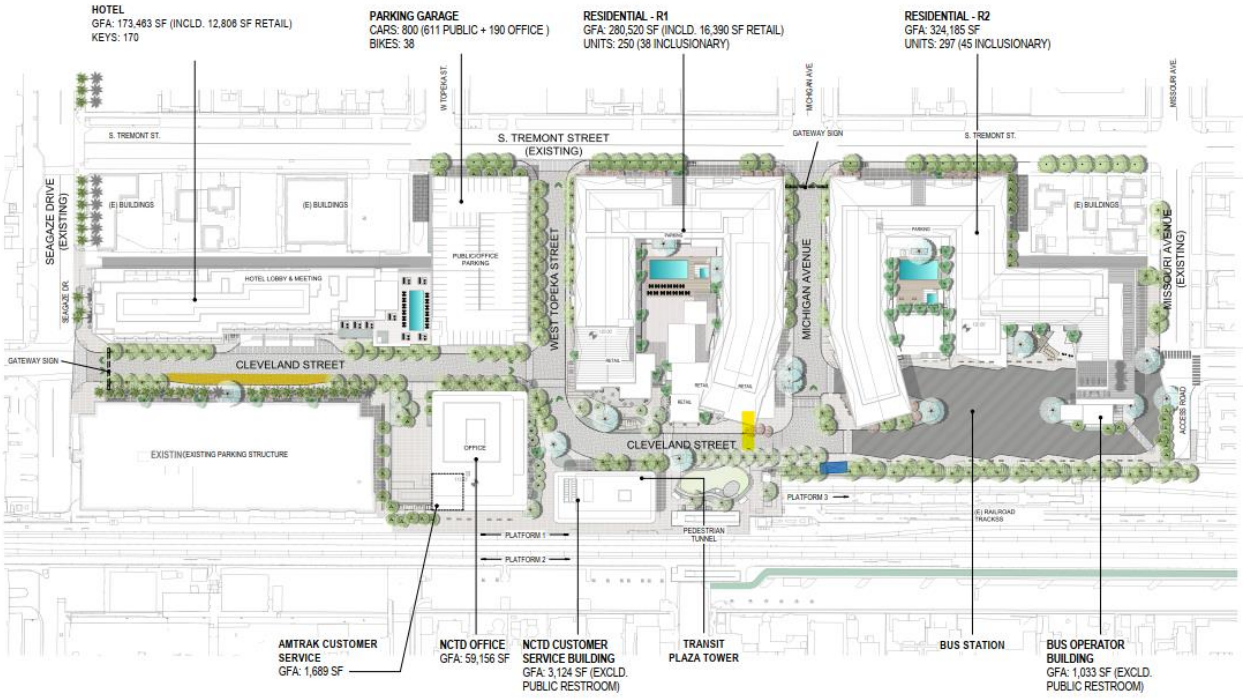
6. **Regular Coastal Permit:** A request for a Regular Coastal Permit in conjunction with a discretionary project in the Coastal Zone as required by the City's Coastal Permit Handbook.

Oceanside Transit Center (OTC) Specific Plan

In accordance with CA Government Code Section 65450 et seq., a Specific Plan is a regulatory tool used for implementing policies of a jurisdiction's adopted general plan and individual development proposals in a defined area. A Specific Plan customizes the development goals and objectives, as well as land use regulations consistent with the jurisdictions' vision for the property as provided in the general plan or local coastal program.

Purpose: The purpose of the OTC Specific Plan is to provide for the coordinated development of a new, high quality mixed-use project and intermodal transit facility within the identified boundaries. The OTC Specific Plan (Attachment No. 2) includes a description of the proposed project, and sets forth the land use program, development standards, design guidelines, and primary infrastructure components that will guide development of the project across multiple phases.

Figure 4 – Site Plan



Objectives: The OTC Specific Plan includes several objectives, including supporting public transit through transit-oriented development (TOD), promoting economic development in the coastal zone, increasing the availability of housing supply and affordable housing opportunities, improving connectivity with surrounding neighborhoods, and improving the character of the surrounding community.

Key Components: The proposed development is divided into seven blocks with a focus on the following features:

- **NCTD Headquarters**: The project would include the construction of a four story, 59,156 square foot office building for NCTD Headquarters on Block 7. Located adjacent to the train platform, the building would feature cascading roof decks and terraces at every level. A 1,692 square-foot Amtrak Customer Service Center would be located on the ground floor.

- **Residential apartments:** Development on Blocks 3 and 4 would consist of the construction of two, five-story buildings with a combined total of 547 residential apartment units. The building on Block 3 would include 250 units and 16,930 square feet of commercial space for retail, food and beverage sales. The building on Block 4 would include 297 units. Both buildings would have interior courtyards with common outdoor space and recreational amenities. A combined total of 790 parking

spaces for residents would be located above and below grade of the buildings.

- **Affordable housing:** The project would reserve fifteen percent (approximately 82 units) of the 547 new units as deed restricted affordable units. Ten percent (55 units) would be reserved for low income households and five percent (27 units) would be reserved as moderate income households.

- **Intermodal transportation & support center:** The project would include a series of transit facility improvements to improve on-site bus circulation and promote intermodal connectivity. An NCTD customer service building would be centrally located in the Transit Plaza to provide proximity to both rail and bus boarding. Twelve (12) commuter bus bays and a relocated bus transfer station would be located at the southern end of the site to better facilitate the transfer between bus and rail service.

- **Transit Plaza:** A central Transit Plaza would function as the activity hub of the project designed to accommodate a variety of modestly scaled community activities and events, such as seasonal events, passive art installations, and street musician performances. The plaza would incorporate a green space with canopy trees, shade structures, and interspersed seating to accommodate commuters and other plaza users.

- **Boutique Hotel:** Development on Block 1 would include the construction of a 173,463 square-foot boutique hotel with 170 rooms, associated amenities, and 12,806 square feet of space for retail and food and beverage sales.

- **Retail, food and beverage services:** The project would include a total of 29,196 square feet of commercial space reserved for retail and food and beverage uses dispersed between Blocks 1 and 3.

- **Circulation Improvements:** The project would incorporate a variety of circulation improvements across the site to enhance the experience for bus and rail commuters. Relocation of the bus terminals would improve the connection time for rail commuters. Automobile circulation would be designed to efficiently direct vehicles to parking facilities and pick up and drop off zones. An urban streetscape would enhance pedestrian movement throughout the site.

- **Mobility Hub:** OTC is identified as one of eight (8) prototype sites within the region that is ideal for implementing mobility hub features identified by SANDAG's Regional Mobility Hub strategy. Mobility hubs are transportation centers located in smart growth areas served by high frequency transit service. The project would support near and long-term mobility hub features including enhanced waiting areas, passenger loading areas, bikeshare, on-demand ride share, and wayfinding.

- **Parking Facilities:** The project would include a total of 1,768 parking stalls for public and private use. Parking would be provided throughout the site in above and below grade parking structures. Replacement parking for the two existing public surface parking lots (560 spaces) would be located on Block 2 in a new above and below

grade parking structure with a total of 801 spaces. A total of 611 spaces would be reserved for public use with the remaining spaces reserved for office parking. Additionally, secured bike parking would be provided throughout the transit center.

Development Program: Development would total approximately 850,000 square feet on seven (7) separate parcels designated as Blocks 1-7 in the Specific Plan.

Figure 5 – Development Parcels

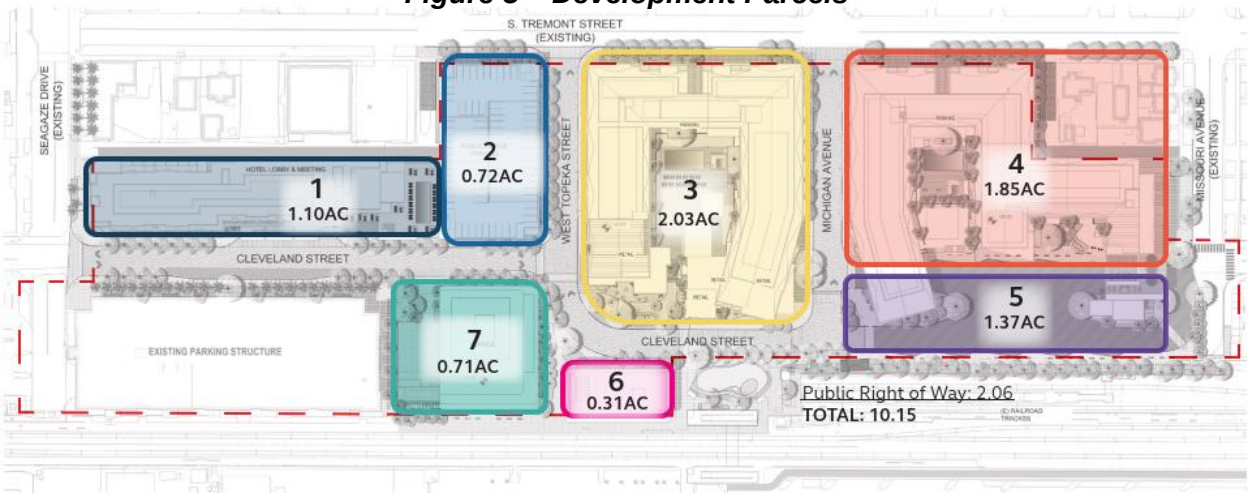


Table 1 – Development Program		
Block	Use	Features
1	**Boutique Hotel** *173,463 SF*	▪ 170 rooms with amenities ▪ 12,806 sf of retail / food and beverage ▪ **Height:** Six stories with max height of 81'-0" ▪ **Parking:** 177 spaces above & below grade
2	**Parking Structure**	▪ Above & below grade parking structure with 10 levels ▪ 1,924 sf community room ▪ **Parking:** 801 spaces (611 for public and 190 for office) ▪ **Height:** Seven stories with a max height of 90'-0"
3	**Mixed-use Residential Building** *280,520 SF*	▪ 250 residential apartments (37 affordable units) ▪ 16,390 sf pf retail / food and beverage ▪ **Height:** Five stories with max height of 68'-0" ▪ **Parking:** 381 spaces above & below grade
4	**Residential Building** *324,185 SF*	▪ 297 residential apartments (45 affordable units) ▪ **Height:** Five stories with max height of 68'-0" ▪ **Parking:** 409 spaces above & below grade
5	**Bus Station**	▪ Twelve (12) commuter bus bays ▪ 1,033 sf bus operating building ▪ Public restrooms
6	**NCTD Customer Service Building** *3,124 SF*	▪ NCTD customer service building ▪ Public Restrooms
7	**NCTD Office Building** *59,156 SF*	▪ Headquarters for NCTD ▪ 1,692 sf Amtrak Customer Service Center ▪ **Height:** Four stories with a max height of 60'-0"

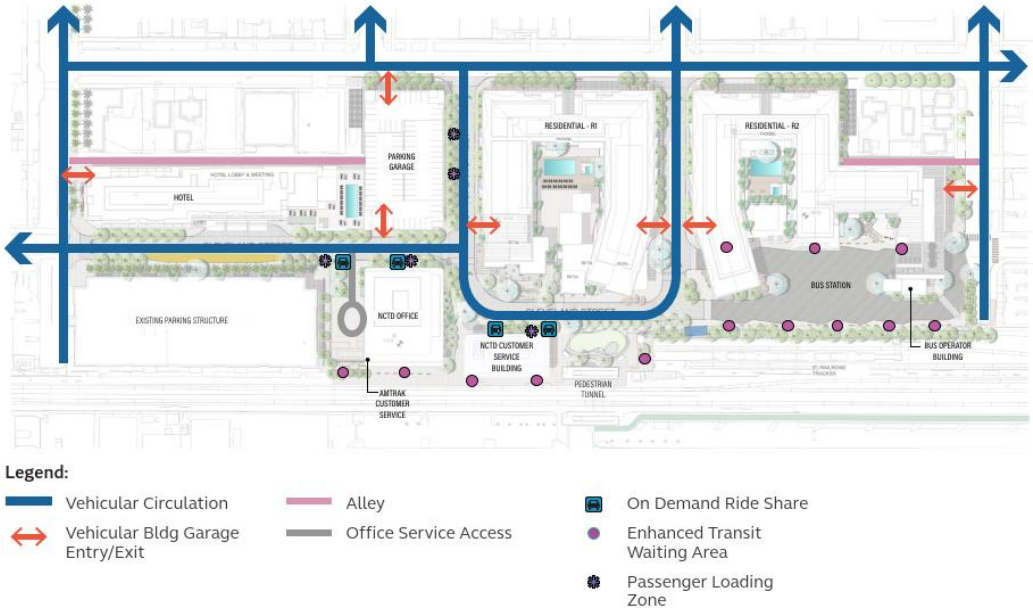
Development Framework:

1. **Land Use Plan (Section 4.1):** As a regulatory document, the OTC Specific Plan would establish a land use framework and regulations for all districts within the planning area. Each district would include a list of permitted, conditionally permitted, and prohibited land uses. The proposed land use plan would establish the following districts:

    - Mixed-Use/Residential (MU)
    - Hotel/Hospitality (H)
    - Commercial/Office (CO)
    - Parking (PK)
    - Public-Station Plaza (P-TP)
    - Public-NCTD Bus Station (P-ST)

2. **Circulation Plan (Section 4.2):** In response to circulation studies prepared by NCTD, the circulation framework would focus on transit and pedestrian-oriented mobility improvements and enhancements to achieve better commuter connections, walkability, and improved safety and convenience of on-site circulation.

Figure 6 – Circulation Plan



- Street realignment: Roadways within the project boundaries, including S. Cleveland Street, would be reconfigured to improve vehicular circulation and minimize conflicts between pedestrians and vehicles. Personal vehicles would access parking facilities from S. Tremont Street, Topeka Street, and Michigan Avenue for convenient access without impeding bus operations.

- Transit operations & connections: The street realignment would also improve on-site bus circulation and promote intermodal connectivity through the relocation of the bus transfer center in closer proximity to rail service.

- Pedestrian & bicycle connectivity: The reconfiguration of S. Cleveland Street and associated streetscape amenities would create an improved pedestrian connection throughout the site leading into downtown. Various mobility hub improvements would also accommodate transit users, pedestrians, and

bicyclists.

3. **Open Space Plan:** The open space framework would encourage an outdoor lifestyle appropriate to a coastal environment, offering access to various public, communal, and private outdoor spaces and amenities.

    - Conceptual landscape plan: The selected plant palette would emphasize native and drought tolerant species. Extensive streetscape with shade trees would line the primary roadways and pedestrian walkways. A variety of ornamental trees, shrubs, and plants would be located throughout the site and along the perimeter streets.

    - Public outdoor space: The proposed Station Plaza would incorporate canopy trees, unique shade structures, and interspersed seating to accommodate transit center users. A variety of design features in public areas would include benches and lighting, decorative paving, special paving at crosswalks, wayfinding features, and wider sidewalks to enhance circulation.

    - Private outdoor space: The project would include a variety of private outdoor spaces for the residential buildings, NCTD headquarters, and the proposed hotel, including courtyards, balconies, and roof decks.

    - Public art: The Specific Plan would encourage opportunities to integrate public art pieces at activity nodes, such as the Transit Plaza, to serve as a special point of interest and attraction.

4. **Design Guidelines:**

    - Architectural character: The Specific Plan describes the architectural design of the project as being influenced by traditional Mediterranean and Spanish styles and the modern architectural legacy of Irving Gill through the use of clean lines and white stucco. The design concept is derived from the site's unique coastal setting, reflecting the character and feel of Oceanside and its beachfront neighborhoods.

    - Enhanced public realm: The public realm is highlighted by enhanced streetscapes and the integration of accessible outdoor gathering space. Public spaces incorporate amenities that support pedestrian comfort and help enrich and activate these spaces, including canopy trees, site furnishings, and special paving.

    - Compatible scale: The layout and design incorporate proper transitions in scale to nearby residential development, including articulated building facades that break down the building mass. Such features as porches, balconies, and shading devices further reduce scale and mass and communicate a residential character.

- View corridors: The site layout maintains view corridors by establishing a block pattern that would protect public views of the ocean along east-west oriented streets.

5. **Infrastructure:** The Specific Plan details a variety of infrastructure improvements necessary to facilitate future redevelopment of the project site. These improvements would include water, sewer, storm drain improvements, and dry utilities.

6. **Plan Implementation:** The Specific Plan is envisioned to be constructed in two phases with the development schedule structured to ensure that operations of the transit center are not interrupted during construction.

    - Phase 1: During the initial phase of development all existing uses on Blocks 2, 3, 4, 5, 6, and 7 would be demolished. New construction would encompass the NCTD Headquarters on Block 7; the public parking structure on Block 2; the residential apartment building and related amenities on Blocks 3 and 4; and the new intermodal Transit Center, Station Plaza, bus circulation, and commuter bus bays on Blocks 5 and 6. NCTD's office at 311 Tremont Street and the existing bus terminal on Block 1 would remain open and operating during Phase 1.

    - Phase 2: With completion of the transit improvements during Phase 1, the existing bus terminal and NCTD office located at 311 Tremont Street would be demolished. The second phase of development would include construction of the hotel on Lot 1 and various roadway improvements, including connecting S. Cleveland Street through the site.

ANALYSIS

1. Planning Considerations

Bus Transfer Center Relocation: Public comments were received regarding the proposed relocation of the bus transfer center and potential impacts on the neighborhood immediately south of the site, including increased traffic on Missouri Avenue. Requests were made to keep the bus station at its current location. NCTD's decision to relocate the bus transfer station was a result of extensive analysis. In 2008, NCTD completed a "Site Feasibility and Transit Oriented Development Concept Study" that concluded that the transit center did not provide for the ideal site configuration and recommended a clear line of site between rail and bus areas.

In 2019, a "Final Project Study Report" was prepared by NCTD to consider options to relocate the existing bus transfer station in line with industry standards. The study concluded the distance from the current bus transit station to the rail platforms require an approximate 6- to 10-minute walk to connect between rail and bus modes. Anecdotal feedback from transit riders, including those that are mobility impaired, indicated the current configuration has resulted in missed train connections because of the long distance and lack of a line of sight between modes. Patrons who are mobility impaired

and/or traveling with young children may be at an even greater disadvantage for connecting between modes.

The primary purpose of the proposed bus transfer center relocation is to shorten the distance between the bus transit station and the rail platforms to help reduce walking times and improve visibility, so patrons can make their connections without having to increase their normal or comfortable walking speed or engage in running. The EIR for the project fully analyzed potential impacts of the relocated bus transfer on the adjacent neighborhood and concluded impacts associated with transportation, noise, and air quality would be less than significant.

Bus Circulation: Public comments were received regarding potential impacts of bus ingress/egress resulting from the relocation of the bus transfer facility, particularly on Michigan Avenue and Missouri Avenue. Requests were made to limit bus circulation to the existing routes utilized by NCTD. In response to these concerns, the North County Transit District prepared a memorandum regarding BREEZE bus circulation at the Oceanside Transit Center (Attachment No. 7).

The City of Oceanside does not have any oversight of NCTD's bus operations. As provided in the memorandum, NCTD's bus route decisions are responsive to the daily operational conditions, in which NCTD operates and takes into account considerations such as ridership, local traffic patterns, temporary obstructions, permanent improvements that impact circulation, and the safety of users within active transportation routes such as walking or biking. Routes are continually evaluated and adjusted to ensure riders can depend upon service that delivers them to their connection points.

NCTD prepared an OTC Supplemental Circulation Analysis to the BREEZE Speed and Reliability Study as a snapshot in time of viable options for bus circulation in and out of the transit center based upon today's roadway conditions. NCTD's operational needs are subject to change as the adjacent environment and other factors impact routing and operational decisions. Future bus routes shall be determined at the discretion of NCTD based on their operational needs in order to provide safe, efficient, and effective transit services. As such, the Specific Plan will not regulate bus routes.

Potential transportation impacts, including bus circulation, were fully analyzed in the EIR and found to be less than significant with recommended mitigation. Furthermore, city staff coordinated with NCTD regarding the Coast Highway Improvement Project to ensure future planned roundabouts can accommodate bus travel, including the intersection of Coast Highway and Michigan Avenue. The circulation exhibit provided in the OTC Specific Plan identifies all planned points of vehicle access. With the relocation of the bus transfer station, bus access may occur on Michigan Avenue, Cleveland Avenue, Topeka Street, and Missouri Avenue in addition to existing routes on Seagaze Drive.

Traffic Analysis: A Local Transportation Study (LTS)(Attachment No. 6) was prepared for the project in accordance with the City's Traffic Impact Analysis Guidelines for Vehicle Miles Travelled (VMT) and Level of Service (LOS) Assessments. As noted in the LTS, the project site is located in a mixed-use area with high quality transit service and would have a substantially lower net volume of vehicle trips than would occur in a lower density, less

walkable, and low transit area. The LTS utilized the SANDAG mixed-use (MXD) trip generation calculator to estimate the net volume of vehicle trips to be generated by the project and concluded the walkable mixed-use nature of the site, combined with high-quality transit service, would result in approximately 23 percent fewer vehicle trips overall.

TABLE 2 - Trip Generation Comparison			
Proposed Project			
Trip Generation	**ADT**	**AM Peak**	**PM Peak**
Multi-family Residential	3,282	263	295
Retail, Food & Beverage	3,504	140	350
NCTD Headquarters	697	98	84
Hotel	680	61	54
Gross Trips	8,163	562	783
Total Trip Reduction*	23%		
Total Vehicle Trips	**6,261**	**441**	**603**
***Internal capture trips, walk trips, and transit trips estimated using SANDAG Mixed Use Trip Generation Model v 4.0			

As provided in the level of service (LOS) Tables ES-3 through ES-6 of the LTS, the proposed project is forecasted to exceed the City's specified thresholds for LOS at certain intersections and roadway segments. The LTS includes recommended modifications to roadway segments and intersections where the modifications would not alter or negatively impact the existing multi-modal infrastructure. For locations where roadway modifications to improve vehicular LOS are not appropriate, alternative multi-modal improvements or fair-share contributions have been identified. The identified improvements and fair-share contributions have been incorporated as conditions of approval for the project.

2. General Plan Conformance

Section 65450 et seq. of the California Government Code sets forth minimum requirements for a Specific Plan, including provisions for a land use plan, infrastructure plan, and development standards. The OTC Specific Plan was prepared in accordance with state law and is consistent with the General Plan and Local Coastal Program as follows:

A. Land Use Element

Section 1.32: Coastal Zone

Objective: To provide for the conservation of the City's coastal resources and fulfill the requirements of the California Coastal Act of 1976.

- Policy 1.32A: The City shall utilize the certified Local Coastal Plan (LCP) and supporting documentation for review of all proposed projects within the Coastal Zone. Specifically, the goals and policies of the LCP Land Use Plan shall be the guiding policy review document.

Section 1.1 Community Values

Objective: To ensure the enhancement of long-term community and neighborhood values through effective land use planning

- Policy 1.1A: Land uses shall be attractively planned and benefit the community.

  The proposed Specific Plan would include development standards and design guidelines that would facilitate a unified and cohesive development that ensures visual compatibility with the character of the surrounding area.

- Policy 1.1B: Land uses shall not significantly distract from nor negatively impact surrounding conforming land uses.

  The proposed project would introduce a mixed-use transit-oriented community with office, retail, hotel, transit, community facilities, and multi-family residential uses that are consistent with the surrounding existing commercial and residential uses. The project would improve connectivity and in particular build stronger linkages between the commercial downtown and residential neighborhoods to the south of the site by introducing a mix of uses while maintaining compatibility with surrounding uses.

- Policy 1.1C: The City shall analyze the long-term effects of all proposed development to assure both the present and future social, economic, and physical enhancement of the community.

  The mixed-use development would physically enhance the site by promoting economic development within the Coastal Zone, while enhancing livability and walkability by accommodating a compatible mixture of uses that extends the activity of the downtown core into the planning area.

Section 1.11 Balanced Land Use

Objective: To develop and use lands for the long- term provision of a balanced, self-sufficient, and efficient community.

- Policy 1.11A: The City shall establish and enforce a balanced distribution of land uses to organize the City in a hierarchy of activity centers and land use so as to foster a sense of neighborhood, community, and regional identity.

  The OTC Specific Plan would introduce a mixed-use, transit-oriented, infill development inclusive of residential uses (both market-rate and affordable), a hotel, commercial/retail uses, private and public open space, parking, and a transit hub. The proposed project would improve connectivity and in particular build stronger linkages between downtown and the residential neighborhoods to the south of the site; support public transit through transit-oriented development that integrates updated transit facilities and other mobility improvements that would increase ridership and enhance the user experience; and deliver benefits to the

public by increasing the available housing supply, including the provision of affordable units, while providing for amenities that create a destination and enrich the quality of life for on-site occupants and the community-at-large.

- Policy 1.11B: The City shall analyze proposed land uses for assurance that the land use will contribute to the proper balance of land uses within the community or provide a significant benefit to the community.

  The proposed mixed-use development would be consistent with the surrounding commercial and residential uses and provide a significant benefit to the community by introducing a modern, intermodal transit hub with several public amenities including a transit plaza, public art, and a community room.

- Policy 1.11C: The City shall continuously monitor the impact and intensity of land use and land use distribution to ensure that the City's circulation system is not overburdened beyond design capacity.

  The project would support public transit through transit-oriented development that integrates updated transit facilities and other mobility improvements that would increase ridership and enhance the user experience.

B. Housing Element (2021-2029)

By contributing 547 rental dwelling units, including fifteen (15) percent reserved for affordable housing, the proposed project would help to meet the City's projected housing demand and provide an opportunity for housing in proximity to a variety of transit options. The project is consistent with the following policies in the Housing Element:

- Policy 1.1: Promote a high quality urban environment with stable residential neighborhoods and healthy business districts.

- Policy 1.6: Encourage higher-density housing development along transit corridors and smart growth focus areas in order to encourage preservation of natural resources and agricultural land; reduce energy consumption and emissions of greenhouse gasses and other air pollutants; reduce water pollution occasioned by stormwater runoff; and promote active transportation with its associated health benefits.

- Policy 2.1: Designate land for a variety of residential densities sufficient to meet the housing needs for a variety of household sizes and income levels, with higher densities being focused in the vicinity of transit stops, smart growth focus areas, and in proximity to significant concentrations of employment opportunities.

- Policy 3.5: Encourage the development of housing for low and moderate income households in areas with adequate access to employment opportunities, community facilities, and public services.

- Policy 3.7: Encourage the disbursement of lower and moderate income housing opportunities throughout all areas of the City.

C. Economic Development Element

The proposed project would contribute towards the City's economic development strategies by introducing a modern mixed-use transit center supported by residential, commercial, office, and hospitality uses that would increase ridership, enhance walkability, encourage alternative modes of transportation, and promote economic activity and tourism in the City's coastal zone. The project is consistent with the following policies of the Economic Development Element:

- Goal EDE-1B: The City will expand employment, housing, and public amenities by facilitating efficient, transit oriented development within already urbanized areas (i.e. smart growth).

- Policy EDE-1b-1: Encourage efficient, transit-oriented development, walkability, parking efficiency, pedestrian and bicycle facilities, and a strong sense of place within the City's Smart Growth Opportunity Areas (SGOAs), as identified on the Regional Smart Growth Concept Map.

- Policy EDE-1b-2: Encourage efficient use of land for employment and revenue generation.

D. Energy/Climate Action Element

Envisioned as a model transit-oriented development, the proposed project would achieve many of the City's climate action goals of reducing greenhouse gas emissions by creating a destination that reinforces transit use and encourages alternative modes of transportation for residents, employees, commuters, and tourists. The project is consistent with the following policies of the Energy/Climate Action Element:

- Goal ECAE-2a: The City will accommodate future population, employment, and housing growth within already urbanized areas.

- Policy ECAE-2a-1: In areas served by transit, promote land uses intensities that increase transit ridership and, in turn, the quality and frequency of transit services

- Policy ECAE-2a-5: Explore opportunities to implement "mobility hub" features within Smart Growth Opportunity Areas and other areas amenable to active transportation and shared mobility options.

- Policy ECAE-5a-7: Encourage new development to incorporate shade trees, to the extent practical and financially feasible.

E. Climate Action Plan

The adopted Climate Action Plan (CAP) includes reduction measures that the City develop Smart Growth Policies (Measure TL1) that includes a strategy to establish a smart growth development goal of locating the majority of new housing units and employment generating land uses developed between 2017 and 2030 within existing and potential SGOAs. This is being accomplished through the development of the Smart and Sustainable Corridor Plan Specific Plan as part of the Comprehensive General Plan Update.

The adopted CAP includes Implementation Actions that includes aspirational targets for residential development in SGOAs. The target for 2027 is 890 units. The project would add 537 units in an identified SGOA. In conjunction with the recently approved Ocean Creek project, and its 295 units, Modera Melrose project, and its 323 units, and the Olive Park 100% affordable housing project, and its 199 units, the City would exceed the target for 2027 with a total combined unit count of 1,354 units within identified SGOAs.

F. Circulation Element

The proposed project would introduce a modern intermodal transit facility with pedestrian, bicycle, and road improvements to facilitate efficient flow of traffic and the safe and effective passage of pedestrians and cyclists. Transit improvements and mobility hub features would also enhance the user experience and promote an increase in transit usage. The OTC Specific Plan is consistent with the following policies of the Circulation Element:

- Objective: Support mixed use developments in transit focus areas and transit oriented developments.

- Policy 5.1: The City shall collaborate with NCTD to attain a balance of transportation opportunities. This shall include the establishment of criteria to implement transit improvements, corridor improvements, transit centers, and track improvements and maintenance.

- Policy 5.7: The City shall continue to work with NCTD to ensure that transit centers and major stops have adequate bicycle and pedestrian access, including secure bicycle storage. The City shall continue to work with NCTD to encourage more bus services that accommodate bicycles.

- Policy 5.8: The City shall work with NCTD, as applicable, to provide safe and adequate transit facilities that include covered shelters, proper lighting, safe crossings, and locations that are highly visible.

- Policy 5.10: The City shall work with NCTD to encourage additional passenger usage of rail service by providing safe and adequate commuter parking facilities with shuttle service, if appropriate, and enhanced landscaping.

- Policy 5.13: The City shall support policies in the Land Use chapter of the General Plan that encourage the use of transit and mixed use development.

3. Local Coastal Program (LCP) Conformance

The OTC Specific Plan requires an amendment to the Land Use Plan of the City's LCP which must be certified by the California Coastal Commission. The proposed amendment would change the land use from Downtown (DT), Coastal Transportation and Utility (C-TU), Coastal Residential High Density (C-RH), and Coastal General Commercial (C-GC) to Specific Plan, which would establish unique land use designations and regulations for all future land use within the project boundaries.

Staff finds that the proposed Specific Plan and development project would be consistent with the policies of the Local Coastal Program and requirements of the Coastal Act:

Land Use Plan Consistency

A. II Recreation and Visitor Serving Facilities

Objective: The City shall provide and maintain a wide range of public recreation areas, beach support facilities, and visitor-serving facilities, commensurate with need.

- **Policy 10 (General):** The City shall continue to promote coastal tourism through the revitalization of the coastal area and upgrading of visitor amenities.

  The proposed project would redevelop an existing transit center into a modern transit facility that would serve both residents and coastal visitors. A variety of amenities, including the transit plaza and wayfinding features, would create a destination and provide comfort and convenience for transit users visiting the coastal area.

- **Policy 17 (Parking):** The City shall require that all new residential development provides adequate on-site parking. In areas where beach parking demand is critical, parking requirements for new residential development shall be strictly enforced. Curb cuts for new development shall be held to a minimum to preserve existing on street parking.

  The project would include two separate residential buildings with a total of 547 apartment units. Each building would include parking structures with a combined total of 790 parking spaces for the exclusive use of residents. A separate public parking structure would provide 611 public parking spaces available for commuters and beach visitors.

- **Policy 24 (Parking):** The City shall continue to work with the California Department of Transportation, North County Transit District and other affected agencies to improve alternatives to private automobile use, including public transit (bus or other means), bicycle and pedestrian travel, and multi-modal combinations (e . g. park-n-ride-, shuttle service).

As a transit-oriented development, the project would encourage residents to utilize public transit. A variety of transit center features and amenities would also enhance walkability and promote alternative modes of transportation.

B. VI Visual Resources and Special Communities

Objective: The City shall protect, enhance, and maximize public enjoyment of Coastal Zone scenic resources; and the City shall, through its land use and public works decisions, seek to protect, enhance, and restore visual quality of the urban environment.

- **Policy 4:** The City shall maintain existing view corridors through public rights-of-way.

  The design of the project would orient buildings in a block pattern that would preserve existing public views along the east-west oriented public-rights-of-way, including Michigan Avenue.

- **Policy 8:** The City shall ensure that all new development is compatible in height, scale, color and form with the surrounding neighborhood.

  The proposed scale of the development would be compatible with the surrounding downtown environment and designed to incorporate proper transitions in scale to nearby residential development, including articulated building facades that break down the overall building mass. Building materials, colors, and finishes were selected to reflect the coastal setting as detailed in the design guidelines of the OTC Specific Plan.

- **Policy 11:** The City shall encourage variety, creativity, and site-responsive design for all new development.

  The OTC Specific Plan would facilitate a creative and cohesive mixed-use development that would transform an existing transit center into a modern intermodal transit facility and maximize the redevelopment potential of the site.

- **Policy 13:** New development shall utilize optimum landscaping to accent and enhance desirable site characteristics and architectural features.

  The project would feature a variety of landscaping and streetscape improvements to highlight architectural features and enhance public and private spaces throughout the entire transit center.

<u>Implementation Plan</u>

The amended text of the LUP would establish the Specific Plan as part of the implementing document of the Local Coastal Program. The Specific Plan would regulate all land use within the project boundaries consistent with objectives and policies of the Local Coastal Program.

4. Zoning Ordinance Compliance

The OTC Specific Plan would establish land use regulations and development standards within the project boundaries. Development standards and design guidelines are provided in Chapter 6 of the Specific Plan and would take precedence over the City's Zoning Ordinance, unless otherwise noted. The proposed development plan for the transit center aligns with all development standards provided in the Specific Plan, including setbacks, height, open space, landscaping, and parking.

ENVIRONMENTAL DETERMINATION

In accordance with the California Environmental Quality Act (CEQA), an Environmental Impact Report (EIR) was prepared for the project due to potentially significant impacts to aesthetics, air quality, biological resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services and recreation, transportation, tribal and cultural resources, and utilities and service systems.

As described in the Draft EIR (DEIR), implementation of mitigation measures would reduce impacts to a less-than-significant level for all identified environmental topic areas. The DEIR was made available for public review between September 4, 2024 and October 18, 2024. A total of 24 comments were received. All comments received on the DEIR during the public review period were evaluated and responded to in the Response to Comments (RTC) section of the Final EIR (FEIR).

In response to a comment received during the public review period, minor revisions were made to the text of the FEIR. The revisions do not constitute "significant new information" as set forth in CEQA Guidelines Section 15088.5 and recirculation of the EIR is not required.

The FEIR, including the RTC and Mitigation, Monitoring, and Reporting Program (MMRP), is provided at Attachment No. 4.

PUBLIC NOTIFICATION

Community Outreach: In accordance with the City's Enhanced Notification Policy (300-14), the applicant conducted extensive community outreach throughout the entitlement process. Outreach efforts included mail notifications, a project website (www.osidetransit.com), eight in-person community meetings, and one on one community engagement. As a result of public outreach, a variety of project enhancements were incorporated into the project as documented in the outreach summary. A copy of the community outreach report is provided as Attachment No. 5.

Hearing Notice: Legal notice was published in the newspaper and notices were sent to property owners within 1,500 feet and occupants within 100 feet of the subject property,

individuals/organizations requesting notification, the applicant, and interested parties. Public correspondence received is provided as Attachment No. 11.

SUMMARY

Redevelopment of the Oceanside Transit Center would result in a transit oriented, mixed-use development consistent with the pattern of redevelopment in the adjacent downtown core and other areas of the coastal zone. The OTC Specific Plan would bring forward a modern transit center with high density, vertically-oriented mixed-use development that would improve transit services for commuters and visitors, enhance walkability and connectivity, support the City's housing goals, and support businesses in the downtown area and Coast Highway corridor.

Staff finds that the proposed General Plan Amendment, Zone Amendment, Local Coastal Program Amendment, Vesting Tentative Map, Development Plan, and Regular Coastal Permit for the Oceanside Transit Center (OTC) Specific Plan are consistent with the requirements of the General Plan, Local Coastal Program, and Zoning Ordinance.

Staff recommends that the Planning Commission by motion:

1) Adopt Planning Commission Resolution No. 2025-15 recommending City Council certification of an Environmental Impact Report (SCH No.) and approval of General Plan Amendment (GPA22-00002), Zone Amendment (RZA22-00001), Local Coastal Program Amendment (LCPA22-00004), Vesting Tentative Map (T22-00006), Development Plan (D22-00016), and Regular Coastal Permit (RC22-00011) for approval of the Oceanside Transit Center Specific Plan and redevelopment of the Oceanside Transit Center into a mixed-use development on a 10.15-acre site.

PREPARED BY:

Rob Dmohowski
Principal Planner

SUBMITTED BY:

Sergio Madera
City Planner

Attachments:

1. Planning Commission Resolution No. 2025-P15
2. OTC Specific Plan (online)
3. Plans/Site Map (online)
4. FEIR (online)
5. Community Outreach Report (online)
6. Local Transportation Study (LTS)(online)
7. NCTD BREEZE Bus Circulation Memorandum
8. Application, Description and Justification, Legal Description (online)
9. Economic and Fiscal Impact Analysis
10. OTC TDM Plan
11. Public Correspondence

PLANNING COMMISSION
RESOLUTION NO. 2025-P15

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF OCEANSIDE, CALIFORNIA RECOMMENDING CITY COUNCIL CERTIFICATION OF AN ENVIRONMENTAL IMPACT REPORT AND APPROVAL OF A GENERAL PLAN AMENDMENT, ZONE AMENDMENT, LOCAL COASTAL PROGRAM AMENDMENT, VESTING TENTATIVE MAP, DEVELOPMENT PLAN, AND REGULAR COASTAL PERMIT ON CERTAIN REAL PROPERTY IN THE CITY OF OCEANSIDE

APPLICATION NO:	GPA22-00002, RZA22-00001, LCPA22-00004, T22-00006, D22-00016, RC22-00011
APPLICANT:	TOLL BROTHERS APARTMENT LIVING
LOCATION:	235 SOUTH TREMONT STREET (APNs 150-046-17-00, -046-01-00 through -046-08-00, -043-01-00 through -043-04-00, -043-05-00, and -043-06-00)

THE PLANNING COMMISSION OF THE CITY OF OCEANSIDE, CALIFORNIA DOES RESOLVE AS FOLLOWS:

WHEREAS, there was filed with this Commission a verified petition on the forms prescribed by the Commission requesting a General Plan Amendment, Zone Amendment, Local Coastal Program Amendment, Vesting Tentative Map, Development Plan, and Regular Coastal Permit under the provisions of Articles 40, 43, and 45 of the Zoning Ordinance and Article VII of the Subdivision Ordinance of the City of Oceanside to permit the following:

Approval of the Oceanside Transit Specific Plan to allow for the redevelopment of the Oceanside Transit Center into a mixed-use project with a modern intermodal transit facility and associated amenities and site improvements;

on certain real property described in the project description.

WHEREAS, the Planning Commission, after giving the required notice, did on the 23rd day of June, 2025 conduct a duly advertised public hearing as prescribed by law to consider said application; and

WHEREAS, pursuant to the California Environmental Quality Act of 1970, and State Guidelines thereto; an Environmental Impact Report (EIR) was prepared and circulated for this project;

WHEREAS, the documents or other material which constitute the record of proceedings upon which the decision is based will be maintained by the City of Oceanside Planning Division, 300 North Coast Highway, Oceanside, California 92054.

WHEREAS, pursuant to Gov't Code §66020(d)(1), NOTICE IS HEREBY GIVEN that the project is subject to certain fees, dedications, reservations and other exactions as provided below:

Description	Authority for Imposition
Public Facility (Residential and Commercial)	Ord. No. 91-09 Reso. No. 15-R0638-1
Parks (Residential only)	Ord. No. 91-09 Reso. No. 15-R0638-1
School District Fee (Residential and Commercial) School District Fee (Hotel – refer to School District)	Ord. No. 91-34 OUSD Res. 13(12-13) CUSD Res. 21-1314
Traffic Signal & Thoroughfare (Multi-Family Residential and Commercial)	Reso. No. 16-R0324-1 Reso. No. 12-R0626-1
Drainage and Flood Control Fee	Ord. No. 85-23 Reso. No. 16-R0638-1
Wastewater System Capacity Buy-in Fee (Non-Residential and Multi-Family Residential)	Reso. No. 87-97 Ord. No. 15-OR0479-1 City Code 37.7.37
Water System Capacity Buy-in Fee (Residential and Non-Residential)	Reso. No. 87-96 Ord. No. 15-OR0480-1 City Code 37.7.37
San Diego County Water Authority (Residential and Non-Residential)	SDWA Ord. 2017
Inclusionary Housing Administration Fee	Chapter 14C.9 of the MC Reso. No. 03-R175-1 Reso. No. 11-R0483-1

WHEREAS, the fees listed above have been identified by the City as being applicable to the project as proposed. Failure by the City to list an applicable fee above does not alleviate the developer from paying all applicable fees at the time when such fees become due;

WHEREAS, unless otherwise provided by this resolution, all impact fees shall be calculated and collected at the time and in the manner provided in Chapter 32B of the Oceanside City Code and the City expressly reserves the right to amend the fees and fee calculations subject to applicable law including Government Code Section 65589.5 (o); and

WHEREAS, the City expressly reserves the right to establish, modify or adjust any fee, dedication, reservation or other exaction to the extent permitted and as authorized by law;

WHEREAS, pursuant to Gov't Code §66020(d)(1), NOTICE IS FURTHER GIVEN that the 90-day period to protest the imposition of any fee, dedication, reservation, or other exaction described in this resolution begins on the effective date of this resolution and any such protest must be in a manner that complies with Section 66020; and

WHEREAS, the documents or other material which constitute the record of proceedings upon which the decision is based will be maintained by the City of Oceanside Planning Division, 300 North Coast Highway, Oceanside, California 92054.

WHEREAS, studies and investigations made by this Commission and in its behalf reveal the following facts:

FINDINGS

For the General Plan Amendment (GPA22-00002):

To change the existing land designations of the project site from Downtown (DT), Coastal Transportation and Utility (C-TU), Coastal Residential High Density (C-RH), and Coastal General Commercial (C-GC) to Specific Plan and to remove the project site from the Downtown District:

1. The re-designation of the project site to Specific Plan will provide for a variety of land uses consistent with policies of the adopted General Plan, including the Land Use Element (Policies 1.32A, 1.1A, 1.1B, 1.1C, 1.11A, 1.11B, and 1.11C) , Housing Element (Policies 1.1, 1.6, 2.1, 3.5, and 3.7), Economic Development Element (Policies EDE-1b-1 andEDE-1b-2), Energy/Climate Action Element (Policies ECAE-2A-1, ECAE-2a-5, and ECAE-5A-7), and the Circulation Element (Policies

5.1, 5.7, 5.8, 5.10, and 5.13). The Specific Plan will facilitate a mixed-use, intermodal transit facility compatible with existing land uses in the vicinity of the project site.

2. Removal of the project site from the boundaries of the Downtown District will not impact the long-term viability of Downtown and the Specific Plan will be consistent with the Downtown District's goal of maintaining and enhancing an appropriate mix of uses.

For the Zone Amendment (RZA22-00001):

To re-designate the project site as a Specific Plan and establish the Oceanside Transit Center Specific Plan as a regulatory document in accordance with CA Government Code Section 65450 et seq.:

1. The proposed change in zoning to Specific Plan is consistent with the Land Use Element of the General Plan and other applicable policies and is compatible with surrounding development. The land use regulations and development standards articulated in the OTC Specific Plan will ensure that development and land use on the project site will both enhance the visual quality of, and be compatible with, the surrounding area.

2. The Specific Plan will enhance the potential for superior urban design in comparison with the development under the base district regulations that would apply if the Specific Plan was not approved because the Specific Plan introduces objective design guidelines applicable to all components of development to achieve a creative, high-quality design throughout the entire project boundary.

3. Deviations from the base district regulations that otherwise would apply are justified by compensating benefits of the Specific Plan because site development standards of the Specific Plan are customized and cater towards the development of a high-quality transit-oriented development with a mix of land uses and a modern intermodal transit facility.

//////

//////

4. The Specific Plan includes adequate provisions for utilities, services, and emergency vehicle access; and public service demands will not exceed the capacity of existing and planned systems.

For Local Coastal Program Amendment (LCPA22-00004)

1. Pursuant to Public Resources Code §30510(a), the Planning Commission hereby certifies that the Local Coastal Program Amendment (LCPA22-00004) is intended to be carried out in a manner fully in conformity with the Coastal Act of 1976.
2. Pursuant to Coastal Commission Local Coastal Program Regulations §13551(b), this amendment shall take effect upon Coastal Commission approval.
3. The proposed Specific Plan conforms to the Local Coastal Program, in that it does not impact public coastal access, water or marine resources, sensitive habitat, visual resources, visitor serving uses, or public facilities. The Specific Plan will also be consistent with policies of the Local Coastal Program, including Recreation and Visitor Serving Facilities (Policies 10, 17, and 24) and Visual Resources and Special Communities (Policies 4, 8, 11, and 13). The project will maintain existing view corridors through public rights-of-way and will introduce a creative, site-responsive design with desirable site characteristics and architectural features that will be sited and designed to be visually compatible with the character of surrounding areas. The project will maintain adequate public access to and along the coast through an existing pedestrian tunnel under the railroad right-of-way. As a transit hub, the project will include public outdoor open space and amenities for transit user and coastal visitors. The existing public parking lot at the transit center with 560 spaces will be replaced with a parking structure with 801 parking spaces, including 611 parking spaces reserved for public use, to ensure adequate parking is maintained for transit users and coastal visitors.

For the Vesting Tentative Map (T22-00006):

1. The proposed Vesting Tentative Map is consistent with the General Plan, the proposed Specific Plan, and provisions of the Subdivision Ordinance of the City.

//////

2. The site is physically suitable for the type of development in that the site includes approximately 10.15-acres and developed with an existing transit center. Technical studies prepared for the project indicate the site is not significantly constrained by topography, geological or hydrological hazards, protected habitat or other limiting features.

3. The site is physically suitable for the proposed density of development as the site is located within an urbanized area and surrounded by a variety of residential uses, commercial and transit uses. The site is served by existing public services, utilities, and public facilities and all necessary infrastructure improvements will be installed with the project.

4. The design of the subdivision or the proposed improvements will not cause substantial environmental damage or substantially injure fish or wildlife or their habitat. The subject property is located in an urbanized area and is developed with an existing transit center. An Environmental Impact Report was prepared for the project and analyzed environmental impacts, including potential impacts to wildlife and habitat. The EIR concluded that project impacts, including potential impacts to wildlife and habitat, will be less than significant with recommended mitigation measures.

5. The design of the subdivision or the type of improvements meet City standards and will not conflict with easements, acquired by the public at large, for access through or the use of property within the proposed subdivision. Easements on the property will be improved and maintained in a manner consistent with City standards.

6. The subdivision complies with all other applicable ordinances, regulations and guidelines of the City of Oceanside, including the Local Coastal Program. The proposed vesting tentative map exhibit accords with the form and content requirements of the City's Subdivision Ordinance (Article VII Vesting Tentative Map).

//////

//////

For the Development Plan (D22-00016):

1. The site plan and physical design of the project as proposed is consistent with the purposes of the Zoning Ordinance in that the layout and design of the proposed project is consistent with the Oceanside Transit Center Specific Plan development standards. The siting and architecture of the proposed mixed-use project has been designed pursuant to the OTC Specific Plan design guidelines and will avoid potential adverse visual impacts on adjacent properties through high-quality architecture, adequate setbacks, abundant landscape, context-appropriate walls and fencing, and adequate on-site parking for residents, employees, and the general public.

2. The Development Plan conforms to the General Plan of the City, in that the proposed development will be consistent with the land use regulations, development standards and design guidelines of the OTC Specific Plan.

3. The area covered by the Development Plan can be adequately, reasonably, and conveniently served by existing and planned public services, utilities, and public facilities as detailed in the OTC Specific Plan. The project, as conditioned, will install public infrastructure including water, sewer, and storm drain improvements necessary to serve the project.

4. The project is compatible with existing and potential development on adjoining properties or in the surrounding neighborhood. The project will redevelop an existing transit center into a mixed-use intermodal transit facility designed at a scale compatible with mid-rise mixed-use development to the north in Downtown and adjacent residential neighborhoods to the south. The project will include high quality urban design with enhanced landscaping, public spaces, circulation improvements, and pedestrian connections to ensure compatibility with adjacent uses.

5. The project will conform with all applicable policies of the certified Land Use Plan in that the proposed development plan will be consistent with the provisions of the OTC Specific Plan upon certification.

//////

6. The Specific Plan and the Development Plan are consistent with the adopted Land Use Element of the General Plan and other applicable policies and are compatible with surrounding development, in that the Specific Plan and the Development Plan will redevelop an existing transit center into a mixed-use project with a modern intermodal transit facility that will provide opportunities for housing, encourage the use of alternative transportation, increase public transit ridership, and reduce greenhouse gas emissions.

7. The Specific Plan and the Development Plan will enhance the potential for superior urban design in comparison with development under the base district regulations that would apply if they were not approved, in that the PD Plan and Development Plan provide a consolidated site plan for a property with unique shape and constraints that might otherwise be developed to the detriment of surrounding neighborhoods.

8. Deviations from the base district regulations that otherwise would apply are justified by compensating benefits of the Specific Plan and the Development Plan, including high-quality architecture and urban design, a public plaza, extensive open space, public and private amenities, and a modern intermodal transit facility.

9. The Specific Plan and the Development Plan includes adequate provisions for utilities, services, and emergency vehicle access; and public service demands will not exceed the capacity of existing and planned systems.

For the Regular Coastal Permit (RC22-00011):

1. The project conforms to the policies of the Local Coastal Program as implemented through the OTC Specific Plan. The placement and design of the proposed project will be visually compatible with the character of surrounding area and will not substantially alter or impact existing public views of the coastline or public view corridors.

//////

//////

//////

//////

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Oceanside does hereby recommend City Council approval of General Plan Amendment (GPA22-00002), Zone Amendment (RZA22-00001), Local Coastal Program Amendment (LCPA22-00004), Vesting Tentative Map (T22-00006), Development Plan (D22-000016), and Regular Coastal Permit (RC22-00011) subject to the following conditions:

Planning:

1. The Vesting Tentative Map, Development Plan, and Regular Coastal Permit shall not become effective until the certification of the Local Coastal Program Amendment (LCPA22-00004) by the California Coastal Commission. The effective date shall be used for determining expiration dates for the Vesting Tentative Map, Development Plan, and Regular Coastal Permit.
2. This Vesting Tentative Map, Development Plan, and Regular Coastal Permit approval shall expire 36 months after their effective date, unless this time period is extended by the provisions of Article 1, Section 150 of the Zoning Ordinance.
3. The applicant, permittee or any successor-in-interest shall defend, indemnify and hold harmless the City of Oceanside, its agents, officers or employees from any claim, action or proceeding against the City, its agents, officers, or employees to attack, set aside, void or annul the City's approval of this development project. The City will promptly notify the applicant of any challenge, claim, suit, action or legal proceeding against the City. The City will cooperate fully with the applicant, permittee or any successor-in-interest in the legal defense of the City's approving action.
4. The approval of this project constitutes the applicant's agreement with all statements in the project description, OTC Specific Plan, project plans, and other materials and information submitted with this application, unless specifically waived by an adopted condition of approval.

//////

//////

5. A covenant or other recordable document approved by the City Attorney shall be prepared by the property owner and recorded prior to grading permit issuance. The covenant shall provide that the property is subject to this resolution and all listed conditions of approval.

6. Prior to the transfer of ownership and/or operation of the project site, the owner shall provide written copy of the application, staff report and resolution for the project to the new owner and/or operator. This notifications provision shall run with the life of the project.

7. Failure to meet any conditions of approval for this development shall constitute a violation of the Vesting Tentative Map and Development Plan.

8. This resolution includes the following entitlements:

   a) Vesting Tentative Map to subdivide the project site into eight parcels.

   b) Development Plan for the construction of a mixed-use development project consistent with the land use regulations, development standards, and design guidelines of the OTC Specific Plan.

   c) Regular Coastal Permit in conjunction with a discretionary development project in the Coastal Zone as required by the City's Local Coastal Program.

9. All development shall be subject to compliance with land use regulations, development standards, design guidelines, and procedures of the Oceanside Transit Center Specific Plan.

10. The project shall comply with all mitigation measures identified in the Oceanside Transit Center Final EIR (SCH NO. 2023010231) Mitigation, Monitoring, and Reporting Program (MMRP). The applicant shall submit a mitigation compliance binder (digital format) to the Planning Division documenting compliance with all mitigation measures.

11. Building elevations, siding materials, colors, roofing materials and floor plans submitted for building permit plan check shall be in substantial compliance with those plans and exhibits approved by the City Council.

//////

12. Prior to grading permit or building permit issuance, the applicant shall submit and obtain final approval of a Construction Management Plan from the City Planner or their designee. The Construction Management Plan shall be implemented during the entire duration of the construction of the mixed-use project.

13. The construction of fencing and walls shall conform to the approved Development Plan and/or the Oceanside Transit Center Specific Plan.

14. The project shall comply with the provisions of the City's anti-graffiti (Ordinance No. 93-19/Section 20.25 of the City Code). These requirements, including the obligation to remove or cover with matching paint all graffiti within 24 hours.

15. Building permit plans shall demonstrate that all mechanical (HVAC) rooftop and ground-mounted equipment will be completely screened from public view as required by the Zoning Ordinance and that all mechanical HVAC equipment, screens and/or vents shall be painted with non-reflective paint to match the roof.

16. Project signage was not approved as part of the Development Plan. All proposed signage shall be reviewed and approved in conformance with the OTC Specific Plan Master Sign Program prior to the issuance of any sign permit.

17. Parking spaces shall be kept available and useable for the parking of vehicles at all times.

18. All dwelling units proposed as part of this project shall be rented for no less than 31-days.

19. A letter of clearance from the affected school district in which the property is located shall be provided as required by City policy at the time building permits are issued.

20. Any trash, debris, or waste material found onsite during grading or cleanup operations shall be disposed of off-site in accordance with local, state, and federal regulations. Any buried trash/debris or materials containing petroleum encountered shall be evaluated prior to removal and disposal.

21. Outdoor lighting shall be low emission, shielded, and directed away from neighboring properties.

22. Renewable Energy Facilities: The project shall comply with requirements of Article 30, Section 3047 of the Zoning Ordinance. The project applicant shall also purchase 75% renewable electricity for the common areas.

23. Electric Vehicle Parking and Charging Facilities: Prior to issuance of building permits, the project shall comply with residential and non-residential electric vehicle (EV) parking and charging facility requirements as provided in Article 30, Section 3048 of the Zoning Ordinance.

24. Urban Forestry Program: Prior to issuance of building permits, the project shall comply with the urban forestry standards outlined in Table 1 of Article 30, Section 3049 of the Zoning Ordinance.

The project must provide a Landscape and Tree Canopy Management Plan (LTCMP). The LTCMP shall include information regarding regular, seasonal, and emergency maintenance, trash abatement, irrigation, tree/plant care, tree replacement, insect and disease infestation prevention, integrated pest management, and appropriate response process etc. Projects that do not maintain landscape in a manner consistent with the approved LTCMP shall be subject to code enforcement action.

25. Transportation Demand Management (TDM) (Zoning Ordinance Article 30, Section 3050): The project applicant shall implement the Draft Transportation Demand Management Plan prepared by Stantec dated April 24, 2025. A Final TDM shall be submitted to the Planning Division for review and approval prior to building occupancy. The TDM plan shall be implemented upon first occupancy.

26. The developer is prohibited from entering into any agreement with a cable television franchisee of the City, which gives such franchisee exclusive rights to install, operate, and or maintain its cable television system in the development.

27. The residential and commercial aspects of this project shall be developed simultaneously as a Mixed-Use project per the phasing plan outlined in the OTC Specific Plan. No deferral of the commercial use shall be permitted as the project's approval was for a Mixed-Use project.

28. All residential units will be all-electric and will not use natural gas. No fireplaces shall be permitted inside residential units.

29. The public community room provided in Block 2 shall be prioritized for use by the City of Oceanside through a property lease agreement between the City of Oceanside and the North County Transit District but shall be reserved in perpetuity as a public use space. The project applicant shall fully furnish the community room, including the installation of an audio/video system.

30. Prior to the issuance of any grading permit or building permit, the grading permit plans and building permit plans shall be reviewed for consistency with the City Council-approved discretionary application plans and exhibit. No deviation from the approved plans and exhibits may occur without prior Planning Department approval. Modifications to the approved plans shall be processed in accordance with Article 43 of the Zoning Ordinance.

31. Prior to issuance of a Certificate of Occupancy (C of O), the project shall prepare a Security and Management Plan (SMP) that shall be subject to the review and approval of the City Planner. The SMP shall include the following provisions:

a) Security: The SMP will address on-site security, site management, hours-of-operation, and specific security measures that will provide appropriate security for all residents, employees, and visitors.

b) Maintenance: The SMP shall address, but not be limited to, anti-graffiti measures for the building exterior, landscaping, parking lots, sidewalks, walkways, and overall site maintenance measures. The SMP shall ensure that a high standard of maintenance is maintained on the project site at all times. Maintenance provisions shall include periodic sweeping/cleaning of parking lots, sidewalks and other concrete surfaces at sufficient intervals to maintain a clean appearance. Wastewater, sediment, trash or other pollutants shall be collected on an as-needed basis and shall be properly disposed, and shall not be discharged off the property or into the City's storm drain system.

//////

c) Any graffiti within the project shall be removed within 24 hours of discovery of the occurrence by property management staff. Any new paint used to cover graffiti shall match the existing color.

Building:

32. Beginning on January 1, 2023, Oceanside Development Services (ODS) is required by State law to enforce the 2022 Edition of California Building Standards Codes (a.k.a., Title 24 of the California Codes of Regulations).

Every three years, the State adopts new model codes (known collectively as the California Building Standards Code) to establish uniform standards for the construction and maintenance of buildings, electrical systems, plumbing systems, mechanical systems, and fire and life safety systems.

There are 12 parts to Title 24 and the applicable parts for most Building Division permit applications are listed below.

- Part 2: The 2022 California Building Code (CBC).
- Part 2.5: The 2022 California Residential Code (CRC).
- Part 3: The 2022 California Electrical Code (CEC).
- Part 4: The 2022 California Mechanical Code (CMC).
- Part 5: The 2022 California Plumbing Code (CPC).
- Part 6: The 2022 California Energy Code
- Part 9: The 2022 California Fire Code (CFC)
- Part 11: The 2022 California Green Building Standards Code (CALGreen Code) This Part is known as the California Green Building Standards Code, and it is intended that it shall also be known as the CALGreen Code.

All architects, engineers, designers, developers, owners and contractors MUST be familiar with the codes in effect at the time of plan submittal. ODS, as required by State law, CANNOT approve projects that do not comply with the codes in effect at the time of plan submittal.

//////

//////

33. Where mixed occupancy buildings contain incidental use areas, the following shall apply:

a. Clearly identify on plans whether there are any incidental use areas that are separated from other portions of the building pursuant to CBC.

b. The protection used for incidental use areas may include automatic fire sprinklers, fire-resistance rated construction, or both. Identify such protection in the incidental use areas on each floor plan.

34. Where mixed occupancy buildings contain nonseparated uses, the following shall apply:

a. Clearly identify on plans whether nonseparated uses will be utilized pursuant to CBC 508.3.

b. Clearly acknowledge on the plans that the use of nonseparated occupancies requires the most restrictive provisions of CBC 403 and Chapter 9 to apply to the entire building.

c. The adjoining nonseparated uses must be clearly identified on all floor plans, including the boundary of such areas

d. The project must be designed to meet the requirements of the more restrictive occupancy for the following: (Area) (Height) (Egress) (Fire Sprinklers) (Other)

e. Per Table 504.4 the Type of construction must be per 2022 CBC for each Building.

f. Per Table 705.8 Walls 3 to 5 feet from the PL must not have opening of more than 15%, walls 5 to 10 not less than 25%, walls 10 to 15 feet not more than 45%.

35. Where mixed occupancy buildings contain separated uses, the following shall apply:

a. Clearly identify on plans the boundary of each adjoining occupancy that will be separated pursuant to CBC 508.4.

b. Fire-resistance rated walls used to separate adjoining occupancies shall be constructed as fire barriers in accordance with Section 707; fire partitions shall not be allowed. (CBC 508.4.4.1).

c. Fire-resistance rated floor-ceiling assemblies used to separate adjoining occupancies shall comply with CBC 711. (CBC 711.2.4.1)

36. Where mixed occupancy buildings contain accessory areas, the aggregate area of all accessory areas within a single occupancy shall not exceed 10% of the floor area of the primary occupancy. (CBC 508.2.3).

37. Clearly label and identify on plans (fire walls, fire barriers, fire partitions, shafts, smoke barriers, and smoke partitions), along with their fire-resistance ratings. Provide a legend.

38. Submit an exit analysis plan that labels and clearly shows compliance with all required egress features such as, but not limited to, common path of travel, required number of exits, occupant load, required width, continuity, travel distance, etc. (CBC 1001.1)

39. Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on means of egress doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials. (CFC 1010.1)

40. The building plans for this project are required by State law to be prepared by a licensed architect or engineer.

41. Compliance with the Federal Clean Water Act (BMP's) shall be demonstrated on the plans.

42. All outdoor lighting shall meet Chapter 39 of the City Code (Light Pollution Ordinance) and shall be shielded appropriately.

43. Separate/unique addresses may be required to facilitate utility releases. Verification that the addresses have been properly assigned by the City's Planning Division shall accompany the Building Permit application.

44. A form or foundation survey shall be required prior to the placement of concrete to show the location of the new structure in respect to the property lines, known easements, and known setback lines. By obtaining a form survey the location of the foundation is checked prior to the placement of concrete, and can save costly corrective measures in case of an encroachment of a property line

45. The 2022 California Energy Code requires rooftop solar zones. Solar ready rooftop required. Low-rise and High-rise Multi-family Buildings, Hotel/Motel Occupancies, and Nonresidential Buildings. The solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The requirements for solar ready buildings are all mandatory, so there are no prescriptive and performance compliance paths. Since the provisions are mandatory, there are also no tradeoffs allowed, and applicants must demonstrate compliance with each measure.

46. Exterior walls of all buildings shall comply with CBC table 705.2 Projections. Cornices, eave overhangs, exterior balconies and similar projections extending beyond the exterior wall shall conform to the requirements of this section and Section 1406. Exterior egress balconies and exterior exit stairways and ramps shall comply with Sections 1021 and 1027, respectively. Projections shall not extend any closer to the line used to determine the fire separation distance than shown in Table 705.2.

47. CBC 1027.5 Location. Exterior exit stairways and ramps shall have a minimum fire separation distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the stairway or ramps, including landings, to:

a. Adjacent lot lines.

b. Other portions of the building.

c. Other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance. For the purposes of this section, other portions of the building shall be treated as separate buildings.

48. 1023.7 Interior Exit Stairway and Ramp Exterior Walls: Exterior walls of the interior exit stairway or ramp shall comply with the requirements of Section 705 for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the stairway or ramps and the walls or openings are exposed by other parts of the

building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or ramp, or to the roof line, whichever is lower.

49. Site development, parking, access into buildings and building interiors shall comply WITH ALL CURRENT State of California Accessibility Code where required. No Accessible parking shown on current plans. You must clearly show compliance on the plans.

- Buildings or portions of buildings and facilities within the scope of this chapter shall be accessible to persons with disabilities. Each building on a building site shall be considered separately when determining the requirements contained in this chapter, except when calculating the number of units which must comply with Section 1102A.3.1. Dwelling units within a single structure separated by firewalls do not constitute separate buildings.
- Newly-constructed covered multifamily dwellings as defined in this chapter, include, but are not limited to, the following:
- Apartment buildings with 3 or more dwelling units including timeshare apartments not considered a place of public accommodation or transient lodging as defined in Health and Safety Code Section 19955 (a), and Chapter 2 of the California Building Code.
- Condominiums with 4 or more dwelling units including timeshare condominiums not considered a place of public accommodation or transient lodging as defined in Health and Safety Code Section 19955 (a), and Chapter 2 of the California Building Code.
- Lodging houses, as defined in Chapter 2 of the California Building Code, used as a residence with more than 3 but not more than 5 guest rooms.

- Congregate residences, as defined in Chapter 2 of the California Building Code, with 3 or more sleeping units.
- Dwellings with 3 or more efficiency units, as defined in Chapter 2 of this code, or Section 17958.1 of the California Health and Safety Code.
- Shelters for homeless persons, not otherwise subject to the disabled access provisions of the Division of the State Architect-Access Compliance (DSA-AC).
- Dormitories, as defined in Chapter 2 of this code, with 3 or more guest rooms as defined in Chapter 2 of the California Building Code.
- Timeshare dwellings with 3 or more units, not considered a place of public accommodations or transient lodging as defined in Health and Safety Code Section 19955 (a), and Chapter 2 of the California Building Code.
- Other Group R occupancies in covered multifamily dwellings which are regulated by the Office of the State Fire Marshal. See Section 1.11.
- Public housing as defined in Chapter 2 of this code is subject to provisions of the Division of the State Architect (DSA-AC) in Chapter 11B. Newly constructed covered multifamily dwellings, which can also be defined as public housing, shall be subject to the requirements of Chapter 11A and Chapter 11B.
- 1102A.3.2 Multistory dwelling units in buildings with one or more elevators. Multistory dwelling units contained in buildings with elevators shall comply with this section. For multistory dwelling units in buildings with elevators, the story of the unit that is served by the building elevator is considered a ground floor and the primary entry floor to the unit and shall comply with the following:
- At least 1 powder room or bathroom shall be located on the primary entry level.
- At least 1 kitchen shall be located on the primary entry level.
- All rooms or spaces located on the primary entry level shall be served by an accessible route and shall comply with Division IV.
- 1109A.3 Required accessible parking spaces Accessible parking spaces shall be provided at a minimum rate of 2 percent of the covered multifamily dwelling

units. At least one space of each type of parking facility shall be made accessible even if the total number exceeds 2 percent.

- 1109A.7 Location of accessible parking spaces. The location of accessible parking spaces shall comply with the following:
- Accessible parking spaces shall be located on the shortest possible accessible route to an accessible building, or covered multifamily dwelling unit entrance. All van accessible spaces may be grouped on one level of a multilevel parking facility. Please illustrate compliance on the plans.
- When parking facilities are located adjacent to a building with multiple accessible entrances, accessible parking spaces shall be dispersed and located near the accessible building entrances.
- When practical, the accessible route shall not cross lanes for vehicular traffic. When crossing vehicle traffic lanes is necessary, the accessible route shall be designated and marked as a crosswalk.
- Parking facilities that do not serve a particular building shall have accessible parking spaces located on the shortest possible accessible route to an accessible pedestrian entrance of the parking facility.
- Accessible parking spaces shall be located so that persons with disabilities are not compelled to wheel or walk behind parked cars other than their own.
- Exception: When the enforcement agency determines that compliance with this section or providing equivalent facilitation would create an unreasonable hardship, parking spaces may be provided which would require a person with physical disabilities to wheel or walk behind other than accessible parking spaces.

50. A complete set of Soil Reports, Structural Calculations, Energy Calculations, & California Title 24 Energy Form(s) shall be required at time of plans submittal to the Building Division for plan check.

//////

//////

//////

51. City of Oceanside Enforces the 2022 California Green Building Standards Code. A Construction Waste Management Plan shall be required at time of plans submittal to the Building Division for plan check. 5.408.1 Construction waste diversion. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

52. 5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that:

a. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.

b. Indicates if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).

c. Identifies diversion facilities where construction and demolition waste material collected will be taken.

d. Specifies that the amount of construction waste and demolition materials diverted shall be calculated by weight or volume, but not by both.

53. Plans must specify, as applicable, the type of automatic sprinkler system – NFPA 13, NFPA 13R, or NFPA 13D – installed in each building.

54. San Diego County Department of Environmental Health approval is required for all new food businesses and public pools.

55. The construction documents and/or site plan should indicate the location and required number of designated parking stalls. These parking spaces should be marked "CLEAN AIR/VANPOOL/EV." The markings should be visible when a clean air vehicle is parked. In other words, if the front of the vehicle goes into the parking stall first, the markings should be visible at the back end of the vehicle. Lettering should be at least 8 inches high. The CLEAN AIR/VANPOOL/EV parking

stalls may be located anywhere on the site and do not require a preferential location. Refer to Table 5.106.5.2 in CAL Green to ensure that the correct number of designated parking stalls is provided. Include all parking spaces in the calculation. 2019 Cal Green Section 5.106.5.2

56. All electrical, communication, CATV, etc. service lines within the exterior lines of the property shall be underground (City Code Sec. 6.30).

57. Buildings four or more stories in height must comply with City of Oceanside Mid-Rise Ordinance.

58. Elevator car must be sized to accommodate an emergency gurney sized 84 x 24 inches in the horizontal position.

59. An enclosed elevator lobby – separating the elevator shaft enclosure doors from each floor with fire partitions. – shall be provided at each floor where an elevator shaft enclosure connects more than two stories in A, E, H, I, L, R-1, R-2, and R-2.1 occupancies and more than three stories in all other occupancies (CBC 3006.2, CBC 3006.3).

60. Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE) in compliance with California Building Code (CBC) and California Electrical Code (CEC). Multiple charging space requirements. [N] When multiple charging spaces are required per Table 56.106.5.3.3, raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with CEC. Construction plans and specifications shall comply with CGBSC 5.106.5.3.2

61. Construction Hours: Per City of Oceanside Municipal Code section 6.25:It shall be unlawful to operate equipment or perform any construction in the erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land during the following hours:

(1) Before 7:00 a.m. and after 7:00 p.m. Monday through Saturday.

(2) All day on Sunday; and

(3) On any federal holiday.

(b) *Exceptions.*

(4) An owner/occupant or resident/tenant of residential property may engage in a home improvement project between the hours of 9:00 a.m. and 5:00 p.m. on Sundays and holidays provided the project is for the benefit of said residential property and is personally carried out by said owner/occupant or resident/tenant.

(5) The building official may authorize extended or alternate hours of construction for the following circumstances:

a. Emergency work.

b. Adverse weather conditions.

c. Compatibility with store business hours.

d. When the work is less objectionable at night than during daylight hours.

e. Per the direction of the City Managers office for projects that have been determined that rapid completion is in the best interest of the general public.

62. Area Analysis will be required to show compliance with chapter of 5 of the California Building Codes.

63. Yards Adjacent to Buildings must comply with the distance to Property line per CBC 1205.

64. Buildings must be designed for Fire resistive construction located on the same parcel with assumed Property Lines.

65. Ramps for Public Parking garages must not be greater than 1:15, 6.67 Percent per CBC 406.4.3.

66. Buildings over two stories may not use ABS or PVC piping per CPC.

67. Veneer and Siding must be installed per the Manufacturing instructions.

//////

//////

68. Address for Meters: The Developer must carefully submit the correct address to SDGE for meter release with addresses that are the same as what has been given for each House.

Engineering:

69. Before any demolition of existing structures or surface improvements takes place on-site, a grading plan application must be submitted to the Engineering Division, and an erosion control plan shall be approved by the City Engineer. Demolition will not be allowed without an approved erosion control plan. Additionally, a demolition permit must be obtained by the Building Division.

70. Design and construction of all improvements shall be in accordance with the City of Oceanside's Engineers Design and Processing Manual, City Ordinances, standard engineering practices, and specifications of the City of Oceanside, and shall be subject to approval by the City Engineer.

71. All right-of-way alignments, street dedications, exact geometrics, and widths shall be designed, dedicated, and constructed or replaced in accordance with the City of Oceanside Engineers Design and Processing Manual, and as required by the City Engineer.

72. The owner/developer shall provide an updated Title Report dated within 6 months of the grading plan application submittal.

73. The approval of the tentative map shall not mean that closure, vacation, or abandonment of any public street, right of way, easement, or facility is granted or guaranteed to the owner/developer. The owner/developer is responsible for applying for all closures, vacations, and abandonments as necessary. The application(s) shall be reviewed and approved or rejected by the City of Oceanside under separate process-(es) per codes, ordinances, and policies in effect at the time of the application. The City of Oceanside retains its full legislative discretion to consider any application to vacate a public street or right of way.

//////

//////

74. The owner/developer shall submit to the City for processing a covenant attesting to the project's development conditions. The approved covenant shall be recorded at the County prior to the issuance of a grading permit.

75. All public improvement requirements shall be covered by a Subdivision Improvement Agreement and secured with sufficient improvement securities or bonds guaranteeing performance and payment for labor and materials, setting of survey monuments, and warranties against defective materials and workmanship before the approval of the public improvement plans.

76. Prior to the issuance of any building permits, all access improvements surrounding the building permit site shall be under construction to the satisfaction of the City Engineer.

77. Prior to the issuance of a Certificate of Occupancy permit, all access improvements and landscape improvements surrounding the building permit site shall be completed to the satisfaction of the City Engineer.

78. Prior to approval of the map, provide the City of Oceanside with certification from each public utility and each public entity owning easements within the proposed project stating that: (a) they have received from the owner/developer a copy of the proposed map; (b) they object or do not object to the filing of the map without their signature; (c) in case of a street dedication affected by their existing easement, they will sign a "subordination certificate" or "joint-use certificate" on the map when required by the governing body.

79. Legal access shall be provided to each subdivided lot on the recorded final map.

80. Prior to approval of the first final map, a phasing plan for the construction of public and private improvements, including landscaping, streets, and arterials, shall be reviewed and approved by the Engineering Division, Water Utilities Department, and Fire Department prior to the issuance of a grading permit.

81. Multiple final maps may be filed prior to the expiration of the tentative map. The City Engineer shall require the dedication and construction of necessary utilities, streets, and other improvements outside the area of any final map if such is needed

for circulation, parking, access, or for the welfare or safety of future occupants of the development. The boundaries of any multiple final map increment shall be subject to the approval of the City Engineer. Prior to the City Council's approval of the first final map, a phasing plan for the construction of public and private improvements shall be reviewed and approved by the City Engineer. Prior to the City Council's approval of the first final map, a phasing plan for the construction of public and private improvements shall be reviewed and approved by the City Engineer.

82. The owner/developer shall process a separate easement dedication application for all existing or proposed public facilities and infrastructure located on the property. The application shall be submitted prior to the issuance of a grading permit and shall be recorded prior to grading plan As-Builts. Additionally, the easement shall be identified on the map as “To Be Dedicated by Separate Instrument”.

83. Vehicular access rights to adjacent streets shall be relinquished to the City from all abutting lots except at the proposed driveway(s). Process an access relinquishment application with the City prior to the issuance of a grading permit, and record the approved document prior to the grading plan As-Builts.

84. All property corners, survey monuments that control public rights-of-way, and City benchmarks shall be protected in place or perpetuated in conformance with Greenbook Standard 400-2 and Business and Professions Code 8771.

85. The City of Oceanside Geodetic Control Monument No. 1005 lies within the boundary of the proposed development and shall be protected in place. If for any reason this monument cannot be protected in place, the monument shall be perpetuated in compliance with the Federal Geographic Data Committee (FGDC) and the Federal Geodetic Control Subcommittee (FGCS) geodetic control accuracy standards. If the monument requires perpetuation, a record shall be filed with the County Surveyor in compliance with California Public Resources Code section 8813.2, and a copy provided to the City of Oceanside Engineering Department.

86. A traffic control plan shall be prepared in accordance with the City's traffic control guidelines and approved by the City Engineer prior to the start of work within the public Right-of-Way. Traffic control safety and implementation for construction or re-construction of streets shall be in accordance with construction signing, marking, and other protection as required by Caltrans' Traffic Manual and City Traffic Control Guidelines. Traffic control plan implementation and hours shall be in accordance with the approved traffic control plans.

STREET IMPROVEMENT CONDITION

87. Proposed public improvements located within the City's ROW or onsite shall be displayed on separate public improvement plans in accordance with the City's Engineer's Design and Processing Manual.

88. Any existing public or private improvements that are being joined to and that are already damaged or damaged during construction of the project, shall be repaired or replaced as necessary by the developer to provide a competent and stable connection, and to the City Engineer's satisfaction.

89. An Encroachment Removal Agreement (ERA) application shall be submitted to the City for proposed private improvements located within the City's ROW or over any City easement. The ERA shall be submitted for review prior to the issuance of a grading permit and recorded at the County prior to improvement plan As-Builts.

90. Seagaze Drive, S. Tremont St., and Missouri Ave. shall be constructed with a new curb, gutter, and sidewalk along the project frontage. Sidewalk improvements (construct/replace) shall comply with current ADA requirements.

91. An ADA-compliant pedestrian ramp shall be constructed at the street intersection, and other locations as required by the City Engineer.

92. Publicly maintained pedestrian ramps (maintained by the City of Oceanside) must be located entirely within the public right-of-way (ROW). Pedestrian ramps not located entirely within the City's ROW shall be provided with a ROW dedication on the final map and shown on the improvement plans and grading plans. The

ROW dedication shall be submitted prior to the approval of the grading plans and recorded prior to the grading plan As-Builts.

93. The minimum curb return radius at pedestrian ramps and driveway locations must adhere to the standards set forth in the City of Oceanside Engineers Design and Processing Manual.

94. All streets shall be provided with a 10-foot minimum parkway between the face of the curb and the Right-of-Way line, unless depicted otherwise on the street sections provided on the approved Tentative Map contained within the Development Plan package, and the design shall be displayed on the improvement plans.

95. Full-width and depth alley improvements, including the installation of a longitudinal concrete ribbon gutter, shall be shown on separate public improvement plans and designed in accordance with the City of Oceanside Engineers Design and Processing Manual.

96. Sight distance requirements at the project driveway(s) or street shall conform to the sight distance criteria as provided by Caltrans. The owner/developer shall provide a plan and profile of the line of sight for each direction of traffic at each proposed driveway on the grading plans.

97. Proposed vertical improvements adjacent to alley roadways that exceed 30 inches in height and could obstruct a driver's line of sight are not permitted. Existing obstructions, including buildings, hedges, trees, bushes, tall grass, crops, walls, fences, or natural terrain, should be removed or reduced in height, where feasible.

98. A pavement evaluation report must be submitted with the grading plan application for offsite street and alley pavements. The owner/developer shall hire a licensed geotechnical engineering firm to conduct a field investigation of the existing pavement along all streets adjacent to the project boundary. The study area shall cover half the street width along the project's Seagaze Drive, South Tremont Street, Missouri Avenue, and public alley frontage. The investigation must follow a boring plan prepared by a licensed Geotechnical Engineer, which must be

approved by the City Engineer prior to the issuance of a grading permit. In the absence of an approved boring plan, the field investigation shall include a minimum of one pavement boring per every one hundred (100) linear feet of street frontage.

If the study finds that the existing road pavement does not meet current pavement thickness requirements outlined in the City of Oceanside Engineers Design and Processing Manual, the owner/developer shall remove and reconstruct the existing half street pavement section along the project frontage to meet City requirements. If the pavement meets the required thickness, the City Engineer will determine the appropriate actions, which may include: 1) Repairing all failed pavement sections, 2) header cutting and grinding as directed by the City Engineer, or 3) performing R-value testing and submitting a report to confirm whether the existing pavement meets current City standards and traffic indices.

99. A Street Vacation application shall be processed with the City for the (80)-foot street vacation of Topeka St., Michigan Ave., and Missouri Ave. Street Vacation applications shall be reviewed and approved or rejected by the City of Oceanside per codes, ordinances, and policies in effect at the time of the application. The City of Oceanside retains its full discretion to consider any application to vacate a public street or Right-of-Way. A street vacation listed on a map per SMA Section 66445(j) shall be approved by the City Engineer prior to the recordation of the map.

100. Approval and recordation of the street vacation shall occur prior to the approval of the public improvement plans and the issuance of a grading permit.

101. Maintenance responsibilities for the private driveways and roadways, used as access to the land being divided, shall be clearly identified in the project's CC&Rs.

102. A precise grading plan, which includes proposed onsite private improvements, shall be prepared, reviewed, secured, and approved prior to the issuance of any building permit. The plan shall reflect all pavement, flatwork, landscaped areas, special surfaces, curbs, gutters, medians, striping, signage, footprints of all

structures, walls, drainage devices, and utility services. Parking lot striping and any on-site traffic calming devices shall be shown on the precise grading plans.

103. The approval of the development plan shall not mean that proposed grading or improvements on adjacent properties (including any City properties/right-of-way or easements) are granted or guaranteed to the owner/developer. The owner/developer is responsible for obtaining written permission to grade or construct on adjacent properties prior to the issuance of a grading permit. Should such permission be denied, the development plan shall be subject to going back to a public hearing or subject to a substantial conformity review.

104. Where proposed off-site improvements, including but not limited to slopes, public utility facilities, and drainage facilities, are to be constructed, the owner/developer shall, at his own expense, obtain all necessary easements or other interests in real property and shall dedicate the same to the City of Oceanside as required. Owner/developer shall provide documentary proof satisfactory to the City of Oceanside that such easements or other interest in real property have been obtained prior to the issuance of any grading, building or improvement permit for this development/project. Additionally, the City of Oceanside, may at its sole discretion, require that the owner/developer obtain at his sole expense a title policy insuring the necessary title for the easement or other interest in real property to have vested with the City of Oceanside or the owner/ developer, as applicable.

105. Construction activities on adjacent properties are prohibited without written consent from the property owners. The developer must obtain written authorization from adjacent property owners to access their properties. No trespassing, grading, or construction of any kind shall occur on neighboring properties without explicit permission. Failure to comply will result in the revocation of the grading permit. The written permission must be submitted to the City prior to the issuance of a grading permit and must be notarized.

106. A pavement evaluation report shall be submitted for the proposed onsite pavement with the grading plan application. Pavement sections for all public and private

roadways, driveways, alleyways, and parking areas shall be based upon approved soil test requirements and traffic indices identified within the City of Oceanside Engineers Design and Processing Manual. The pavement design is to be prepared by the owner/developer's geotechnical engineering firm and be approved by the City Engineer prior to the issuance of a grading permit. Roadway alignments and geometric layouts shall be in conformance with the City of Oceanside Engineers Design and Processing Manual.

107. Prior to the issuance of a grading permit, a comprehensive soil and geologic investigation shall be conducted for the project site. All necessary measures shall be taken and implemented to assure slope stability, erosion control, and soil integrity; and these measures shall be incorporated as part of the grading plan design. No grading shall occur at the site without a grading permit.

108. Prior to the approval of a grading permit, the owner/developer shall provide a soil management plan (SMG) that presents the procedures to be used in the event that unknown structures (i.e., underground storage tanks, sumps, etc.) or soil contamination is encountered during earthwork.

109. It is the responsibility of the owner/developer to evaluate and determine that all soil imported as part of this development is free of hazardous and/or contaminated material as defined by the City and the County of San Diego Department of Environmental Health. Exported or imported soils shall be properly screened, tested, and documented regarding hazardous contamination.

110. If contaminated soil is encountered at the site during construction activities, the project will cease all grading operations and notify both the City and the County Department of Environmental Health (DEH) of the incident. The developer shall work directly with DEH to gain all necessary approvals to address the contaminated soil and provide the City with all DEH-approving documents for the project file. The developer is responsible for all costs and activities associated with the soil contamination cleanup. Grading activities for the project may resume after DEH provides a Case Closure letter for the site.

111. The owner/developer shall develop and submit a draft neighborhood notification flyer to the City for review. The flier shall contain information on the project, construction schedule, notification of anticipated construction noise and traffic, and contact information. Prior to the issuance of a grading permit, the approved flier shall be distributed to area residents, property owners, and business owners located within a 500-foot radius area of the project.

112. The project shall provide and maintain year-round erosion control for the site. Prior to the issuance of a grading permit, an approved erosion control plan, designed for all proposed stages of construction, shall be secured by the owner/developer with cash securities or a letter of credit and approved by the City Engineer; a Certificate of Deposit will not be accepted for this security.

GRADING CONDITION

113. The owner/developer shall monitor, supervise, and control all construction and construction-supportive activities, to prevent these activities from causing a public nuisance, including but not limited to, ensuring strict adherence to the following:

a) Dirt, debris, and other construction material shall not be deposited on any public street or into the City's stormwater conveyance system.

b) Grading and related site preparation and/or construction activities shall be restricted to the hours of 7 AM to 6 PM, Monday through Friday. No engineering-related construction activities are allowed on Saturdays, Sundays or legal holidays unless prior written permission is obtained from the City Engineer, specifying any exceptions to working hours or permitted activities. All on-site construction staging areas must be located at least 100 feet away from any existing residential properties, wherever possible. Since construction noise may still be disruptive during evenings or on holidays, the project must comply with the City of Oceanside Noise Ordinance, which prohibits any unnecessary, excessive, and annoying noises that are detrimental to the health and welfare of the citizenry.

c) The construction site shall accommodate the parking of all motor vehicles used by people working at or providing deliveries to the site. An alternative

parking site can be considered by the City Engineer if the lot size is too small and cannot accommodate parking for all motor vehicles.

d) The owner/developer shall complete a haul route permit application (if required for import/export of dirt) and submit it to the City of Oceanside Transportation Engineering Section forty-eight hours (48) in advance of work. Hours of hauling operations shall be dictated by the approved haul route permit.

114. Landscape and irrigation plans for disturbed areas shall be submitted to the City Engineer prior to the issuance of a grading permit and approved by the City Engineer prior to the issuance of building permits. Landscaping plans, including plans for the construction of walls, fences, or other structures at or near intersections, must conform to intersection sight distance requirements. Landscape improvements surrounding any building permit site shall be installed and established prior to the issuance of any certificates of occupancy. Securities shall be required only for landscape items in the public right-of-way. Any project fences, sound or privacy walls, and monument entry walls/signs shall be shown on, bonded for, and built from the approved landscape plans. These features shall also be shown on the precise grading plans for purposes of location only. Plantable, segmental walls shall be designed, reviewed, and constructed from grading plans and landscape/irrigation design/construction shall be from landscape plans. All plans must be approved by the City Engineer and a pre-construction meeting will be held prior to the start of any improvements.

115. Unless an appropriate barrier is approved on a landscape plan, a minimum 42-inch-high barrier, approved by the City Engineer, shall be provided at the top of all slopes whose height exceeds 20 feet or where the slope exceeds 4 feet and is adjacent to any streets, an arterial street or state highway.

116. The drainage design shown on the conceptual grading/site plan, and the drainage report for this development plan is conceptual only. The final drainage report and design shall be based upon a hydrologic/hydraulic study that is in accordance with the latest San Diego County Hydrology and Drainage Manual and is to be

approved by the City Engineer prior to the issuance of a grading permit. All drainage picked up in an underground system shall remain underground until it is discharged into an approved channel, or as otherwise approved by the City Engineer.

117. The project's drainage system shall not connect or discharge to another private storm drain system without first obtaining written permission from the owner of the system. The written permission letter shall be provided to the City prior to the issuance of a grading permit. The owner/developer shall be responsible for obtaining any off-site easements for storm drainage facilities.

118. The applicant must submit detailed engineering plans for the proposed storm drain connection to the Wisconsin Ave storm drain as preliminarily shown on the approved tentative map. The storm drain plans shall be designed in accordance with the San Diego County Hydrology Manual, San Diego County Hydraulic Design Manual, the City of Oceanside Engineers Design and Processing Manual, and to the satisfaction of the City Engineer.

119. All public storm drains shall be shown on separate public improvement plans. Public storm drain easements shall be dedicated to the City where required.

120. Drainage facilities shall be designed and installed to adequately accommodate the local stormwater runoff and shall be in accordance with the San Diego County Hydrology Manual and the City of Oceanside Engineers Design and Processing Manual, and to the satisfaction of the City Engineer.

121. Prior to issuance of the first grading permit, the owner/developer shall design a diversion structure (the "Permanent Diversion Structure") capable of diverting storm flow from two (2) acres of developed area (approximately ten (10) cubic feet per second ("CFS")) toward the North Cleveland Street public storm drain system. The Permanent Diversion Structure shall be constructed upon completion of the city's Capital Improvement Project (CIP) for the North Cleveland Street Storm Drain Upgrade (the "N. Cleveland St. Storm Drain CIP"). Precise grading plans detailing the Permanent Diversion Structure shall be provided to the city for

approval prior to construction of the system. The system must be operational prior to issuance of a certificate of occupancy.

Until completion of the N. Cleveland St. Storm Drain CIP, the storm water discharge from the two (2) acres of developed area shown on the Diversion Assessment Exhibit of the Drainage Report may continue to be conveyed to S. Myers Street through Detention Basin No. 1 to be constructed on Lot 7. The owner/developer shall own all temporary storm water improvements on Lot 7 and shall be solely responsible for the operation, maintenance, and repair of such improvements. Upon completion of the North Cleveland Street Storm Drain Upgrade CIP, the city will provide written notice to the owner/developer, along with a set of "As-Built Plans" for the CIP project. The notice will instruct the owner/developer to construct the Permanent Diversion Structure and to re-route flows to the North Cleveland St. storm drain system within 30 days. Final certificates of occupancy for buildings on Lot 7 shall not be issued until the Permanent Diversion Structure has been completed, approved and accepted by the city. In the event that the N. Cleveland St. Storm Drain CIP is not completed by the time the project is otherwise eligible for issuance of certificates of occupancy for buildings on Lot 7, the owner/developer may post a performance bond or other securities in an amount sufficient to secure the owner/developer's obligation to construct the Permanent Diversion Structure. Upon posting of such security to the city's reasonable satisfaction, and upon verification that all other requirements have been satisfied, the city shall issue certificates of occupancy for buildings on Lot 7.

122. Owner/developer shall place a covenant on the non-title sheet of the grading plan agreeing to the following: "The present or future owner/developer shall indemnify and save the City of Oceanside, its officers, agents, and employees harmless from any and all liabilities, claims arising from any flooding that may occur on this site, and any flooding that is caused by this site impacting adjacent properties".

//////

123. Storm drain facilities shall be designed and constructed to allow inside travel lanes of streets classified as a Collector or above to be passable during a 100-year storm event.

124. Sediment, silt, grease, trash, debris, and pollutants shall be collected on-site and disposed of in accordance with all state and federal requirements, prior to discharging stormwater into the City drainage system.

125. Owner/developer shall comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit) Water Quality Order 2022-0057-DWQ. The General Permit continues in force and effect until the effective date of a new General Permit adopted by the State Water Board, or the State Water Board rescinds this General Permit. Dischargers that obtain coverage under the expiring General Permit prior to the effective date of this permit, may continue coverage under the previous permit up to two years after the effective date of this General Permit (September 1, 2023). Construction activity subject to the General Permit includes, but is not limited to, clearing, demolition, grading, excavation, and other land disturbance activities that result in one or more acres of land surface, or that are part of a common plan of development or sale.

The discharger shall obtain a Waste Discharge Identification (WDID) number prior to the commencement of construction activity by electronically certifying and submitting the Permit Registration Documents from Section III of the General Permit through the State Water Board Stormwater Multiple Application and Report Tracking System (SMARTS). In addition, coverage under the General Permit shall not occur until an adequate SWPPP is developed for the project as outlined in Section A of the General Permit. The site-specific SWPPP should be always maintained on the project site. The SWPPP shall be provided, upon request, to the United States Environmental Protection Agency (USEPA), State Water Resources Control Board (SWRCB), Regional Water Quality Control

Board (RWQCB), City of Oceanside, and other applicable governing regulatory agencies. The SWPPP is considered a report that shall be available to the public by the RWQCB under section 308(b) of the Clean Water Act. The provisions of the General Permit and the site-specific SWPPP shall be continuously implemented and enforced until the owner/developer obtains a Notice of Termination (NOT) for the SWRCB.

The owner/developer is required to retain records of all monitoring information, copies of all reports required by this General Permit, and records of all data used to complete the NOT for all construction activities to be covered by the General Permit for a period of at least three years from the date generated. This period may be extended by the request of the SWRCB and/or RWQCB.

126. The project is categorized as a stormwater-Priority Development Project (PDP). A final Storm Water Quality Management Plan (SWQMP) and Operation & Maintenance (O&M) Plan shall be submitted to the City for review at the final engineering phase. Both documents are to be approved prior to the issuance of a grading permit.

127. The O&M Plan shall include an approved and executed Maintenance Mechanism pursuant to the City of Oceanside BMP Design Manual (BDM). At a minimum, the O&M Plan shall include the designated responsible party to manage the stormwater BMP(s), employee training program and duties, operating schedule, maintenance frequency, routine service schedule, specific maintenance activities, copies of resource agency permits, cost estimate for implementation of the O&M Plan, non-refundable cash security to provide maintenance funding in the event of non-compliance to the O&M Plan, and any other necessary elements. The owner/developer shall complete and maintain O&M forms to document all operation, inspection, and maintenance activities. The owner/developer shall retain records for a minimum of 10 years. The records shall be made available to the City upon request.

//////

128. The owner/developer shall enter into a City-Standard Stormwater Facilities Maintenance Agreement (SWFMA) with the City, obliging the owner/developer to maintain, repair, and replace the Storm Water Best Management Practices (BMPs) structures identified in the project's approved SWQMP, as detailed in the O&M Plan, in perpetuity. Furthermore, the SWFMA will allow the City with access to the site for BMP inspection and maintenance, if necessary. The Agreement shall be approved by the City Attorney's Office and recorded at the County Recorder's Office prior to the issuance of a precise grading permit. A non-refundable Security in the form of cash shall be required prior to the issuance of a precise grading permit. The amount of the non-refundable security shall be equal to 10 years of maintenance costs, as identified by the O&M Plan, but not to exceed a total of $25,000. The owner/developer's civil engineer shall prepare the O&M cost estimate.

129. The BMPs described in the project's approved SWQMP shall not be altered in any way, unless reviewed and approved by the City Engineer. The determination of whatever action is required for changes to a project's approved SWQMP shall be made by the City Engineer.

130. Prior to receiving a temporary or permanent occupancy permit, the project shall demonstrate that all structural BMPs, including Storm Water Pollutant Control BMPs and Hydromodification Management BMPs, are constructed and fully operational, are consistent with the approved SWQMP and the approved Precise Grading Plan, and are in accordance with San Diego RWQCB Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100.

131. A phase-specific Final SWQMP shall be prepared and submitted to the City for review during each project phase proposing to construct permanent post-construction BMPs. The phase-specific Final SWQMP shall adhere to the stormwater and drainage concepts presented in the Preliminary Master SWQMP.

132. All post-construction source control and site design BMPs shall be properly detailed in the SWQMP and properly detailed on the appropriate plans.

133. All impervious areas and drainage patterns presented within the Final SWQMP shall be substantiated with supporting grading, architectural, landscape, plumbing, and/or similar related plans.

134. No private structural BMPs shall be constructed within the public right-of-way or public utility easements.

135. The project shall design and construct Full Capture Systems for all Priority Land Uses within the project limits in accordance with the San Diego Water Board Trash Order and City of Oceanside Track 1 Implementation Plan.

136. The Green Street stormwater design for all public roadway improvements must be designed and constructed to the satisfaction of the City Engineer.

137. Prior to the issuance of a grading permit or approval of any public improvement plans, the applicant shall provide complete hydraulic analyses to demonstrate that there are no negative impacts to all downstream surface and subsurface drainage systems and that adequacy of all proposed drainage systems in accordance with the San Diego County Hydrology Manual, San Diego County Hydraulic Design Manual, the City of Oceanside Engineers Design and Processing Manual, and to the satisfaction of the City Engineer.

138. Open space areas, down-sloped areas visible from a collector-level or above roadway classification, and improvements within the common areas that are not maintained by the property owner shall be maintained by a homeowners' association that will ensure the operation and maintenance of these items in perpetuity. These areas shall be indicated on the map and reserved for an association. Future buyers shall be made aware of any estimated monthly maintenance costs. The CC&Rs shall be submitted and approved by the City prior to the recordation of the map.

139. All new extension services for the development of the project, including but not limited to, electrical, cable, and telephone, shall be placed underground as required by the City Engineer and current City policies.

//////

140. Prior to the approval of plans and the issuance of a grading permit, the owner/developer shall obtain all necessary permits and clearances from public agencies having jurisdiction over the project due to its type, size, location, or infrastructure impact. The list of public agencies includes, but is not limited to, Public Utility Companies, the California Department of Transportation (Caltrans), the City of Carlsbad, the City of Vista, Fallbrook, the County of San Diego, the U. S. Army Corps of Engineers, the California Department of Fish & Game, the U. S. Fish and Wildlife Service, the San Diego Regional Water Quality Control Board, and the San Diego County Health Department.

141. The owner/developer shall comply with all the provisions of the City's cable television ordinances, including those relating to notification as required by the City Engineer.

142. As part of the City's Opportunistic Beach Fill Permit, this project has been conditioned to test proposed excavated material to determine suitability for deposit on city beaches as part of the Beach Sand Replenishment program. Preliminary soil test results shall be provided as part of the project geotechnical report which is required prior to approval of the grading plan and issuance of the grading permit. Suitable beach replenishment material shall be at least 75% sand with no more than a 10% difference in sand content between material at the source and discharge site. Replenishment material shall contain only clean construction materials suitable for use in the oceanic environment; no debris, silt, soil, sawdust, rubbish, cement or concrete washings, oil or petroleum products, hazardous/toxic/radioactive/munitions from construction or dredging, or disposal shall be allowed to enter or be placed where it may be washed by rainfall or runoff into waters of the United States. Any excess or unacceptable material shall be completely removed from the site/work area and disposed of in an appropriate upland site.

If the sediment to be exported is determined to be suitable beach replenishment material and is approved by the regulatory agencies, the developer's contractor

will coordinate with the City's Coastal Zone Administrator for further discussion and direction on placement. The City will enter into a contract with the owner/developer for suitable soil removal.

Coordination is required to occur a minimum of eight weeks in advance of the need to place approved excavated material on the beach.

143. If shoring is necessary for the proposed development, the shoring design plans must be included in the grading plan set, and the structural design calculations must be submitted with the grading plan application. Shoring shall not encroach into the City's Right-of-Way.

144. Approval of this development project is conditioned upon payment of all applicable impact fees and connection fees in the manner provided in Chapter 32B of the Oceanside City Code. All traffic signal fees and contributions, highway thoroughfare fees, park fees, reimbursements, and other applicable charges, fees, and deposits shall be paid before the recordation of the map or the issuance of any building permits, in accordance with City Ordinances and policies. Payment of drainage impact fees is required prior to docketing the map for the City Council hearing and the recording of the final map. The owner/developer shall also be required to join in, contribute, or participate in any improvement, lighting, or other special district affecting or affected by this project.

145. Upon acceptance of any fee waiver or reduction by the owner/developer, the entire project will be subject to prevailing wage requirements as specified by Labor Code section 1720(b) (4). The owner/developer shall agree to execute a form acknowledging the prevailing wage requirements prior to the granting of any fee reductions or waivers.

146. If there are discrepancies in information between the conceptual plan and the conditions set forth in the project's entitlement resolution (Conditions of Approval), the project's entitlement resolution shall prevail.

//////

//////

Fire:

147. Project will comply with the 2022 California Fire Code and all applicable and referenced Standards along with the currently adopted City of Oceanside Municipal Code. This includes areas such as but not limited to:

i. Water Supply (hydrants, hydrant outlets, hydrant spacing, minimum fire flow required for building, fire flow report/test, etc.)

ii. Fire Apparatus Access Roads (widths, dead end lengths, turn-arounds, etc.)

iii. Fire Protection Systems (automatic fire sprinkler system requirements, automatic fire alarm requirements, standpipes, FDC location, etc.)

148. In addition to the comments provided by the Building Department, several items will be asked for on the plans to provide detail and analysis of the building including:

a. Egress plan with occupant load per room or space

b. Egress and emergency lighting must match between electrical sheets and egress sheet

c. Detail of the elevator to show it will allow space for a gurney

d. Location of fire suppression equipment:

i. FDC on exterior of the building (on the address side of the building within 40’ of a fire hydrant)

ii. Standpipe connections/outlets in the stairwells and on roof

iii. Fire extinguisher locations throughout the building

e. Dwelling units will be uniformly numbered to provide continuity on each floor for first responders. (i.e. 100, 101, 102 will be roughly, directly underneath 200, 201, and 202 respectively.

f. Deferred submittal block will include the following but not limited to:

i. Fire Underground Systems per the 2019 ed. NFPA 24

ii. Automatic Fire Sprinkler System per the 2022 ed. NFPA 13

1. A standpipe will be required in each stairwell and tied into the sprinkler system

iii. Automatic Fire Alarm System with Voice Evacuation per the 2022 ed. NFPA 72

iv. Fire Master Plan in accordance with Oceanside Fire Department

v. Geo-Reference Building Plan

vi. Emergency Responder Radio Coverage Systems

vii. Tennant Improvement (as applicable)

149. If these buildings are not a "High-Rise" as defined by the California Building Code, then it will be considered a "Mid-Rise" by the City of Oceanside. This will result in a number of requirements adopted by the City to provide additional safety measures. See below for a cut and pasted section outlining the specific requirements for Mid-Rise buildings.

150. Mid-Rise Requirements per City of Oceanside Municipal Code Section 11.19: In addition to other applicable provisions of the California Fire Code, the City Code, other laws and regulations, and any policies of the Fire Code Official, the provisions of this article apply to every newly constructed mid-rise building of any type construction, or any mid-rise building which undergoes a complete renovation that requires the complete vacancy of the building to complete the renovation.

Exception: Vehicle parking garages, towers, steeples and other similar occupancies that are not used for continuous human occupancy.

151. Building access. Building access must be provided and approved by the Fire Code Official.

152. Automatic fire sprinklers/standpipes. Every mid-rise building must be protected throughout by an automatic fire sprinkler system that is designed and installed in conformance with the adopted edition of NFPA 13 and in accordance with the following:

1. A control valve and a water-flow alarm device must be provided for each floor. Each control valve and flow device must be electronically supervised.

2. Every mid-rise building must be provided with a class I standpipe system that is interconnected with the fire sprinkler system. The system must consist of two and one-half-inch (2½") hose valves that must be located in each stair enclosure on every floor level. First floor outlets are optional only with approval of the fire code official. Two (2) hose outlets must also be located on the roof, outside of each stair shaft enclosure that penetrates the roof. The standpipe system must be designed, installed, and tested in accordance with the adopted edition of NFPA 14.

153. Smoke detection. Smoke detectors must be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system installed in accordance with the adopted eition of NFPA 72. The actuation of any detector required by this section shall operate the emergency voice alarm signaling system and shall operate all equipment necessary to prevent the circulation of smoke through air return and exhaust ductwork. Smoke detectors must be located as follows:

1. In every mechanical equipment, electrical, transformer, telephone equipment, unmanned computer equipment, elevator machinery or similar room and in all elevator lobbies. Elevator lobby detectors must be connected to an alarm verification zone or be listed as a releasing device.
2. In the main return-air and exhaust-air plenum of each air-conditioning system having a capacity greater than two thousand (2,000) cubic feet per minute. Such devices must be located in a serviceable area downstream of the last duct inlet.
3. At each connection to a vertical duct or riser serving two (2) or more stories from a return-air duct or plenum of an air conditioning system. In Group R-1 and R-2 occupancies, a smoke detector is allowed to be used in each return-air riser carrying not more than five thousand (5,000) cubic feet per minute and serving not more than ten (10) air inlet openings.
4. In all corridors serving as a means of egress.

154. Fire alarm system. An approved and listed, automatic and manual, fully addressable and electronically supervised fire alarm system shall be provided in conformance with the California Fire Code and California Building Code. Fire Alarm Control and Emergency Voice Alarm Communication Panel must be located in either a dedicated Fire Alarm Control Panel room with exterior access or in the main lobby, or as approved by the fire code official.

155. Emergency voice alarm communication system. An emergency voice alarm communication system shall be designed and installed in accordance with NFPA 72 and California Building Code 907.5.2.2 and its subsections, and 11B-215 and its subsections.

156. Locking of stairway doors. All stairway doors that are locked to prohibit access from the interior of the stairway must have the capability of being unlocked simultaneously, without unlatching, upon a signal from the main fire panel area. Upon failure of normal electrical service, or activation of any fire alarm, the locking mechanism must automatically retract to the unlocked position.

(Ord. No. 08-OR0369-1, § 5, 6-11-08; Ord. No. 13-OR0752-1, § 2, 12-4-2013; Ord. No. 16-OR0848-1 , § 3, 12-21-2016; Ord. No. 19-OR0757-1 , § 2, 12-18-2019)

157. Additional Comments and Requirements: In addition to the above notated requirements for Mid-Rise buildings, the below are items that also pertain to this project. Please refer to the 2022 California Fire Code, 2022 California Building Code, Chapter 11 of the City of Oceanside Municipal Code, and all other adopted and approved codes and standards for further explanation and requirements. Please note that this project includes but is not limited to the following:

158. Fire Department Apparatus Access Roadways:

    1. Due to the height of all buildings exceeding 35ft, all roadways in this project shall be a minimum of 35ft in width with no street parking, except at curb bulb out locations on S. Cleveland Street and Topeka Street, as

depicted on the Fire Access Circulation Plan within the Development Plan. All roadways less than 35ft are subject to approval by the Fire Marshal.

2. All roadways shall be a minimum of 10ft away from the building(s) they serve.
3. Roadways shall be provided within 150ft of all exterior walls of the first floor of the building. The 150ft is measured by means of unobstructed route around the exterior of the building. This measurement will be used as your hose pull distance.
4. A minimum vertical clearance of 13'6" shall be provided and maintained. This includes overhangs of landscape, buildings, signs, etc.
5. Access roadways shall be provided with a 50 foot outside and 30 foot inside turning radius.
6. Grade shall not exceed 12%.
7. An approved turnaround as depicted on the Fire Access Circulation Plan within the Development Plan shall be provided for all access roadways exceeding 150' in length.
8. All fire department access roadways shall be painted/striped as Fire Lanes.

159. Fire Underground Systems:

1. Fire hydrants shall be within 400' of all exterior walls of all structures. This is measured by means of unobstructed route around the exterior of the building.
2. All hydrants will need to be identified as Public or Private.
3. If private hydrants are to be installed, the fire underground system shall be looped.
4. Each FDC shall be located within 40' of a hydrant and be located on the same side of the street.

//////

//////

//////

160. Building Access:

1. All buildings shall have their respective address posted on the street side. Address shall be 12” tall with a 1” stroke, on a contrasting background, and be internally or externally illuminated.
2. An address directory board shall be provided at the main entrance of the project.
3. All units, business suites, etc, shall have numbered/lettered identification. These numbers/letters shall be a minimum of 4” tall with a ½” stroke on a contrasting background.
4. A Knox Box shall be provided on each building.
5. Any electronic vehicle gate will require a Knox key switch. Any manual vehicle gate will require a Knox padlock.
6. All utility rooms, such as mechanical, electrical, fire sprinkler riser, etc, shall be labeled accordingly. Keys to these rooms shall be provided inside of the Knox box on the building.

161. General:

1. Fire extinguishers are required to be installed in accordance with the 2022 California Fire Code.
2. Each dwelling unit is required to have a Smoke Alarm and Carbon Monoxide Alarm.
3. Emergency egress requirements and emergency egress lighting shall be provided and maintained in accordance with the 2022 California Fire Code and 2022 California Building Code.
4. Fire flow report: At time of building plan submittal, a fire flow report shall be obtained and submitted with the building plan. The fire flow report shall obtain the minimum required GPM for the largest building of this project.
5. With the expected increase in fire and medical demand of the proposed project, an agreement for additional fire department equipment may be required.

6. Project is conditionally approved. Additional comments, conditions, and corrections for this project may arise on future submittals.

162. Documentation:

1. Any new development, which necessitates updating of emergency response maps by virtue of new structures, hydrants, roadways or similar features, shall be required to provide map updates.

   Provide geo-referenced building plan in CAD (.dwg) format using the following coordinate system: NAD_1983_StatePlan_California_VI_FIPS_0406_Feet. Produce a fire preplan in (ESRI) GIS format. A completed fire preplan shall include the GIS data and output PDF. Data deliverables (CAD and GIS) shall specifically include a site plan, building plan, all Utility shut-offs, fire sprinkler risers and shut-off valves, the fire department connection for sprinkler and class-I standpipe, all standpipe hose outlets, all stairwells, retail spaces, living units -numbers /locations, fire alarm panels, elevators, fire hydrants and all Knox boxes and key switch locations

2. A "Fire Master Plan" will be required as a deferred submittal. See here for submittal details. (Usually done after grading permit is issued).

163. For the purposes of determining the applicability of the Citywide Public Safety Community Facilities District (CFD) to residential occupancies, any new development or change in occupancy classified as an R occupancy in the most recently adopted California Building and/or California Fire codes with 16 or more dwelling or sleeping units (not intended for use as a hotel or motel where Transient Occupancy Taxes [TOT] will be collected) will be required to annex into the CFD as a condition of development. Additionally, for properties converted from a facility where TOT has been previously collected, the property will be required to annex into the CFD as a condition of development. These projects include residential projects over 16 units in size that meet the following criteria:

a. Projects which are subject to a General Plan Amendment necessary to accommodate residential uses.
b. Mixed-Use project proposed on commercially-zone land, including mixed-use project in the Downtown District.
c. Residential projects exceeding base density allowances.
d. Assisted living or Skilled Nursing facilities of any size.

Housing:

164. Inclusionary Housing Requirements: In order to satisfy the affordable housing requirements for low and moderate-income households under Oceanside City Code ("OCC") Chapter 14C, the occupancy of a total of 82 of the 547 rental units, specifically 38 of the 250 rental units of Block 3 and 44 of the 297 rental units of Block 4, shall be restricted for occupancy by Lower-Income and Moderate-Income Households, 55 units and 27 units respectively, as defined in California Health and Safety Code Section 50079.5 and 50093, at an Affordable Housing Cost for a household size appropriate for the unit size, as set forth in Sections 50053 and 50052.5 of the California Health and Safety Code for a period of not less than 55 years. The property shall be so restricted as to prohibit the conversion of the restricted units for the term of the rent restriction to a condominium, stock cooperative, community apartment, or such other form of ownership which would eliminate the restricted units as rental units.

165. In accordance with OCC Section 14C.6(a)(3), 82 dwelling units reserved for rental to Low and Moderate-Income Households units shall be provided proportional to the overall project in unit size, dispersed throughout the project, and have access to all amenities available to other residents based upon the same terms.

166. To demonstrate compliance with Chapter 14C, an Affordable Housing Agreement and a deed of trust securing such covenants, as approved by the City Attorney and the Housing and Neighborhood Services Director, shall be recorded against the title of the property and the relevant terms and conditions recorded as a deed restriction, regulatory agreement or other enforceable instrument. The Agreement

will be recorded prior to the approval of any final or parcel map or issuance of a grading permit or the building permit for the first dwelling unit of the Project. The Agreement shall be binding to all future owners and successors in interest.

167. Occupancy & Monitoring of Affordability Covenants: Compliance with the applicable restrictions of the Affordable Housing Agreement and/or the Regulatory Agreement will be subject annually to a regulatory audit and such restrictions must be maintained for the full applicable compliance period. A monitoring fee will be required for the total number of restricted units. An initial set up fee of $500 will be required at the time of the Certificate of Occupancy is issued for the first housing unit and $80 per affordable unit for the first year for the project and increased annually by one percent (1%). Such fee covers the costs of software, third-party vendors, and for monitoring compliance with the applicable restrictions on an annual basis. The City also reserves the right to periodically inspect the restricted units to ensure compliance with the health and safety standards associated with the restricted units.

168. Affirmatively Furthering Fair Housing: An Affirmative Fair Housing Marketing Plan (AFHMP) shall be submitted for review and acceptance by the Housing and Neighborhood Services Department at least 6 months before issuance of the Certificate of Occupancy for the first dwelling unit of the Project utilizing Form HUD-935.2A -Affirmative Fair Housing Marketing Plan (Multifamily Housing) or HUD-935.2B -Affirmative Fair Housing Marketing Plan (Single Family Housing). The purpose of this affirmative fair housing marketing program is to target and outreach to specific groups who may need differing efforts in order to be made aware of and apply for the available affordable housing opportunities. The affirmative fair housing marketing program should Identify the demographic groups within the housing market area which are least likely to apply for housing without special outreach efforts and an outreach program which includes special measures designed to attract those groups, in addition to other efforts designed to attract persons from the total population. All marketing materials must include the

applicable fair housing logos, including the Equal Housing Opportunity and Accessibility logos.

169. Inclusionary Housing Fees: Prior to the approval and/or issuance of a grading permit, building permit or final or parcel map for the residential project, whichever comes first, the Project applicant shall make payment of the applicable Inclusionary Housing Administrative fees ($1,000 per development and $100 per unit for all units) related to the administration and implementation OCC Chapter 14C-Inclusionary Housing and to ensure the residential project's compliance with all requirements and provisions thereof.

Landscaping:

170. Landscape plans, shall meet the criteria of the City of Oceanside Landscape Guidelines and Specifications for Landscape Development (latest revision), Water Conservation Ordinance No.(s) 91-15 and 10-Ordinance 0412, Engineering criteria, City code and ordinances, including the maintenance of such landscaping shall be submitted, reviewed and approved by the City Engineer prior to the issuance of building permits. Landscaping shall not be installed until bonds have been posted, fees paid, and plans signed for final approval. In addition, a refundable cash deposit for the preparation of the final As-built/Maintenance Guarantee shall be secured with the City prior to the final approval of the landscape construction plan. A landscape pre-construction meeting shall be conducted by the landscape architect of record, Public Works Inspector, developer or owner's representative and landscape contractor prior to commencement of the landscape and irrigation installation. The following landscaping items shall be required prior to plan approval and certificate of occupancy:

a) Final landscape plans shall accurately show placement of all plant material such as but not limited to trees, shrubs, and groundcovers.

b) Landscape Architect shall be aware of all utility, sewer, water, gas and storm drain lines and utility easements and place planting locations accordingly to meet City of Oceanside requirements.

c) Final landscape plans shall be prepared under the direct supervision of a Registered Landscape Architect (State of California), with all drawings bearing their professional stamp and signature.

d) All required landscape areas both public and private (including trees and palms in the public rights-of-way) shall be maintained by owner, project association or successor of the project (including public rights-of-way along S. Cleveland St., W. Topeka St., Michigan Ave., Missouri Ave., and S. Tremont St.). The landscape areas shall be maintained per City of Oceanside requirements.

e) The As-built/ Maintenance Guarantee (refundable cash deposit) shall not be released until the as-built drawings have been approved on the original approved Mylar landscape plan and the required maintenance period has been successfully terminated.

f) Proposed landscape species shall fit the site and meet climate changes indicative to their planting location. The selection of plant material shall also be based on cultural, aesthetic, and maintenance considerations. In addition, proposed landscape species shall be low water users as well as meet all fire department requirements.

g) All planting areas shall be prepared and implemented to the required depth with appropriate soil amendments, fertilizers, and appropriate supplements based upon a soils report from an agricultural suitability soil sample taken from the site.

h) Ground covers or bark mulch shall fill in between the shrubs to shield the soil from the sun, evapotranspiration and run-off. All the flower and shrub beds shall be mulched to a 3" depth to help conserve water, lower the soil temperature and reduce weed growth.

i) The shrubs shall be allowed to grow in their natural forms. All landscape improvements shall follow the City of Oceanside Guidelines.

j) Root barriers shall be installed adjacent to all paving surfaces where a paving surface is located within 6 feet of a tree trunk on site (private) and within 10 feet of a tree trunk in the right-of-way (public). Root barriers shall extend 5 feet in each direction from the centerline of the trunk, for a total distance of 10 feet. Root barriers shall be 24 inches in depth. Installing a root barrier around the tree's root ball is unacceptable.

k) All fences, gates, walls, stone walls, retaining walls, and plantable walls shall obtain Planning Division approval for these items in the conditions or application stage prior to 1st submittal of working drawings.

l) For the planting and placement of trees and their distances from hardscape and other utilities/ structures the landscape plans shall follow the City of Oceanside's (current) Tree Planting Distances and Spacing Standards.

m) An automatic irrigation system shall be installed to provide coverage for all planting areas shown on the plan. Low volume equipment shall provide sufficient water for plant growth with a minimum water loss due to water run-off.

n) Irrigation systems shall use high quality, automatic control valves, controllers and other necessary irrigation equipment. All components shall be of non-corrosive material. All drip systems shall be adequately filtered and regulated per the manufacturer's recommended design parameters.

o) All irrigation improvements shall follow the City of Oceanside Guidelines and Water Conservation Ordinance.

p) The landscape plans shall match all plans affiliated with the project.

q) Landscape construction drawings are required to implement approved Fire Department regulations, codes, and standards at the time of plan approval.

r) Landscape plans shall comply with Biological and/or Geotechnical reports, as required, shall match the grading and improvement plans, comply with Storm Water Management Plan (SWMP), Hydromodification Plan, or Best Management Practices and meet the satisfaction of the City Engineer.

s) Existing landscaping on and adjacent to the site shall be protected in place and supplemented or replaced to meet the satisfaction of the City Engineer.

t) All pedestrian paving (both decorative and standard) shall comply with the most current edition of the American Disability Act.

171. 2. All landscaping, fences, walls, etc. on the site, in medians within the public right-of-way and within any adjoining public parkways shall be permanently maintained by the owner, his assigns or any successors-in-interest in the property. The maintenance program shall include: a) normal care and irrigation of the landscaping b) repair and replacement of plant materials (including interior trees and street trees) c) irrigation systems as necessary d) general cleanup of the landscaped and open areas e) maintenance of parking lots, walkways, enhanced hardscape, trash enclosures, walls, fences, etc. f) pruning standards for street trees shall comply with the International Society of Arboriculture (ISA) Standard Practices for Tree Care Operations – ANSI A300, Appendix G: Safety Standards, ANSI Z133; Appendix H; and Tree Pruning Guidelines, Appendix F (most current edition). Failure to maintain landscaping shall result in the City taking all appropriate enforcement actions including but not limited to citations. This maintenance program condition shall be recorded with a covenant as required by this resolution.

172. In the event that the conceptual landscape plan (CLP) does not match the conditions of approval, the resolution of approval shall govern.

Solid Waste:

173. The project must demonstrate adequate solid waste service and storage for all three streams (solid waste, recycling and organics). Plans must reflect details for service and storage for all three streams included within each enclosure. It is recommended that plans indicate separate areas for commercial tenants vs. the residential/rental tenants to ensure services are properly secured for each use type/customer.

174. The City of Oceanside Enclosure Guidelines establish a minimum number of enclosures required based on the amount of dwelling units and commercial square

footage. The plans need to demonstrate separate enclosure/storage areas for each building at least. Adjustments to the amount of enclosures required may be permitted if the applicant can indicate adequate servicing (same cubic yard requirements) through increased frequency of service.

175. For planned trash chutes ,a trash chute for each stream (recycling, organics, and landfill) will need to be demonstrated on the plans for each floor.

176. Enclosure location(s) cannot block the alleyway, public right of way, or create public nuisance. Refer to the City of Oceanside Enclosure Guidelines for enclosure location and hauler access requirements.

177. The City of Oceanside reserves the right to review program and services levels and request increases if deemed necessary. The City of Oceanside Municipal Code Chapter 13 requires that Oceanside residents, businesses and multifamily projects are to separate all recyclable material from other solid waste. Additionally, the State of California regulations requires all California businesses participate in Mandatory Recycling (AB 341) and Mandatory Commercial Organics Recycling (AB 1826 & SB 1383) as outlined in the Oceanside Solid Waste code.

Transportation:

178. The project shall be responsible for the fair share payment to the City, which shall be $385,811.73 to be paid to the City's Thoroughfare and Signal Account. The funds will be used at the City's discretion for projects that will improve traffic safety and mobility in the City of Oceanside. The $385,811.73 shall be paid in full prior to issuance of any permit (precise grading, building or otherwise) for any phase or any component of the project. The $385,811.73 fair share payment only satisfies the offsite improvement obligations. All other onsite improvements such as roadway, sidewalk, bike trail/lane, etc, that is contiguous to the project, or needed to provide access to the project shall be done at the project developer's cost.

179. The project shall construct enhanced high-visibility crosswalks at Topeka Street and Tremont (Existing), Topeka Street and Tremont Avenue (New), and Michigan Avenue and Tremont Street intersections, and provide all-way-stop control at the

project's reconfigured Topeka Street and Tremont Street (New) intersection. The project shall also provide curb extensions at both Topeka Street and Tremont Street intersections (segments are in a Transit Priority and Smart Growth Opportunity Area). This improvement shall be completed prior to the issuance of occupancy and to the satisfaction of the City Traffic Engineer.

180. The project shall construct enhanced high-visibility crosswalks at the Missouri Avenue and Cleveland Street intersection (segment is in a Transit Priority and Smart Growth Opportunity Area). This improvement shall be completed prior to the issuance of occupancy and to the satisfaction of the City Traffic Engineer.

181. The project shall provide all-way-stop control at the Project's reconfigured Michigan Avenue and Tremont Street intersection (segment is in a Transit Priority and Smart Growth Opportunity Area). The project shall also provide curb extensions at Michigan Avenue and Tremont Street, and Missouri Avenue and Tremont Street intersections. This improvement shall be completed prior to the issuance of occupancy and to the satisfaction of the City Traffic Engineer.

182. The uncontrolled midblock Cleveland Street crosswalk shall be supplemented with a rectangular rapid flashing beacon. Crosswalk shall have legend, signs, and ADA ramps that will meet CAMUTCD. This improvement shall be completed prior to the issuance of occupancy and to the satisfaction of the City Traffic Engineer.

183. All crosswalk marking shall be thermoplastic continental marking. This improvement shall be completed prior to the issuance of occupancy and to the satisfaction of the City Traffic Engineer.

Water Utilities

General Conditions

184. The developer will be responsible for developing all water and sewer utilities necessary to develop the property. Any relocation of water and/or sewer utilities is the responsibility of the developer and shall be done by an approved licensed contractor at the developer's expense.

//////

185. All Water and Wastewater construction shall conform to the most recent edition of the Water, Sewer, and Recycled Water Design and Construction Manual or as approved by the Water Utilities Director.

186. The property owner shall maintain private water and wastewater utilities located on private property.

187. Water services and sewer laterals constructed in existing right-of-way locations are to be constructed by an approved and licensed contractor at developer's expense.

188. Minimum separation between water services is 3 feet and water and sewer lateral separation shall be 10 feet minimum.

189. Water facilities, backflows or meters, shall have a minimum 10' separation from trees. Palm tree minimum separation is lowered to 5' from water facilities.

190. Each new residential dwelling unit or commercial suite shall be metered individually.

191. For new buildings with multiple residential dwelling units; the City has accepted, as an alternative, a public master meter for each building provided there is a private sub-meter for each individual dwelling unit. The Property Owner would be responsible for the ownership, maintenance, reading, and replacement of the private sub-meters. There shall be a shared agreement for the shared water supply line and private water and sewer facilities among the owners. This should be addressed in the CC&Rs or a maintenance agreement.

192. Provide a separate irrigation water meter for each development parcel. Meter shall be managed and paid for by the Property Owner. Meter shall be located such that a connection can be made to the City's future recycled water main in Seagaze Dr. and S. Tremont St.

193. Per the latest approved California Fire Code, all new residential units shall be equipped with fire sprinkler system. Water services that feed the fire sprinkler system along with the domestic water system shall be equipped with a dual check valve device.

//////

194. Buildings requiring an NFPA 13 or NFPA 13R automatic sprinkler system for fire protection shall have a dedicated fire service connection to a public water main with a double check detector backflow assembly. Location of the backflow assembly must be approved by Fire Department.

195. Hot tap connections will not be allowed for size on size connections, and connections that are one (1) pipe size smaller than the water main. These connections shall be cut-in tees with three valves for each end of the tee. Provide a connection detail on the improvement plans for all cut-in tee connections.

The following conditions shall be met prior to the approval of engineering design plans.

196. Any water and/or sewer improvements required to develop the proposed property will need to be included in the improvement plans and designed in accordance with the Water, Sewer, and Recycled Water Design and Construction Manual.

197. All public water and/or sewer facilities not located within the public right-of-way shall be provided with easements sized according to the Water, Sewer, and Recycled Water Design and Construction Manual. Easements shall be constructed for all weather access.

198. No trees, structures or building overhang shall be located within any water or wastewater utility easement.

199. All lots with a finish pad elevation located below the elevation of the next upstream manhole cover of the public sewer shall be protected from backflow of sewage by installing and maintaining an approved type backwater valve, per the latest adopted California Plumbing Code.

200. Recycled water is anticipated to be supplied through the 16-inch Fallbrook outfall line in the near future. When recycled water becomes available, this property shall be required to convert its irrigation supply to recycled water. The irrigation system shall be designed in anticipation of a future recycled water services and meters off S. Tremont Street or Seagaze Drive.

//////

201. The Developer shall extend the City's Recycled Water System into the site, at the Developer's expense, to serve any landscape meters that are not adjacent to S. Tremont Street or Seagaze Drive.

202. Developer shall prepare and submit recycled water irrigation plans to the Water Utilities Department for an independent review and pay a separate recycled water review fee. The review shall include the processing, plan submittal, permitting, inspection, and testing of the proposed irrigation system for approval by the State Water Resources Control Board / San Diego County Department of Environmental Health and Quality for on-site recycled water use. If Development is responsible for the irrigation or maintenance of any landscaping in the right-of-way, then a separate/dedicated recycled irrigation meter and service shall be required for this irrigation system. Local regulations do not permit a single irrigation meter to service landscaping areas across property lines.

203. A water study and sewer study must be prepared by the developer at the developer's expense and approved by the Water Utilities Department. The water study shall demonstrate that adequate fire flows and pressures can be delivered to the development. The sewer study shall demonstrate that the collection system on-site and off-site has adequate capacity for the development. Sewer flow monitoring downstream of the proposed development may be required by a City approved flow monitoring company for at least a one-week period to confirm existing sewer capacity. Off-site improvements may be required as a result of the studies and flow monitoring. Off-site improvements may include replacing sewer infrastructure that is in poor condition that would be exacerbated by the development.

204. All water and sewer mains not meeting the minimum main diameter and material requirements shall be replaced by the Developer, and at the Developer's expense, to meet current design standards for all new commercial and residential developments of four (4) units or more. Water and sewer improvements shall be required as part of engineering plan submittal.

//////

205. An inspection manhole for commercial waste as described by the Water, Sewer, and Recycled Water Design and Construction Manual, shall be on each building sewer lateral and the location shall be called out on the approved engineering plans.

206. An Oil and Sand Interceptor, as described by the latest adopted California Plumbing Code Chapter 10, relating to garages, gasoline stations, wash racks or when deemed necessary shall be shown on building plans at each building sewer in an appropriate location and shall be maintained in accordance with the Fats, Oil, and Grease permit. The location shall be shown on the approved Engineering Plans with reference to Building Plans for design and detail.

207. A Grease Interceptor, as required per City of Oceanside Ordinance 07-OR0021-1 & 18-OR0021-1 relating to food service establishments shall be on each building sewer when deemed necessary in an appropriate outside location and shall be maintained by the property owner. The grease interceptor shall be shown on Engineering Plans with reference to Building Plans for design and detail.

208. Connections to a public sewer main with a 6-inch or larger sewer lateral will require a new sewer manhole for connection to main per Section 3.3 of Water, Sewer, and Recycled Water Design and Construction Manual.

209. Connection to an existing sewer manhole will require rehabilitation of the manhole per City standards. Rehabilitation may include, but not be limited to, re-channeling of the manhole base, surface preparation and coating the interior of the manhole, and replacing the manhole cone with a 36" opening and double ring manhole frame and lid.

210. Provide peak irrigation flows per zone or control valve to verify size of irrigation meter and reduced pressure principle backflow device on Landscape Plans.

211. All existing and proposed on-site sewer manholes shall be accessible by an access road, turf block, or pavement that can support H-20 loading for sewer vactor truck. Access road or pavement must allow a minimum turning radius of 46-feet (outer wheel) for curb clearance and a wall clearance of 46'-11". Truck length is 41'-6".

//////

212. Provide stationing and offsets for existing and proposed water service connections and sewer laterals on plans.

213. Subterranean parking structures shall be designed with a drainage system that conveys runoff to the City's Storm Drain System and shall comply with the California Regional Water Quality Control Board Order No. 2013-0001.

214. Any unused water services or sewer laterals by the proposed development or redevelopment, shall be abandoned in accordance with Water Utilities requirements. If an existing water meter is abandoned then a credit will be applied towards future buy-in fees in the amount of the current buy-in fee of the existing meter.

The following conditions of approval shall be met prior to building permit issuance.

215. Show location and size of existing and proposed water meter(s) on site plan of building plans. Show waterline from proposed meter to connection point to buildings.

216. Show location and size of existing and proposed sewer lateral(s) from property line or connection to sewer main to connection point at building.

217. Provide a fixture unit count table and supply demand estimate per the latest adopted California Plumbing Code (Appendix A) to size the water meter(s) and service line(s).

218. Provide drainage fixture unit count per the latest adopted California Plumbing Code to size sewer lateral for property.

219. If a Grease Interceptor is required per City of Oceanside Ordinance 07-OR0021-1, then building plans must show sizing calculations per the latest California Plumbing Code, the location, the make and model, and plumbing schematic showing the required appurtenances at each building sewer lateral.

220. If a Sand and Oil Separator is required, then building plans must show drainage fixture unit count and calculations per the latest California Plumbing Code to size oil and sand separator and show on plans the location, make and model of separator, inlet/outlet piping, and a plumbing schematic of the separator along with the required appurtenances at each building sewer lateral.

221. Water and Wastewater buy-in fees and the San Diego County Water Authority Fees are to be paid to the City at the time of Building Permit issuance per City Code Section 32B.7.

PASSED AND ADOPTED Resolution No. 2025-P15 on June 23, 2025 by the following vote, to wit:

AYES:

NAYS:

ABSENT:

ABSTAIN:

_____

Tom Morrisey, Chairperson
Oceanside Planning Commission

ATTEST:

_____

Sergio Madera, Secretary

I, SERGIO MADERA, Secretary of the Oceanside Planning Commission, hereby certify that this is a true and correct copy of Resolution No. 2025-P15.

Dated: June 23, 2025

4.02 ATTACHMENT 2

OCEANSIDE TRANSIT CENTER (OTC)

SPECIFIC PLAN

06. 18. 2025



Toll Brothers APARTMENT LIVING

Oceanside Station

ARCADIS Stantec

CONTENTS

1 INTRODUCTION

1.1 Project Overview
1.2 Plan Summary
1.3 Plan Consistency
1.4 Plan Rationale

2 PROJECT BACKGROUND

2.1 Project Setting
2.2 Site Surroundings
2.3 Project Site

3 DEVELOPMENT PLAN

3.1 Development Vision
3.2 Development Principles
3.3 Development Program
3.4 Public Benefits

4 DEVELOPMENT FRAMEWORK

4.1 Land Use Plan
4.2 Circulation Plan
4.3 Open Space Plan
4.4 Urban Design Plan
4.5 Signage

5 PUBLIC REALM STANDARDS & GUIDELINES

5.1 Purpose & Intent
5.2 General Streetscape Design Guidelines
5.3 Street Design Standards & Recommendations
5.4 General Public Outdoor Space Design Guidelines
5.5 Outdoor Space Design Concepts

6 PRIVATE REALM STANDARDS & GUIDELINES

6.1 Purpose & Intent
6.2 Architectural Character
6.3 Development Standards
6.4 General Design Guidelines
6.5 Supplementary Design Guidelines

7 INFRASTRUCTURE

7.1 Grading
7.2 Drainage
7.3 Water
7.4 Sanitary Sewer
7.5 Dry Utilities

8 PLAN IMPLEMENTATION

8.1 Plan Adoption
8.2 Severability
8.3 Development Applications
8.4 Development Phasing
8.5 Public Improvements & Financing
8.6 Plan Changes

9 APPENDICES

9.1 Master Sign Program

LIST OF EXHIBITS

1 INTRODUCTION

Exhibit 1.1 Illustrative View at Buildout
Exhibit 1.1a Comprehensive Illustrative Plan
Exhibit 1.2: Zoning Map
Exhibit 1.3: Land Use Map

2 PROJECT BACKGROUND

Exhibit 2.1: Regional Context Map
Exhibit 2.2: Downtown Context Map
Exhibit 2.3: Site Surroundings
Exhibit 2.4: Roadway Connections
Exhibit 2.5: Local Transit Connections
Exhibit 2.6: Bicycle Connections
Exhibit 2.7: Site Boundaries
Exhibit 2.8: Site Features

3 DEVELOPMENT PLAN

Exhibit 3.1: Development Parcels

4 DEVELOPMENT FRAMEWORK

Exhibit 4.1: Land Use Framework Plan
Table 4.1: Land Use Regulations
Exhibit 4.2: Vehicular Circulation Framework Plan
Exhibit 4.3: Bicycle Circulation Framework Plan
Exhibit 4.4: Pedestrian Circulation Framework Plan
Exhibit 4.4a: Mobility Plan Hub
Exhibit 4.5: Open Space Framework Plan
Exhibit 4.6: Conceptual Landscape Plan
Exhibit 4.7: Urban Design Framework Plan

5 PUBLIC REALM STANDARDS & GUIDELINES
Exhibit 5.1: S. Cleveland Street Cross Section 1
Exhibit 5.2: S. Cleveland Street Cross Section 2
Exhibit 5.3: S. Cleveland Street Cross Section 3
Exhibit 5.4: S. Cleveland Street Cross Section 4
Exhibit 5.5: Bus Transfer Zone Cross Section
Exhibit 5.6: Station Plaza Design Concept
Exhibit 5.7: Bus Transfer Zone Design Concept

6 PRIVATE REALM STANDARDS & GUIDELINES
Table 6.1: Building Envelope Standards
Table 6.2: Open Space Standards
Table 6.3: Parking & Loading Standards
Exhibit 6.1: Design Guidelines Illustration 1
Exhibit 6.2: Design Guidelines Illustration 2
Exhibit 6.3: Design Guidelines Illustration 3
Exhibit 6.4: Design Guidelines Illustration 4

7 INFRASTRUCTURE

8 PLAN IMPLEMENTATION
Exhibit 8.1 Development Phasing Concept

9 APPENDICES

1

INTRODUCTION

1.1 Project Overview
1.2 Plan Summary
1.3 Plan Consistency
1.4 Plan Findings

INTRODUCTION

1

1.1 PROJECT OVERVIEW

Summary Description: The proposed project encompasses redevelopment of the approximately 10.15-acre Oceanside Transit Center (OTC) property owned by the North County Transit District (NCTD) into a vibrant, mixed-use destination. The proposal as described herein is a refinement of the conceptual plan prepared in response to a Request for Proposal (RFP) issued by NCTD in early 2020 seeking a development team with the capacity to deliver a model transit-oriented development that also improves intermodal connectivity. The property will be developed by the project proponent pursuant to a ground lease with NCTD.

Development of the site will extend and further activate Oceanside's downtown core and reinforce transit ridership by introducing approximately 850,000 square feet of residential, retail, office, and hotel use in a mixed-use format, while featuring a modern intermodal transit facility for travelers by bus and train. Subterranean and structured parking facilities accommodating up to 1,768 spaces will serve the transit center and support the various land uses. Public amenities will further enliven and enrich the project and serve the community, including streetscape enhancements and a Transit Plaza with capacity to support small-scaled community activities and events.

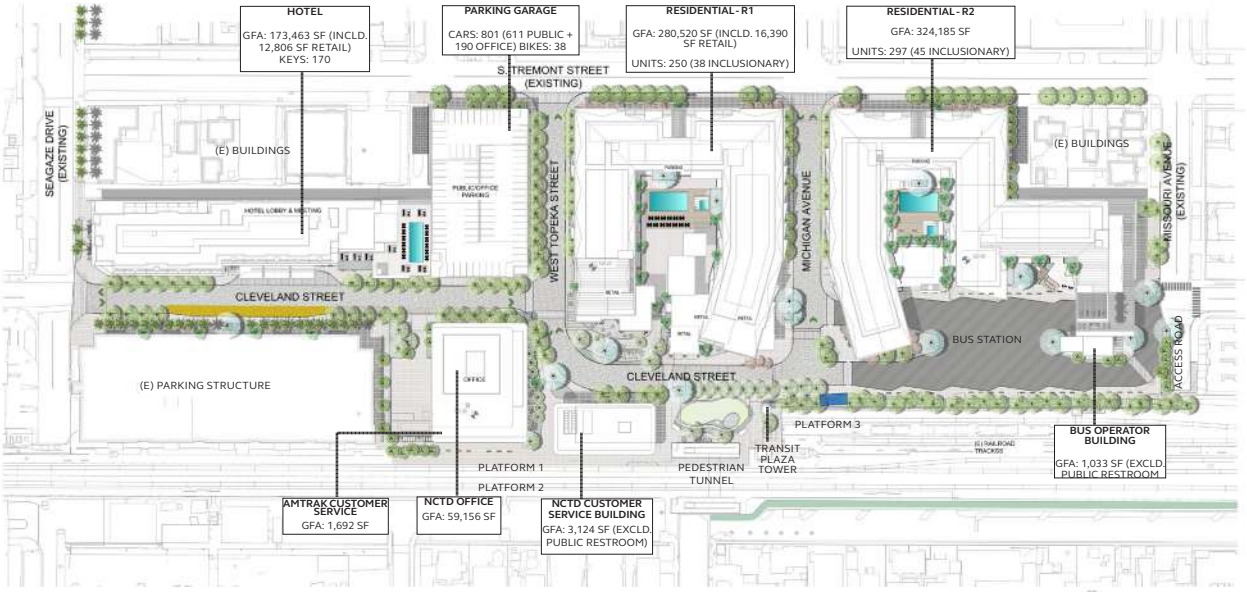
The proposed project will be developed in two (2) phases with an estimated time frame of seven (7) years from entitlement through final delivery. Phased development will ensure that construction does not interrupt operations of the transit facilities. **Exhibit 1.1** provides a conceptual illustration of the project at build out.

Exhibit 1.1: Illustrative View at Buildout



Conceptual Drawing Subject to Change

Exhibit 1.1a : Comprehensive Illustrative Plan



1.2 PLAN SUMMARY

Purpose & Objectives:

The purpose of the OTC Specific Plan is to provide for the coordinated development of a new, high quality mixed-use project and intermodal transit facility within the identified boundaries. The plan document includes a description of the proposed project, and sets forth the land use program, development standards, design guidelines, and primary infrastructure components that will guide development of the project across multiple phases.

The objectives of the Specific Plan are as follows:

- Promote economic development of the coastal zone, while enhancing livability and walkability by accommodating a compatible mixture of uses that extends the activity of the downtown core into the planning area.
- Support public transit through transit-oriented development that integrates updated transit facilities and other mobility improvements that will increase ridership and enhance the user experience.
- Improve connectivity and in particular build stronger linkages between downtown and the residential neighborhoods to the south of the site.
- Deliver benefits to the public by increasing the available housing supply, including the provision of affordable units, while providing for amenities that create a destination and enrich the quality of life for on-site occupants and the community-at-large.
- Provide adequate infrastructure and public services to support the proposed development.
- Ensure compatibility with surrounding land uses and improve the character of the surrounding community.

- Achieve a high standard of design through application of development standards and design guidelines that support mixed-use development typologies and promote effective placemaking.
- Accommodate phased development of the project with sufficient flexibility in the plan and accompanying development criteria to afford minor modifications in program and design due to a change in conditions.

Authority & Scope:
A Specific Plan is a regulatory tool used to implement the City's General Plan and direct development within a defined geographic area. While the General Plan is the primary vehicle to guide city-wide growth and development, a specific plan customizes the development goals and objectives, as well as the land use regulations for a defined area, consistent with the City's vision for the property, the surrounding context, and the distinct characteristics of the property.

The Specific Plan has been prepared pursuant to Section 65450 et seq. of the State of California Government Code which sets forth minimum requirements for a Specific Plan, including provisions for a land use plan, infrastructure plan, and inclusion of criteria and standards for development. Nonetheless, the Government Code is generally flexible regarding the content of a Specific Plan, allowing a public agency to tailor the plan to address particular land use issues and project types. The Specific Plan shall be adopted by resolution of the City Council and administered as prescribed by the Council, consistent with the Government Code, Section 65450 et. seq.

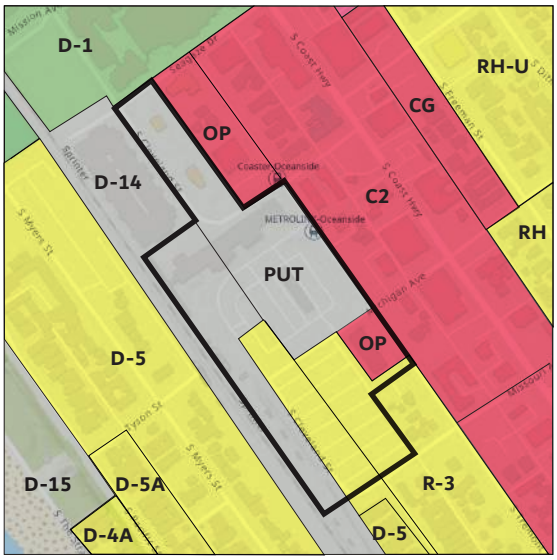
The Specific Plan has been drafted to meet the intent and requirements of the California Government Code and the City of Oceanside's Zoning Ordinance. It customizes the development standards and regulations to achieve the desired vision for the OTC site. In any instance where the Specific Plan conflicts with the requirements of the Zoning Ordinance, the Specific Plan provisions will take precedence. Where the Specific Plan is silent on a topic, the Zoning Ordinance requirements will remain in effect.

1.3 PLAN CONSISTENCY

General Plan: Multiple land use designations apply to the property, including DT Downtown (DT), Coastal Transportation and Utility (C-TU), Coastal Residential High Density (C-RH), and Coastal General Commercial (C-GC). These designations do not accommodate the proposed development and a General Plan Amendment is required to establish the appropriate land use designation of Specific Plan (SP) across the planning area. The Amendment will also revise the Downtown Redevelopment District to remove that portion of the project site which currently lies within its boundaries. **Exhibit 1.2** depicts the existing land use designation for the site and surroundings, as well as the proposed land use designation for the project site.

Zoning: The project site is divided into several zones that do not support the proposed project. That portion of the site generally west of Cleveland Street falls within the Downtown District: Public Transportation and Railroad (D-14) and High Density Residential (D-5). The remainder of the site is zoned Public Utility and Transportation (PUT), Office Professional, Coastal (OP),

Exhibit 1.2: Zoning Map

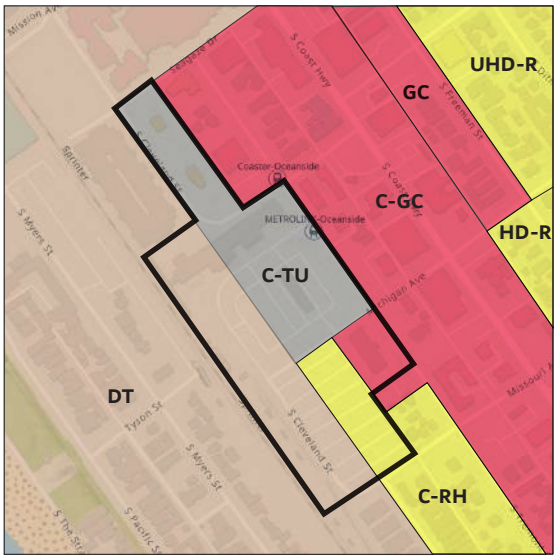


ZONING MAP - EXISTING PLAN

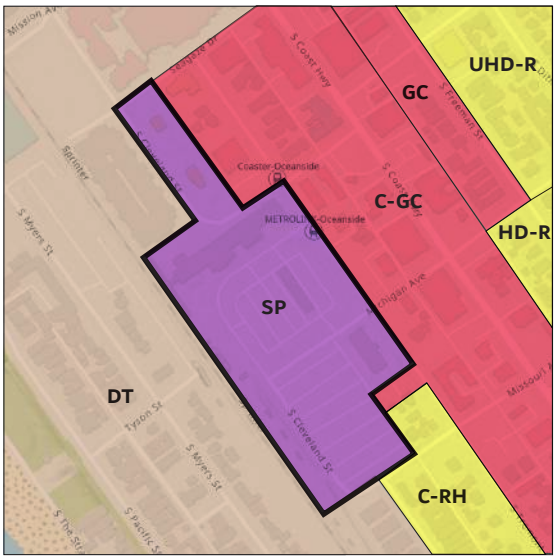


ZONING MAP - PROPOSED

Exhibit 1.3: Land Use Map



LAND USE MAP - EXISTING PLAN



LAND USE MAP -PROPOSED PLAN

and Medium Density Residential, Coastal (R-3). A Zone Amendment will designate the site as SP (Specific Plan) to achieve consistent zoning that will support the envisioned project; additionally, the Specific Plan will serve as the regulating document, including applicable land use regulations, development standards, and design guidelines. **Exhibit 1.3** depicts the existing zoning for the site and surroundings, as well as the proposed zoning for the project site.

Local Coastal Program (LCP): The site lies within the Coastal Zone as defined by the California Coastal Commission (CCC). An LCP has been adopted by the City of Oceanside, including a Land Use Plan (LUP), that regulates development within the City's Coastal Zone. In conjunction with adoption of the Specific Plan and amendment to the General Plan, an amendment to the LCP LUP is also required due to the proposed changes in underlying land use designation and zoning for the project site. These changes will support development that further revitalizes the coastal area and fosters coastal tourism.

Coast Highway Vision & Strategic Plan (CHVSP, dated April 2009): The CHSVP is an advisory document that provides guidance for revitalization of the Coast Highway Corridor. It envisions the Oceanside Transit Center as a transit-oriented development that becomes an extension of the downtown business area. The plan depicts this catalytic site as in-fill mixed use that incorporates a town square and transit facilities and reconnects Cleveland Street. The proposed development is consistent with the CHVSP, except that it alters the program mix based on more current and targeted market analysis, by reducing the retail and commercial component and incorporating a hotel and additional residential density.

Regional Mobility Hub Strategy: SANDAG has developed a Regional Mobility Hub Strategy "to demonstrate how transportation services, amenities, and supporting technologies can work together to make it easier for communities to access transit and other shared mobility choices." The OTC is identified as one of eight (8) prototype sites within the San Diego region demonstrating how various mobility hub features may be tailored to different communities. Mobility hub features recommended for the OTC site include the following: enhanced transit waiting areas; passenger loading areas; bikeshare; on-demand rideshare; micro-transit; smart parking; and wayfinding. Many of these features will be incorporated into the development plan, while others will not be precluded from later implementation.

1.4 PLAN RATIONALE

Consistency with Applicable Plans & Policies: The proposed development will achieve consistency with General Plan based upon concurrent approval of a change in land use designation to Specific Plan (SP) for the entire planning area. The SP designation will support the mixture of uses and density of residential living that are critical to achieving the vision of a model transit-oriented development that extends the activity of downtown and promotes on-going revitalization of the coastal area.

Compatibility with Surroundings: The proposed development will introduce a high-quality infill development that promotes economic development of the coastal area and builds upon the activity of the downtown. In particular, the proposed use complements the adjacent Nine Block Plan, while taking advantage of the presence of the Oceanside Transit Center to create a model transit-oriented development. Additionally, while the proposed scale is compatible with similar development in the Nine Block Plan, suitable transitions in scale will be provided to lower intensity use near the south end of the site.

Superior Urban Design: The proposed development will achieve a superior level of urban design that enhances the visual character of the coastal area and the surrounding neighborhood. Development standards and design guidelines within the Specific Plan have been tailored to support high-quality infill development featuring a compatible mixture of uses, while the accompanying Development Plan depicts the quality of the proposed design and its positive response to the coastal environment. Consideration has also been given to improving the and enhancing the pedestrian experience, for example, through the introduction of active uses and retail at the street level and the provision of various streetscape amenities.

Public Benefits: The proposed development offers numerous public benefits to the City of Oceanside and surrounding neighborhood and are discussed in greater detail in Section 3 (Development Vision) and Section 4 (Development Framework) of the Specific Plan. In summary, the project will expand Oceanside's housing supply, including the provision of affordable housing units, and incorporate a new intermodal transit facility and other significant mobility enhancements that will improve pedestrian access and transit service. Additionally, the project will integrate various amenities to better serve the community, including a highly accessible Station Plaza.

Adequate Infrastructure & Public Services: The demand for public services will not exceed the capacity of planned and existing systems as determined in the EIR analysis. Infrastructure improvements will be constructed to meet the needs of the project and are further described in Section 7 (Infrastructure) of the Specific Plan. Of note, the project will introduce new public and private improvements to create more engaging and efficient circulation patterns across the site, accommodating automobiles, buses, bicyclists, and pedestrians.

2

PROJECT BACKGROUND

2.1 Project Setting
2.2 Site Surroundings
2.3 Project Site

PROJECT BACKGROUND

2

2.1 PROJECT SETTING

The project is in the City of Oceanside, a quintessential California coastal community located between San Diego and the population centers of Orange County. More specifically, the project setting is illustrated in **Exhibit 2.1**, and further described as follows:

Exhibit 2.1: Regional Context Map



Site Vicinity: Situated directly alongside the Pacific Surfliner rail line and currently functioning as an intermodal station for the North County Transit District, the project site occupies a high-profile location at the heart of Oceanside. Locational advantages include the site's position roughly three (3) blocks east of The Strand and Oceanside City Beach, and one (1) block south of Mission Avenue which functions as the City's downtown core. Farther to the north are other nearby attractions, including the Municipal Pier, Oceanside Harbor, and Camp Pendleton Marine Corps base.

Economy & Housing: Oceanside is the third largest city in San Diego County with a population of approximately 176,500. It is a popular tourist destination owing to its harbor, beaches, and various attractions, including Mission San Luis Rey, California Surf Museum, and Oceanside Art Museum. The City's economic development strategy is to build a broad-based economy that features significant public sector employment, while strengthening its presence in

a wide range of economic sectors such as healthcare, biotechnology, information and communications technology, sports and active lifestyle products, hospitality, and agriculture.

Key to Oceanside's economic development strategy is the provision of a diverse supply of quality housing that will meet anticipated population growth. The San Diego Association of Governments (SANDAG) projects a growth in population to about 1,835,000 through 2025, as well as a significant increase in employment through 2035. Accordingly, the Regional Housing Needs Assessment allocates the City of Oceanside over 5,400 dwelling units across various income levels for the next housing cycle (2021-2029). The City is expected to meet its obligation by focusing housing development in smart growth opportunity areas, particularly transit-oriented sites and major commercial corridors.

Land Use: Much of the land area between the beachfront and the I-5 Freeway is devoted to residential land use at varying densities. Within this matrix of residential use, the historic Coast Highway serves as a north-south commercial corridor that is generally auto-oriented and intersects with Mission Avenue, a more pedestrian oriented commercial corridor that runs perpendicular to the coast and is regarded as the active core of the City's downtown. The designated Downtown Redevelopment Area is depicted in **Exhibit 2.2**; this area occupies about 375 acres across the northwest portion of Oceanside, and is comprised of a mix of commercial, residential, and civic uses, as well as tourist-oriented services in proximity to the coast. A rail-right-of way serving Amtrak and various transit providers runs north-to-south a few blocks inland from the coast.

Exhibit 2.2: Downtown Context Map



Transportation: The property benefits from outstanding regional highway and roadway connections. Mission Avenue is one (1) block north of the project site; this east-west arterial runs through the downtown core and provides convenient access to the I-5 Freeway about one-half (1/2) mile distance from the project site. Additionally, the Coast Highway is one (1) block east of the project site, with the interchange of I-5, State Highway 76, and Coast Highway less than one (1) mile distance to the north; this heavily traveled north-south arterial is used by local and pass-through traffic. San Diego International Airport (38 miles) and John Wayne Airport (49 miles) in Orange County are both reached via the north-south I-5; McClellan-Palomar Airport (10 miles) in nearby Carlsbad handles small commuter flights to Los Angeles International Airport.

The Oceanside Transit Center located on-site functions as a major regional transit hub, providing a unique combination of rail and bus service that affords convenient connections throughout Southern California. Rail travel is provided by Amtrak and various commuter rail services; the Oceanside Transit Center is the northern terminus of the Coaster, the western terminus of the Sprinter, and southern terminus of Metrolink service. The San Diego and Irvine Stations may be reached in approximately one (1) hour, and Union Station in downtown Los Angeles is about two (2) hours distance. Bus service is provided by Greyhound, NCTD, and local commuter bus services.

Environment: The property is located less than 1/4 mile from the beach and falls within the Coastal Zone as defined by the California Coastal Commission; the Coastal Zone is delineated on **Exhibit 2.2.** The City of Oceanside has adopted a Local Coastal Program (April 1985), including policies and findings relative to development within the coastal zone and consistent with the State Coastal Act; the current LPC accommodates upland development that will support coastal recreation and tourism.

Because the City has undergone considerable change, including substantial progress toward revitalizing its coastal area, it has engaged in a review and update to the LCP that is anticipated to address emerging issues such as the threat of sea level rise, increasing visitor traffic, water quality and habitat management requirements, and aging infrastructure. Among the priorities that will be incorporated in the LCP and that are most pertinent to the project site are to enhance and improve coastal access; encourage and manage coastal development; and protect and enhance scenic resources and public views.

2.2 SITE SURROUNDINGS

Surrounding properties are generally a mix of commercial, retail, and residential land use, with Oceanside's downtown core advantageously located directly north of the site. More specifically, the site surroundings are depicted in **Exhibit 2.3**, and are described as follows:

Exhibit 2.3: Site Surroundings



❶



❷



❸



❹



❺



❻

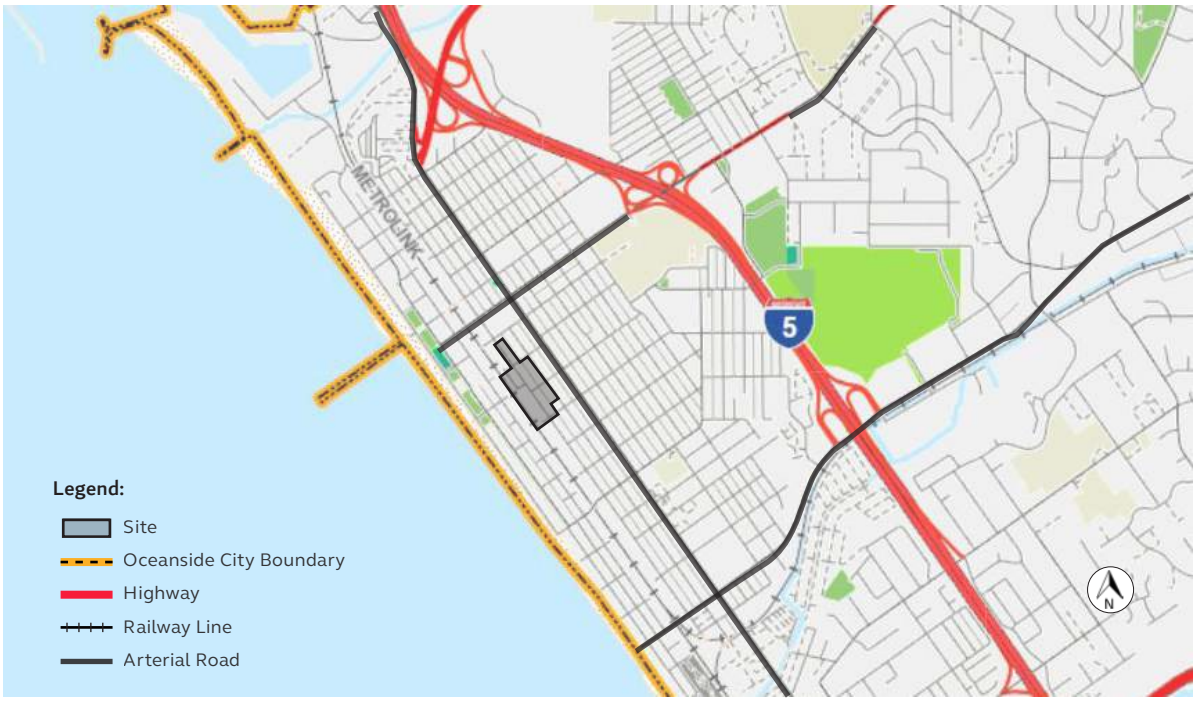


Land Use Adjacencies: Narrow surface parking lots primarily serving beach-goers run along the west side of rail line, providing a separation between the rail and tightly packed residences located farther west toward the beach. Properties directly east of the site fronting Tremont Street are an incongruous mix of low density residential and various commercial activities, with auto-oriented commercial activity concentrated a block east along Coast Highway. To the south of the site are numerous residences, built at low to moderate density. Properties to the north are developed with mixed-use, hospitality, and commercial retail and entertainment uses (including the Regal Oceanside Cinema) that establish Oceanside's downtown core and contribute toward an active environment along Mission Avenue.

Downtown Proximity: Only a block north of the project site, the vibrant and historic downtown core is focused on Mission Avenue. This pedestrian-oriented street features an active mix of retail, entertainment, dining, and visitor serving uses. Another block to the north, several other key downtown attractions are located along Pier View Drive which extends west to the Municipal Pier; these attractions include the California Surf Museum, Oceanside Museum of Art, and the Civic Center and Plaza.

Important to the success of the area is the "Nine-Block Pier Area Master Plan" (dated April 2000) for development of visitor serving commercial facilities and tourist and visitor-oriented accommodations within nine (9) contiguous blocks adjacent to the Municipal Pier and anchoring the west end of Oceanside's downtown core. Most of these blocks are now developed, introducing significant new mixed-use residential and hospitality use, while the proposed OTC project will establish an active link between these developments and regional transit facilities. It is also important to note that the City's General Plan Update is expected to introduce policies that further promote infill development and revitalization of Mission Avenue, as well as other key commercial corridors such as Coast Highway.

Exhibit 2.4: Roadway Connections



Local Connections: As an existing transit hub, the site affords multiple connections to local and regional road, bus, and bicycle networks.

- As noted above, the Coast Highway is only one (1) block to the east and may be accessed from the project site via Seagaze Drive, and Michigan and Missouri Avenues; Mission Avenue is one (1) block to the north and may be accessed via S. Cleveland and S. Tremont Streets. Both S. Cleveland Street and Michigan Avenue extend directly on to the site, although S. Cleveland is interrupted in the north-south direction by the existing transit facility. **Exhibit 2.4** depict surrounding roadways and hierarchy.

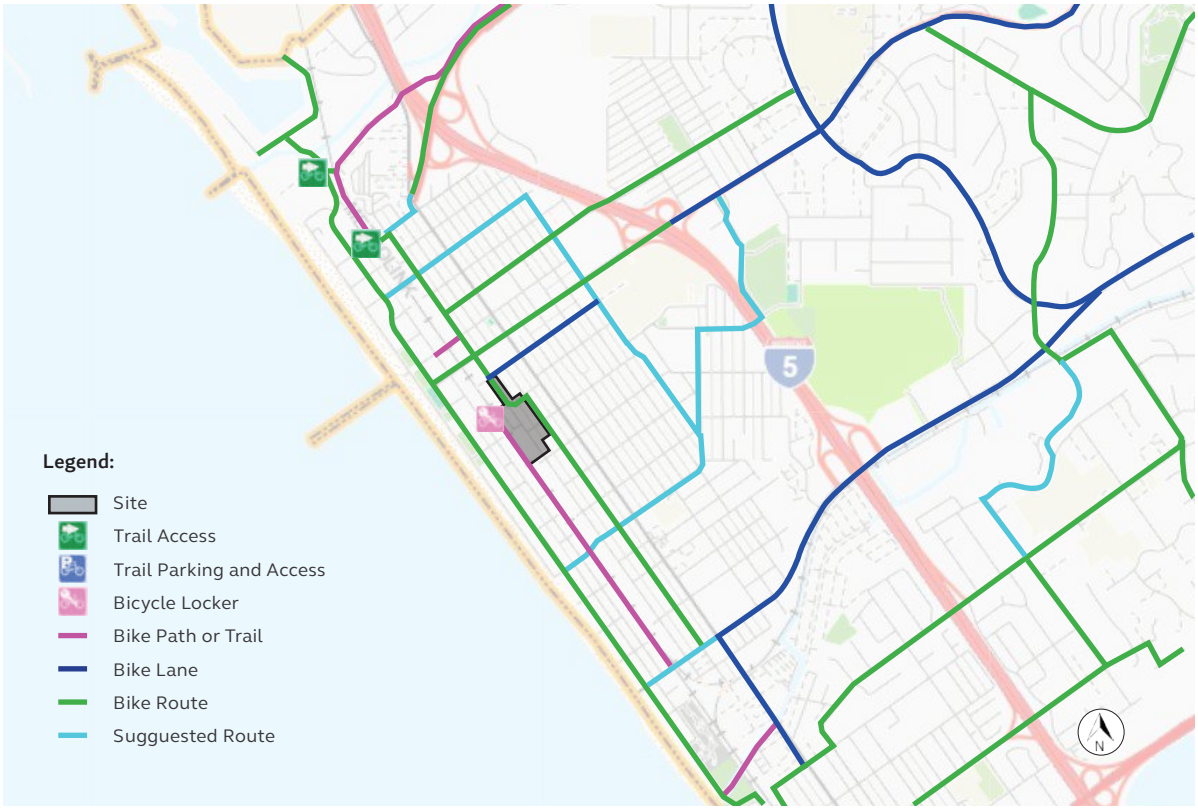
- Numerous NCTD and local commuter bus routes incorporate stops at the Oceanside Transit Center, including Route 303 traveling east along Mission Avenue, Route 101 traveling south along the coast, and Route 392 Flex which connects to Camp Pendleton to the north. **Exhibit 2.5** depicts local transit connections.

- A designated bicycle route runs north-south through the site by way of Cleveland Street to the north and Tremont Street to the south. This route ties into the City-wide bicycle network as depicted in **Exhibit 2.6**; most immediately, it connects with the bicycle lane along Seagaze Drive and the designated bicycle route along Mission Avenue.

Exhibit 2.5: Local Transit Connection



Exhibit 2.6: Bicycle Connections



2.3 PROJECT SITE

The project is located at 235 South Tremont Street, the address for the Oceanside Transit Center, and 311 Tremont Street, the address of the NCTD offices. Altogether, the site encompasses approximately 10.15 acres, with the applicable Specific Plan boundaries illustrated in **Exhibit 2.7**.

Exhibit 2.7: Site Boundaries



Exhibit 2.8: Site Features

❶



❷



❸



❹



❺



❻



Site Boundaries: The project site is generally bounded by the railroad right-of-way on the west, S. Tremont Street on the east, Missouri Avenue to the south, and Seagaze Drive to the north. However, various properties are excluded: the six (6) parcels fronting S. Tremont Street between Seagaze Drive and W. Topeka Street (103-131 S. Tremont Street), developed with a church, residences, and an office; the three (3) residential properties at the corner of Tremont Street and Missouri Avenue (310-316 Missouri Avenue and 321-327 S. Tremont Street); and the public parking structure located along the rail tracks at Seagaze Drive.

Site Description: The property is currently occupied by the Oceanside Transit Center, comprised of an existing bus transfer center, train platforms, NCTD offices, and two (2) public parking lots with 560 spaces that primarily serve weekday commuters and weekend beach-goers. A pedestrian tunnel runs below the train tracks connecting south and north bound platforms and provides access to Tyson Street from which it is a convenient walk to the beach. There is an 11-foot height difference from east to west across the property, with the highest point elevation at Tremont Street and naturally sloping downward toward the oceanfront. **Exhibit 2.8** provides a photo survey of existing site conditions.

Site Services: Public roadways (S. Cleveland Street and Michigan Avenue) and a roundabout for the bus terminal extend on to the project site; several public roadways (S Tremont Street, Missouri Avenue, and Seagaze Drive) border the project site. The infrastructure currently serving the site is further described in **Section 7: Infrastructure.**

3

DEVELOPMENT PLAN

3.1 Development Vision
3.2 Development Principles
3.3 Development Program
3.4 Public Benefits

DEVELOPMENT PLAN

3

3.1 DEVELOPMENT VISION

A model transit-oriented development is envisioned for the roughly 10.15-acre NCTD site, bringing together transit, residential, retail, office, and hospitality uses in a mixed-use format. Development will total approximately 850,000 square feet on seven (7) separate development parcels, sufficient to generate critical mass and create a destination that reinforces transit use and extends the activity of downtown. Buildings will not exceed seven (7) stories, comparable to nearby downtown buildings and ensuring that they are well integrated with the community fabric.

Urban placemaking and the provision of community benefits are to be given high priority, introducing such features as a public plaza at the heart of the project, while incorporating a boutique hotel and active street level retail along Cleveland Street - the project's north-south spine. Additionally, the development will enhance transit operations and improve the transit user experience, in particular, through provision of an approximately 59,156 square foot NCTD Headquarters and a new intermodal transit pavilion, centrally located within the station plaza.

Two (2) mixed-use buildings will accommodate 547 residential apartment units to further activate the site and surroundings. Market and affordable units will be accommodated, ranging in size from studios to 3-bedrooms, with resident focused amenities to include generous courtyards and upper floor decks. Altogether, up to 1,768 parking stalls will be provided above and below ground, taking advantage of the site's change in grade to minimize parking's visual impact while providing more than adequate space to meet the needs of on-site residents and workers, as well as commuters and visitors.

Illustrative View at Buildout



Conceptual Drawing Subject to Change

3.2 DEVELOPMENT PRINCIPLES

The following principles shall direct the development and design of the project:

- Consider **neighborhood context** and impacts on adjoining properties in determining site layout and building design, including appropriate transitions in use and scale.
- Create a sensible and **orderly site plan** based on a clear and functional site organization, including safe and efficient site access and circulation.
- Design **aesthetically pleasing buildings** that contribute to the character and quality of the surrounding neighborhood and foster a sense of place rooted in the local coastal environment.
- Introduce a **variety of amenities** that enhance quality of life and provide benefits to the community, including active ground floor uses and public realm improvements.
- Promote **pedestrian-friendly design** that will improve connections to transit and support safe and convenient passage within and through the site.
- Incorporate **Mobility Hub features** as recommended by SANDAG's Regional Mobility Hub Strategy in support of alternative modes of transportation.
- Provide **usable outdoor space**, including areas for both community-oriented gatherings and resident focused use and enjoyment.
- Encourage rich and **harmonious landscape design** that complements the buildings and site.
- Incorporate **sustainable design practices** that conserve energy and water resources.

Aesthetically Pleasing Building



Conceptual Drawing Subject to Change

Usable Outdoor Space

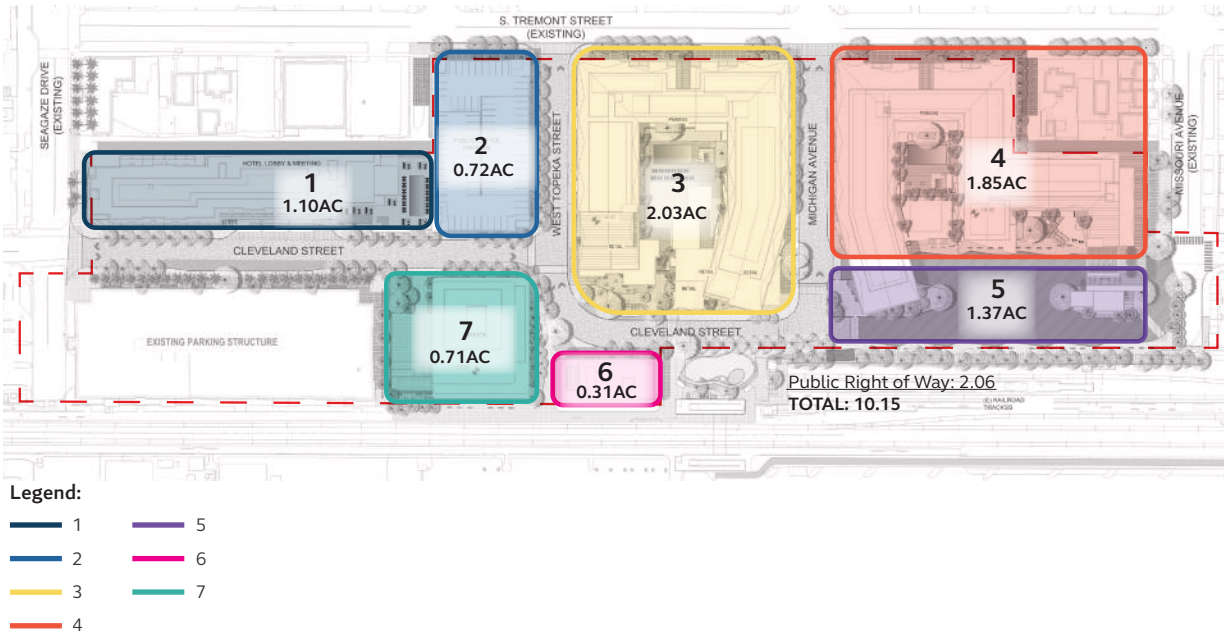


Conceptual Drawing Subject to Change

3.3 DEVELOPMENT PROGRAM

The project will encompass 852,434 square feet of development, with an additional 297,673 square feet devoted to above grade parking and 454,276 square feet for below grade parking, supplying up to 1,868 parking stalls. For phasing and programming purposes the project has been divided the site into three (3) private and four (4) public development parcels as delineated in **Exhibit 3.1**.

Exhibit 3.1 : Development Parcels



The following provides a summary of the proposed development program, subject to change as the proposed development plan is refined.

Overall Development Program Summary:

- 588,315 sf of residential use, including 547 residential apartment units and amenities
- 160,656 sf boutique hotel, including 170 rooms and amenities.
- 59,156 sf NCTD Headquarters building.
- 7,427 sf modern intermodal transportation & support center.
- 29,196 sf of retail and food and beverage.
- up to 1,768 parking stalls for public and private use.

Block 1 Program Summary:

- 160,656 sf boutique hotel, including 170 rooms and associated amenities.
- 12,806 sf of retail / food and beverage.
- 177 above and below grade parking stalls

Block 2 Program Summary

- 801 stall commercial, office and commuter parking garage.

Block 3 Program Summary:

- 264,130 sf of residential use, including 250 residential apartment units and amenities.
- 16,390 sf of retail and food and beverage.
- 381 above and below grade parking stalls.

Block 4 Program Summary:

- 324,185 sf of residential use, including 297 residential apartment units and amenities.
- 409 above and below grade parking stalls.

Block 5 Program Summary:

- Bus Station
- 1,033 sf of Bus Operator Building.
- Public restrooms

Block 6 Program Summary:

- 3,124 sf of NCTD Customer Service Building.
- Public restrooms.

Block 7 Program Summary:

- 59,156 sf enclosed NCTD Headquarters office building, plus 4,596 sf unenclosed terraces.
- 1,692 sf Amtrak Customer Service Center.

3.4 PUBLIC BENEFITS

A key objective of the project is to deliver numerous benefits to the community with a focus on supporting transit and enhancing quality of life for site occupants and visitors. The major benefits that will be conveyed through the proposed development are described below.

NCTD Headquarters: The project proposes a modern headquarters for NCTD, replacing its general administration office located at 810 S. Mission Avenue and the NCTD offices currently located on-site at 311 Tremont Street. The new approximately 59,156 square foot Headquarters will allow for consolidation of NCTD facilities and operations, while on-site placement of the building will afford the Agency direct oversight of the Oceanside Station operations.

Transit Improvements: In addition, to the NCTD Headquarters building, the project will incorporate a series of transit improvements intended to enhance the user experience and increase transit use, emphasizing improved intermodal connectivity. These improvements will include a modern intermodal transportation center, safe and efficient bus circulation, and twelve (12) commuter bus stalls and bus layover space; moreover, transit facilities and improvements will be located to better facilitate the transfer between bus and train services. Additionally, the plan supports near- and long-term implementation of various mobility hub features as identified by SANDAG's Regional Mobility Hub strategy, such as enhanced transit waiting areas, bike parking and bike share, on-demand rideshare, wayfinding, etc.; these features are further described in Section 4 (Plan Framework) of the Specific Plan.

Circulation Improvements: The project will incorporate circulation improvements across the site for a unique and enhanced urban experience. Bus circulation will be designed to efficiently transfer riders onto the commuter train platforms, improving the connection timing for rail commuters. Automobile circulation will be designed to quickly move residents off local streets into parking facilities, allowing them to walk or use alternate modes of transpiration to access the beach or downtown district. Moreover, an inviting urban streetscape will entice pedestrians to move through the project. With the provision of sufficient structured parking, the project's streets will not include surface parallel parking stalls, allowing ample width for pickup and drop off zones, as well as bicycle circulation where appropriate.

Parking Facilities: Proposed parking facilities will provide replacement parking for the two (2) public parking lots currently serving weekday commuters, as well as sufficient parking to meet the needs of all other uses and activities on-site. The above grade garage to be located on Block 2 will provide all of the public parking. To the extent feasible, shared parking will be promoted to reduce the overall parking requirement and support the project's transit orientation. Additionally, the project will provide secured bicycle parking facilities.

Community Programming: A proposed Station Plaza will function as the active hub of the project, providing convenience and comfort for waiting transit riders and commuters, while also accommodating various community-based events of modest scale, such as seasonal events, passive art installations and street musician performances, subject to the terms and conditions as stated in North County Transit District Ordinance 3, Section 2.6, "Commercial Activities, Solicitation, and Expressive Activities". The plaza will feature a high level of amenity, including patterned hardscape, native landscape materials, decorative lighting, seating areas, and public art. A new Community Room to house flexible events and programs will socially connect the project to Downtown Oceanside. Moreover, various streetscape enhancements and pedestrian amenities, will promote walkability and improve pedestrian connections, including embellishment of the pedestrian passage under the rail line that affords access between the project site and the beach.

Affordable Housing: The project will increase the community's housing supply, introducing a total of 547 new units of which fifteen (15) percent (approximately 82 units) will be designated as affordable units. The project will exceed the requirements of the City of Oceanside's Inclusionary Housing Ordinance (Chapter 14C of the Oceanside Municipal Code) that specifies at least ten (10) percent of units shall be reserved for low-income residents as defined by the ordinance.

4

DEVELOPMENT FRAMEWORK

4.1 Land Use Plan
4.2 Circulation Plan
4.3 Open Space Plan
4.4 Urban Design Plan

DEVELOPMENT FRAMEWORK

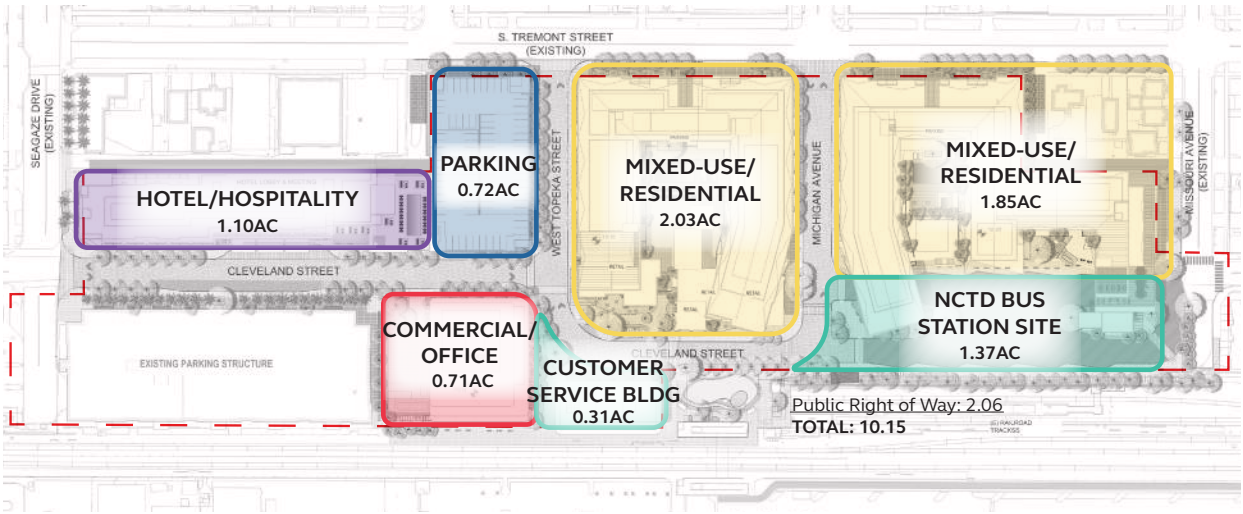
4

4.1 LAND USE PLAN

Land Use Framework:

The land use framework supports transit-oriented development, recognizing the site's function as a regional transit hub, and emphasizing mixed-use development that incorporates a significant residential component to promote transit ridership. Land use distribution and programming respond to site adjacencies, with commercial functions located toward the north in proximity to the downtown core, and an emphasis on residential use occupying the southern portion of the site in response to nearby residences. The land use framework is depicted in **Exhibit 4.1**, identifying generalized land use, as well as maximum permissible land use intensities and residential densities for each block.

Exhibit 4.1 : Land Use Framework Plan



Legend:

- Mixed-Use/Residential
- Hotel/Hospitality
- Commercial/Office
- Parking
- NCTD Bus/Transit

Table 4.1: Land Use Regulations

ALLOWABLE USES P=Permitted A=Administrative Conditional Use Permit Required C=Conditional Use Permit Required NP=Not Permitted / Prohibited	DISTRICT					
	MIXED-USE / RESIDENTIAL (MU)	HOTEL / HOSPITALITY (H)	COMMERCIAL / OFFICE (CO)	PARKING (PK)	PUBLIC - STATION PLAZA (P-TP)	PUBLIC - NCTD BUS STATION (P-ST)
RESIDENTIAL						
Live/Work Quarters	P	P	NP	NP	NP	NP
Multi-Family Residential	P	P	NP	NP	NP	NP(1)
PUBLIC / SEMI-PUBLIC						
Child Care	P	P	P	NP	NP	NP
Cultural Institutions	P	P	P	NP	NP	NP
Government Office	NP	NP	P	P	P	P
Public Parking	NP	NP	P	P	NP	P
Transit Facilities	NP	NP	P	P	P	P
Resource Center	NP	NP	P	P	P	P
COMMERCIAL OFFICE						
Business & Professional Office	P	P	P	NP	NP	NP
COMMERCIAL RETAIL & SERVICES						
Art Studio	P	P	NP	NP	NP	NP
ATM, Self Service	P	P	P	P	P	P
Banks & Savings & Loan	P	P	P	NP	NP	NP
Bar & Cocktail Lounge	C	C	NP	NP	NP	NP
Catering Services	P	P	NP	NP	NP	NP
Food & Beverage Sales, Convenience Market	A	A	A	NP	NP	NP
Food & Beverage Sales, Specialty Market	P	P	P	NP	NP	NP
Personal Improvement Service, Day Spa	P	P	P	NP	NP	NP
Personal Improvement Services, Health & Fitness Club, Studio, or Spa	P	P	P	NP	NP	NP
Personal Services (excluding tattooing establishments)	P	P	P	NP	NP	NP
Restaurant, Fast Food (excluding drive-thru establishments)	P	P	P	NP	NP	NP
Restaurant, Full Service	P	P	P	NP	NP	NP
Restaurant, Full Service with Full Alcohol	P	P	P	NP	NP	NP
Restaurant, Full Service with Live Entertainment	P	P	P	NP	NP	NP
Retail Sales, General	P	P	P	NP	NP	NP
Retail Sales, Antiques and Antique Shop	P	P	P	NP	NP	NP
Retail Sales, Custom	P	P	P	NP	NP	NP
Second-Hand Sales (excluding pawn shops and thrift shops)	P	P	P	NP	NP	NP
VISITOR ACCOMMODATIONS						
Hotel	NP	P	NP	NP	NP	NP
TEMPORARY USE						
Seasonal Festivities	P	NP	P	NP	P	NP
Art Installations	P	NP	P	NP	P	NP

Notes:

- (1) Residential use is permitted as an encroachment upon the NCTD Bus Station site in accordance with an approved development plan and not to exceed 10,000 square feet

Additional Use Restrictions

- Drive-through and drive-up services shall not be permitted on any development parcel within the Specific Plan Area.
- Residential and Visitor Accommodations shall not be permitted on any development parcel within the Specific Plan Area designated as Commercial Office or Public Parking.

Key considerations influencing the land use plan are as follows:

Practical Land Use Distribution:

- The hotel component occupies Block 1, the northernmost development parcel, thereby building on the hospitality and mixed-use development that comprise the nearby Nine Block Plan; it is separated from the rail line by the existing City parking garage.
- NCTD Headquarters is located on Block 7 directly adjacent the City parking garage, affording proximity to the transit facilities on-site and placing non-residential use along the rail line.
- The public parking garage occupies Block 2, providing convenient service for the NCTD Headquarters building and accommodating transit customers; this location also allows for convenient vehicular access via S. Tremont Street, while minimizing conflict with bus operations.
- Residential use is situated on the southern Blocks 3 and 4, where it achieves land use compatibility with existing residential areas and is best positioned to take advantage of desirable ocean views.
- The retail component is primarily integrated at street level along S. Cleveland Street, taking advantage of that street's role as the active spine connecting transit operations on-site and linking the project with the downtown core.

Modern Design Language Through Clean Lines and Deep Eaves



Conceptual Drawing Subject to Change

Viable Land Use Intensity:

- Permissible land use intensities and residential densities support sufficient development to establish critical mass in proximity to commuter and local-serving transit facilities.
- The FAR shall not exceed 4.0 on any individual development block. Parking facilities are not included in FAR calculations and are to be provided as described in the Circulation Plan and according to the parking ratios established in Section 5.
- The total residential density shall not exceed 547 dwelling units within the Specific Plan area.

Station Plaza Accommodates Seasonal Events, Passive Art Installations and Street Musician Performances



Conceptual Drawing Subject to Change

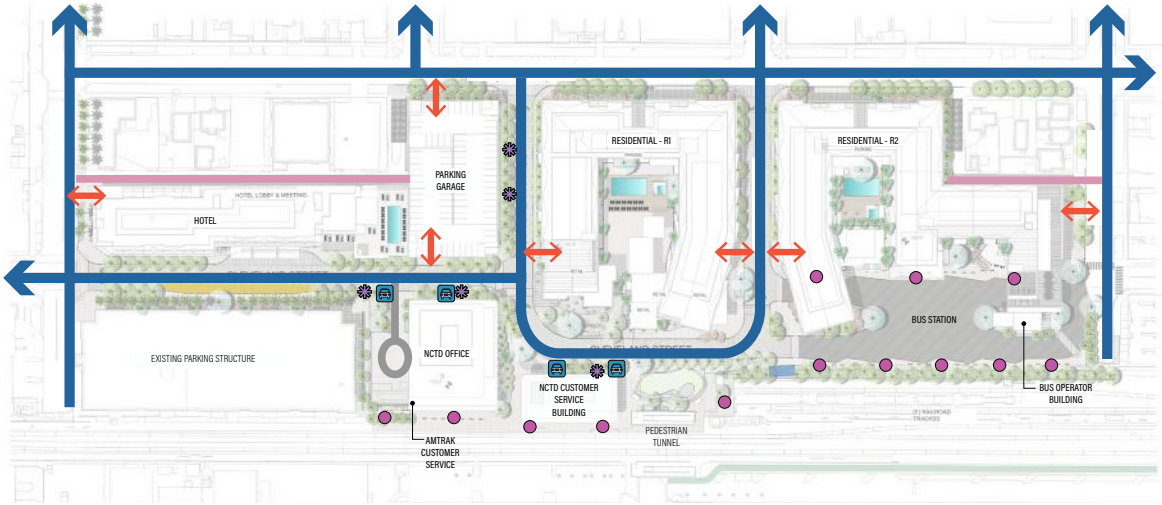
Land Use Regulations:

- **Table 4.1** sets forth permitted and Conditionally Permitted Uses within the Specific Plan area. The overall intent is to support mixed-use development that is compatible with the proposed land use distribution.
- Uses permitted by an Administrative Conditional Use Permit are subject to review and approval by the City Planner, and shall be processed in accordance with Article 41 of the Zoning Ordinance.
- Uses not included, but similar in character to those listed may be permitted or conditionally permitted, subject to review and interpretation by the City Planner. All other uses shall be prohibited.
- Permitted and Conditionally Permitted Uses shall be as described in Article 4(a) of the Zoning Ordinance.

4.2 CIRCULATION PLAN

Circulation Framework: The circulation framework supports the land use concept in achieving a transit and pedestrian-oriented development. Mobility improvements and enhancements to the pedestrian and bicycle networks are designed to increase transit ridership, especially through better commuter connections, promote walkability and livability, and improve the safety and convenience of on-site circulation. The circulation framework is depicted in **Exhibits 4.2 - 4.4**, addressing proposed circulation routes and mobility hub improvements for vehicular, bicycle, and pedestrian networks.
Key aspects of the circulation plan are as follows:

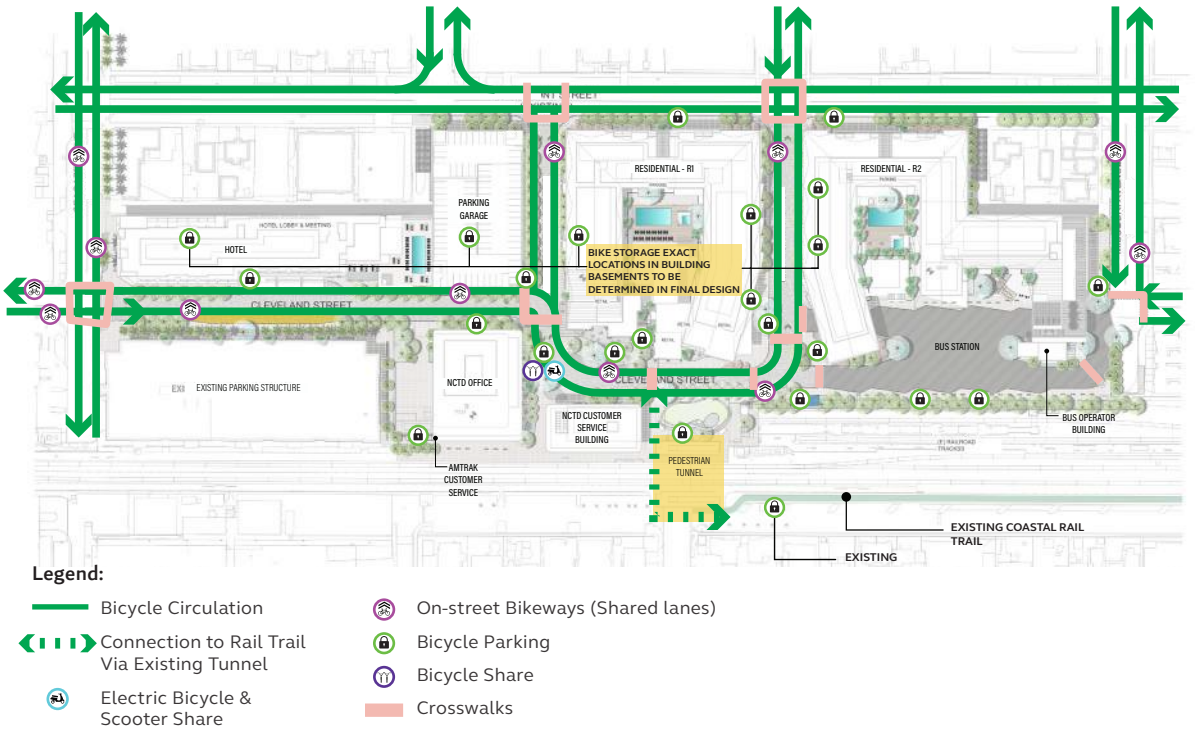
Exhibit 4.2 : Vehicular Circulation Framework Plan



Legend:

- Vehicular Circulation
- Vehicular Bldg Garage Entry/Exit
- Alley
- Office Service Access
- On Demand Ride Share
- Enhanced Transit Waiting Area
- Passenger Loading Zone

Exhibit 4.3 : Bicycle Circulation Framework Plan



Street Realignment

- Roadways are reconfigured to better control and coordinate the complex vehicular movement patterns on-site, and to minimize conflict between pedestrians and vehicles.
- On-site bus circulation within OTC will be developed to optimize transit operations and may use Michigan Avenue, Cleveland Avenue, Topeka Street and Missouri Avenue.
- Personal vehicles are routed to achieve convenient access to parking facilities and reduce interference with bus operations; access to the parking structure on Parcel 2 is from S. Tremont Street, and parking facilities on Parcels 3 and 4 are accessed from Topeka Street and Michigan and Missouri Avenues.

Convenient Transit Operations & Connections

- Street realignment and a series of transit facility improvements work to improve on-site bus circulation and promote intermodal connectivity.
- Transit facility improvements are highlighted by a modern intermodal transportation & support center located in the central Transit Plaza, providing proximity to both rail and bus boarding.
- At the southern end of the site along S. Cleveland Street, additional transit improvements include twelve (12) commuter bus bays and a relocated bus transfer center; this location will better facilitate the transfer between bus and rail service.

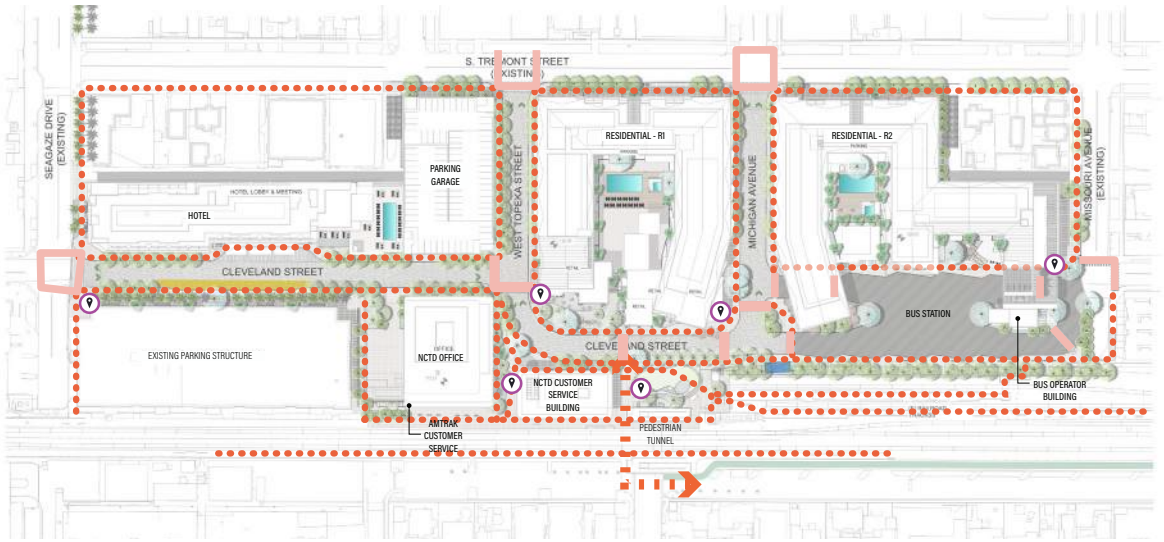
Pedestrian & Bicycle Connectivity

- The plan supports alternative modes of transportation and reduces the need for personal vehicle use by strengthening pedestrian and bicycle connectivity.
- A strong pedestrian connection from south to north through the site leading to the downtown core is accomplished through reconfiguration of S. Cleveland Street, introduction of active ground floor uses, and the provision of streetscape amenities.
- Various mobility hub improvements accommodate transit users, pedestrians, and bicyclists, including enhanced transit waiting areas, passenger loading; pedestrian walkways and crossings; bikeways, bicycle parking and bike share; dedicated transit ways; flexible curb space; and wayfinding.

Readily Accessible Vehicular Parking:

- Parking facilities are located and designed to provide convenient and safe parking for site occupants and visitors, including the parking structure located Parcels 2 and 7 that will serve the NCTD office employees and the public, as well as basement and lower-level parking serving the residents on Parcels 3 and 4.
- The project provides parking sufficient to replace the existing public parking serving the OTC facility, as well as parking to meet the needs of the proposed land uses.
- A combination of subterranean and above ground parking garages is employed to satisfy the total parking demand generated by development on-site.
- Shared parking and reduced parking ratios are encouraged in accordance with the mixed-use and transit orientation of the project; transit-oriented development reduces parking needs by promoting alternative modes of transportation. Additionally, parking facilities include assigned spaces for electric vehicles.

Exhibit 4.4 : Pedestrian Circulation Framework Plan



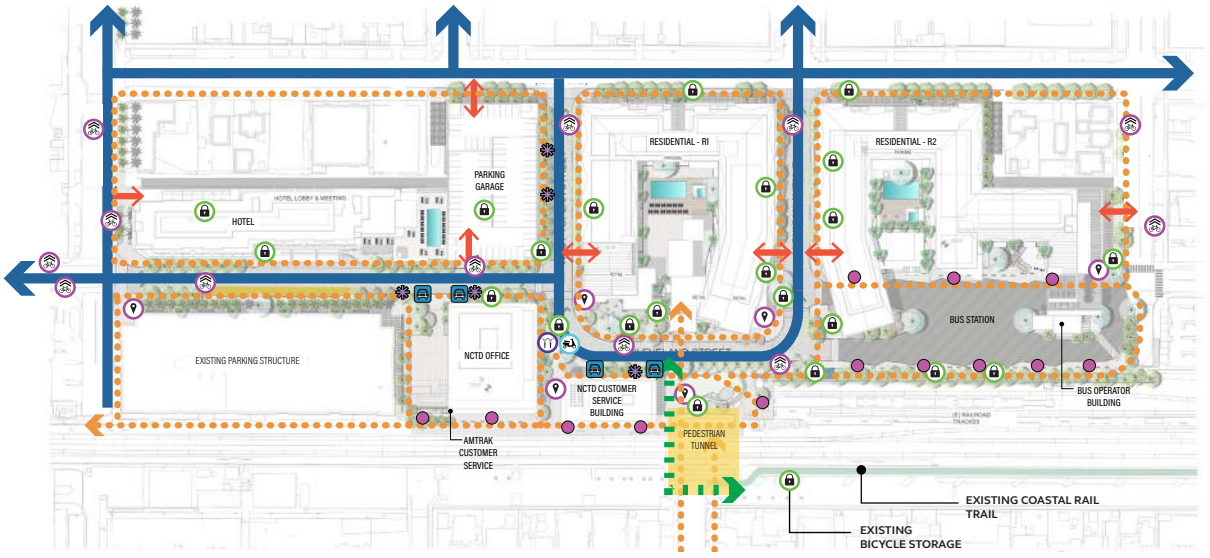
Legend:

Pedestrian Circulation
Wayfinding
Connection to Rail Trail Via Existing Tunnel
Crosswalks

Mobility Hub by SANDAG

- The OTC is identified as one of eight (8) prototype sites within the San Diego region demonstrating how various mobility hub features may be tailored to different communities.
- Mobility hub features noted OTC site are illustrated in Exhibit 4.4a below, and include the following: enhanced transit waiting areas; passenger loading areas; bikeshare; on-demand rideshare; and wayfinding.

Exhibit 4.4a : Mobility Hub Plan



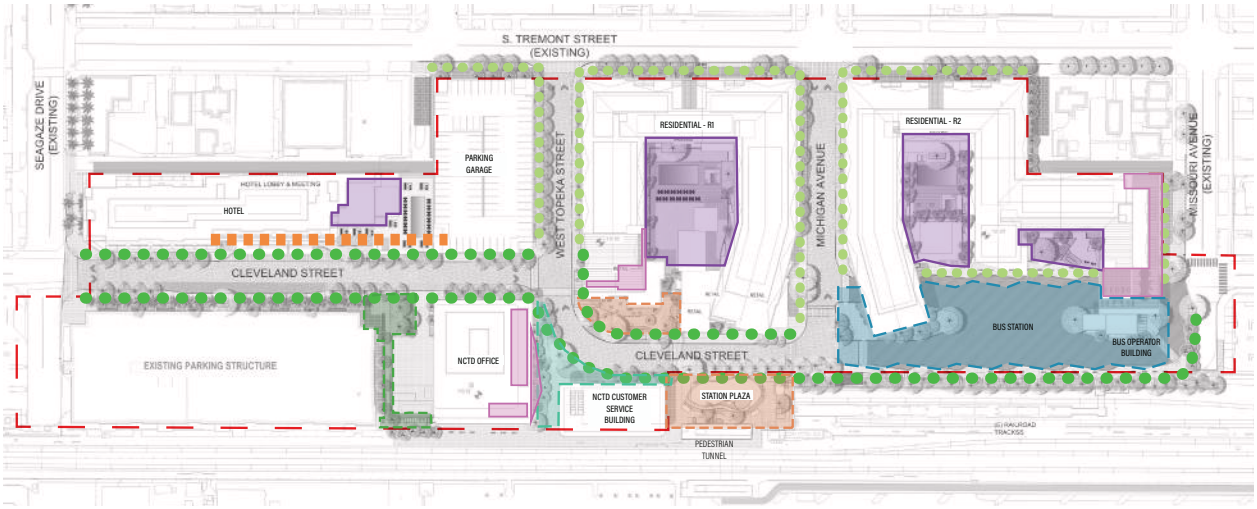
Legend:

- Connection to Rail Trail Via Existing Tunnel
- Electric Bicycle & Scooter Share
- On-street Bikeways (Shared lanes)
- Bicycle Parking
- Bicycle Share
- On Demand Ride Share
- Enhanced Transit Waiting Area
- Passenger Loading Zone
- Shared Bus/Auto/ Bicycle
- Wayfinding
- Pedestrian Circulation
- Vehicular Bldg Garage Entry/Exit

4.3 OPEN SPACE PLAN

Open Space Framework: The open space framework encourages an outdoor lifestyle appropriate to a coastal environment, offering access to various public, communal, and private outdoor spaces and amenities. Collectively, this range of outdoor spaces will serve the broader community, on-site residents and workers, as well as commuters and visitors. Special consideration is given to enhancing user enjoyment and enlivening the street environment. The open space framework is illustrated in **Exhibit 4.5**, supported by a conceptual landscape plan depicted in **Exhibit 4.6**.

Exhibit 4.5 : Open Space Framework Plan



Legend:

- Bus Station
- Station Plaza
- Public Plaza
- Semi-Private Terrace
- Semi-Private Courtyard
- Primary Streetscape
- Secondary Streetscape
- Landscape Area
- Wide Sidewalk

Key aspects of the open space plan are as follows:

Publicly Accessible Outdoor Space

- The Station Plaza will function as the active hub of the project, and is designed to accommodate a variety of modestly scaled community activities and events, such as seasonal events, passive art installations and street musician performances, subject to the terms and conditions as stated in North County Transit District Ordinance 3, Section 2.6, “Commercial Activities, Solicitation, and Expressive Activities”.
- The Station Plaza incorporates canopy trees for shade and an enhanced micro-climate, as well as unique shade structures with interspersed seating to accommodate commuters and other plaza users.
- Special paving within the Station Plaza establishes a decorative pattern, while planter areas and green spaces are designed to add visual appeal and accommodate flexible use.
- The sidewalk environment promotes safety, convenience, and activity through the introduction of sidewalks amenities, including street trees and street furnishing such as benches and lighting.

Generous Amenity Areas & Private Outdoor Space

- The residentially focused buildings on Blocks 3 and 4 incorporate generous amenity courtyards functioning as a social gathering spot for residents, while roof decks afford sweeping ocean views.
- The NCTD Headquarters features cascading roof decks and terraces at every level, providing employees access to outdoors at every level of the building.
- The hotel incorporates amenity decks, including a pool deck, as well as private balconies with ocean views for west facing guestrooms.

Enriched Landscape Character:

- The landscape design reinforces the site plan layout and function and complements the architectural character.
- The selected plant palette emphasizes native and drought tolerant species to reflect local character, promote sustainability, and minimize long-term site maintenance.
- Canopies are provided to shade the public plaza and train platform; additional shade structures and seating are provided with each bus bay.
- The landscape design is intended to meet or exceed the City of Oceanside's Urban Forestry Ordinance, mandating a 12% tree canopy for the site; the proposed site design anticipates 16% coverage.
- City Ordinance mandates that 22% of the surface area is constructed with a permeable surface type to allow storm water to naturally permeate into the site substrate. The design for this site includes 92,446 SF of permeable planter areas as well as 5,303 SF of permeable pavers. The total permeable surface as designed is 97,749 SF or 22% of the overall site area.

Exhibit 4.6 : Conceptual Landscape Plan

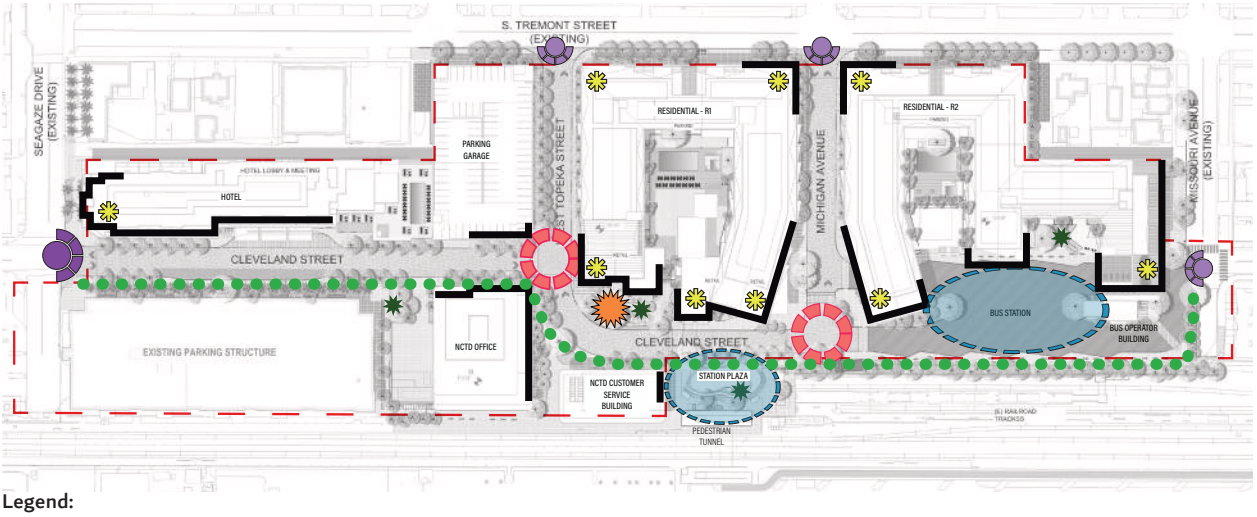


4.4 URBAN DESIGN PLAN

Urban Design Framework: The urban design framework reinforces the sense of place, relying on building intensity and mass to properly contain public outdoor space and frame exceptional ocean views, while responding to surrounding conditions with an appropriately scaled village concept that draws inspiration from the character and identity of the coastal environment. The public realm is of special importance, highlighted by enhanced streetscapes and the integration of accessible outdoor gathering space. The urban design framework is illustrated in **Exhibit 4.7**.

Key aspects of the urban design plan are as follows:

Exhibit 4.7 : Urban Design Framework Plan



Legend:

- Primary Gateway
- Secondary Gateway
- Key Intersection
- Architectural Feature
- Landscape Feature/ Public Art
- Bus Station/Transit Plaza
- Pedestrian Easement
- Public Plaza
- Active Frontage

Local Inspiration:

- The design concept derives inspiration from the site's unique coastal setting, reflecting the character and feel of Oceanside and its beachfront neighborhoods.
- A modern design language is employed, inspired by the unique legacy of the Southern California coastal environment and culture.
- The site layout maintains view corridors by establishing a block pattern that protects cherished views of the ocean along east-west oriented streets.
- The residentially focused buildings on Blocks 3 and 4 are designed around amenity courtyards to create a U-shape layout that opens toward the ocean and maximizes views for their occupants.

Enhanced Public Realm

- Buildings are located and massed to contain public outdoor space and to especially create a consistent street edge.
- The design promotes street level activation through integration of retail along S. Cleveland Street. Additionally, the main residential lobbies are located along Tremont Street and feature clearly marked entrances and transparent windows, while there are a select number of residential stoop units along the side streets.
- Neighborhood safety and security are enhanced through activated sidewalks and an "eyes on the street" approach that orients residential porches, balconies, and windows toward public and communal outdoor space.
- Streetscape and outdoor public spaces incorporate amenities that support pedestrian comfort and help enrich and activate these spaces, including canopy trees, site furnishings, and special paving.

Compatible Scale

- The scale of development is compatible with the downtown environment and especially nearby development associated with the Nine Block Plan, with building heights not to exceed seven (7) stories with or without occupied roofs.
- The layout and design incorporate proper transitions in scale to nearby residential development, including articulated building facades that break down the building mass. Such features as porches, balconies, and shading devices further reduce scale and mass and communicate a residential character.
- The development plan takes advantage of the east-west topographic differential to provide a significant portion of the parking in subterranean facilities, thereby reducing the apparent scale and mass of buildings.

Consistent Character & Identity:

- A consistent architectural language is recommended to ensure that buildings relate to one another, yet accommodating variations according to building program and use.
- A modern design language is expressed in such features clean lines and deep eaves and balconies, creating a dramatic play of light and shadow and accentuating the strong horizontal line of the exterior building architecture.
- High quality materials and finishes are consistently used, appropriate to the coastal setting and the overall character of the project.

4.5 SIGNAGE

Comprehensive Sign Package

The site and buildings located within the specific plan area will require a comprehensive program to ensure consistency throughout. Development of a comprehensive sign package will provide consistent design, materials, and finishes for all signage elements. These package(s) will include provisions for color, size, location, types of signs, lighting, and other safety and aesthetic considerations. All signs included in the package will conform to applicable codes and city ordinances.

Gateway Marker

The project will have a gateway identification marker to mark the entry of the district and provide recognition for the Oceanside Transit Center project. The marker will be located at the southwest corner of South Cleveland Street and Seagaze Avenue. The gateway identification marker will be a cantilevered pole type structural element with a foundation located in the proposed landscape planter on the west side of S. Cleveland Avenue. The cantilevered portion of gateway identification marker structure will include a sign element extending over the roadway. The sign element will be approx. 16’-0” height, with a projection of approximately 10’ into the roadway. Clearance to the bottom of the sign element will be designed to meet City of Oceanside engineering and Caltrans standards for vertical clearance on roadways. All internal lighting will be internal with a dimmer to adjust.

5

PUBLIC REALM STANDARDS & GUIDELINES

5.1 Purpose & Intent
5.2 General Streetscape Design Guidelines
5.3 Street Design Standards & Recommendations
5.4 General Public Outdoor Space Design Guidelines
5.5 Outdoor Space Design Concepts

DEVELOPMENT STANDARDS

5

5.1 PURPOSE & INTENT

The purpose of the Public Realm Standards & Guidelines is to achieve a high standard of quality for streetscapes and public outdoor spaces that realize the Specific Plan's Development & Design Principles and in particular support the Open Space Concept. Emphasis is placed on providing design direction that will lead to an active and engaging public realm that enhances the overall identity and appeal of the project. These criteria apply to all areas of the project located outside of the private development parcels as delineated in **Exhibit 3.1**, including public street rights-of-way. The design standards, guidelines, and concepts contained herein shall take precedence over any conflicting criteria for the design of public areas adopted by the City of Oceanside, excepting those matters in which the Specific Plan remains silent.

Streetscape Amenities: Decorative Paving, Crosswalks, Street Furniture, Rhythmic Street Trees, etc.



Conceptual Drawing Subject to Change

5.2 GENERAL STREETSCAPE DESIGN GUIDELINES

Streetscape Character & Use

Street Character & Quality: Design streetscapes to enrich and enliven the public realm, with emphasis on promoting pedestrian comfort and providing visual interest and appeal; additionally, streetscape elements should be high quality and selected for low maintenance and efficient use of resources.

Pedestrian Safety: Introduce such features as enhanced crosswalks and consistent street tree planting where pedestrian activity is heaviest; also provide suitable lighting and wayfinding signage to properly direct pedestrian and vehicular flows.

Pedestrian Circulation: Provide sidewalks with sufficient width to accommodate clear pedestrian passage while allowing sufficient room for street trees, streetscape amenities, and commercial activity such as sidewalk dining as appropriate.

Pedestrian Comfort: Introduce pedestrian amenities along streets and sidewalks to support pedestrian safety and comfort, including street trees, outdoor furniture, street lighting, wayfinding signage, special paving, etc., especially where pedestrian activity is anticipated or desired.

Amenity Zone: Locate sidewalk amenities to maintain clear pedestrian movement; they should normally be located in a zone adjacent to or near the curb, acting as a physical and psychological barrier to vehicular traffic.

Sidewalk Activity: Accommodate sidewalk dining and similar commercial activities, such as organized displays of goods and services, where there is sufficient sidewalk width and pedestrian activity is most desired; locate outdoor dining and commercial activities to maintain pedestrian flows, typically in a zone along the building edge. Movable tables and seating, and umbrellas or other overhead cover are encouraged.

Green Streets: Explore opportunities to introduce low-impact design measures, such as curb-side planter areas that aid in the management of stormwater runoff.

Utilities: Coordinate the streetscape design with the siting of utilities to avoid conflict and interference with streetscape amenities and pedestrian flows.





Streetscape Amenities

Streetscape Materials & Fixture: Employ an attractive and coordinated palette of streetscape materials and fixtures. Additionally, streetscape materials and fixtures should be selected for their quality, durability, and ease of maintenance.

Special Paving: Encourage the use of decorative paving to enrich areas of pedestrian activity, distinguish sidewalk amenity zones, enhance pedestrian crosswalks, etc. Provide durable, all-weather surfaces, and consider permeable paving materials for sidewalks and crossings where appropriate, such as brick, and concrete and granite pavers.

Street Tree Provision: Plant street trees along roadways throughout the project, thereby contributing to their spatial definition and beautification, while providing shade and comfort for pedestrians.

Street Tree Selection: Choose tree species and consider their size and spacing based on roadway hierarchy and function; in addition, account for the visibility of building and commercial signage. Street trees should be disease resistant, hold up to urban conditions, and provide shady canopies at maturity.

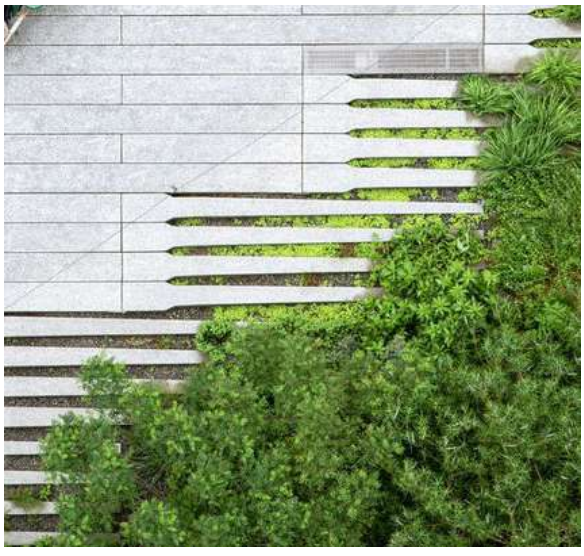
Sidewalk Furnishings: Place street furniture such as benches and trash receptacles at regular intervals along sidewalks for pedestrian comfort; a high level of amenity is especially important where pedestrian activity is most desired.

Consistent & Quality Furnishings: Select a consistent palette of sidewalk furniture that enhances project identity and reinforces the function of on-site roadways; durable materials and finishes that minimize maintenance are advised.

Sidewalk Plantings: Accommodate sidewalk planting in attractive containers and/or in planting strips; sidewalk planting will normally be placed at or near the sidewalk edge and/or along the building frontage to not impede pedestrian circulation. Favor the use of native, adapted, and drought tolerant species.

Lighting & Fixtures: Provide sufficient lighting for vehicle and pedestrian safety; light fixtures should be compatible with the overall streetscape design. Use of energy efficient lighting is encouraged.

Public Signage & Wayfinding: Introduce public signage and environmental graphic elements such as banners that support vehicular and pedestrian wayfinding, enliven streets and sidewalks, and contribute to the overall project identity. In general, place wayfinding signage to maximize visibility and minimize interference with pedestrian movement.

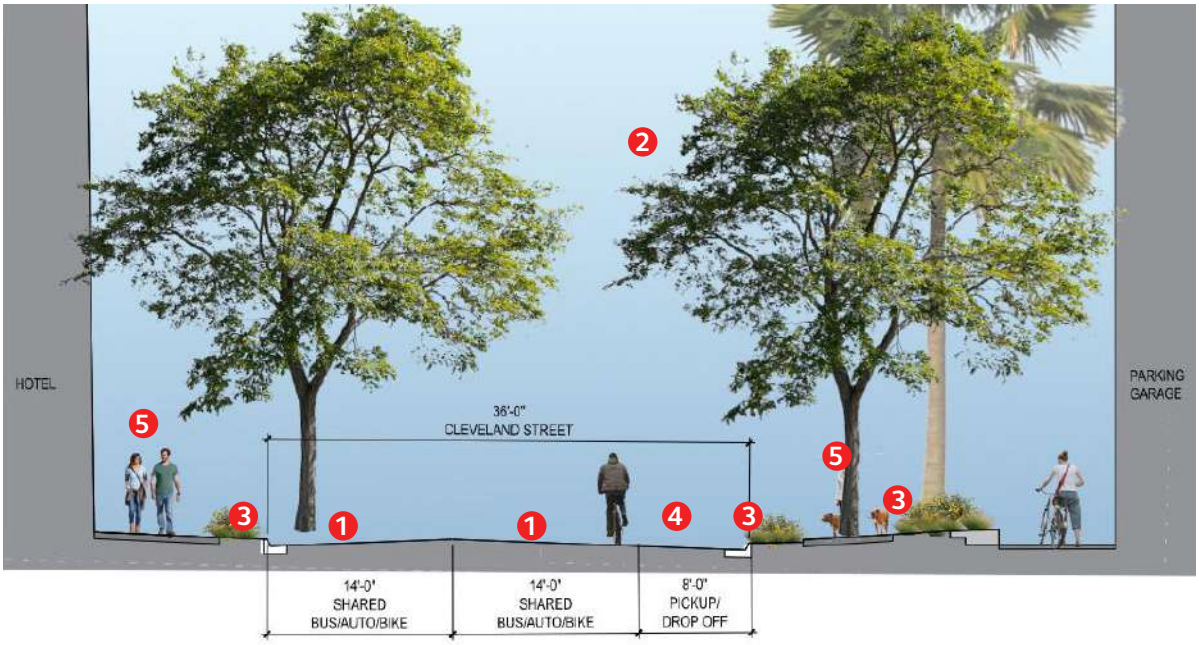




5.3 STREET DESIGN STANDARDS & RECOMMENDATIONS



Exhibit 5.1 : S. Cleveland Street Cross Section 1

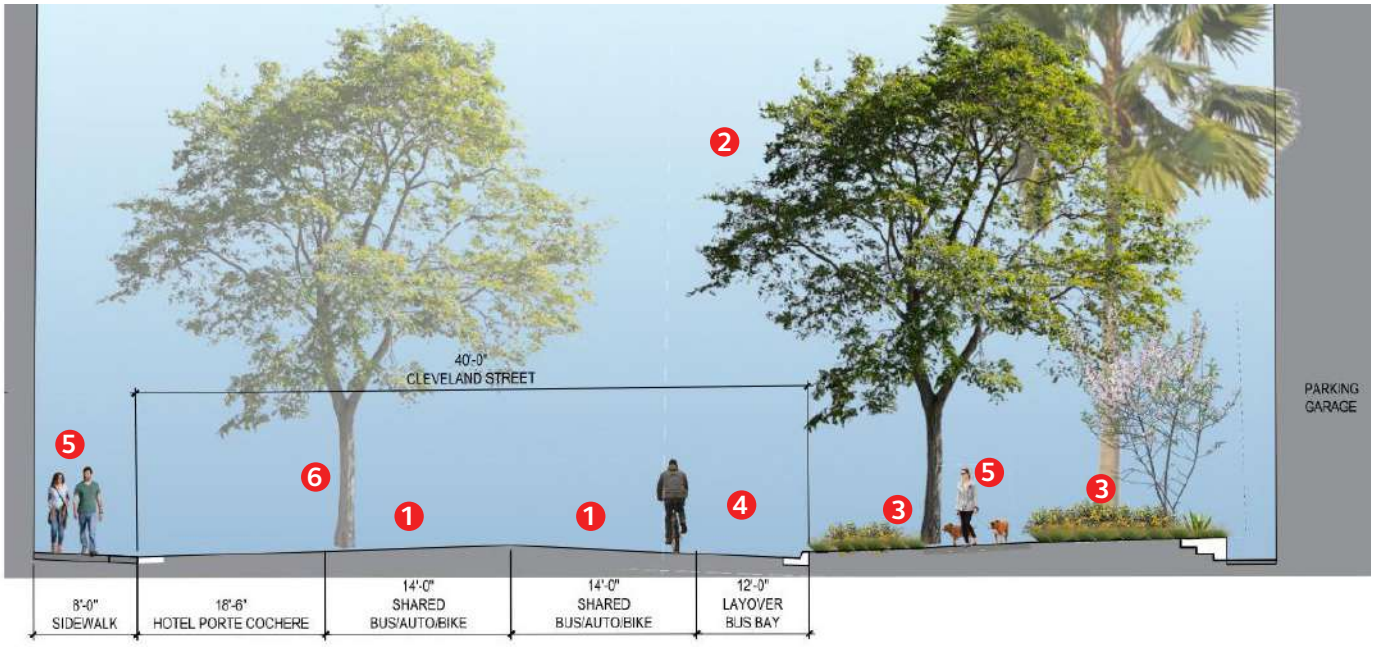


Design Recommendations:

1. Two (2) 14’-0” shared travel lanes (bus/auto/bike)
2. Rhythmic planting of canopy trees
3. Landscape planting area
4. One (1) 8’-0” pick-up/drop-off lane
5. Sidewalk



Exhibit 5.2 : S. Cleveland Street Cross Section 2

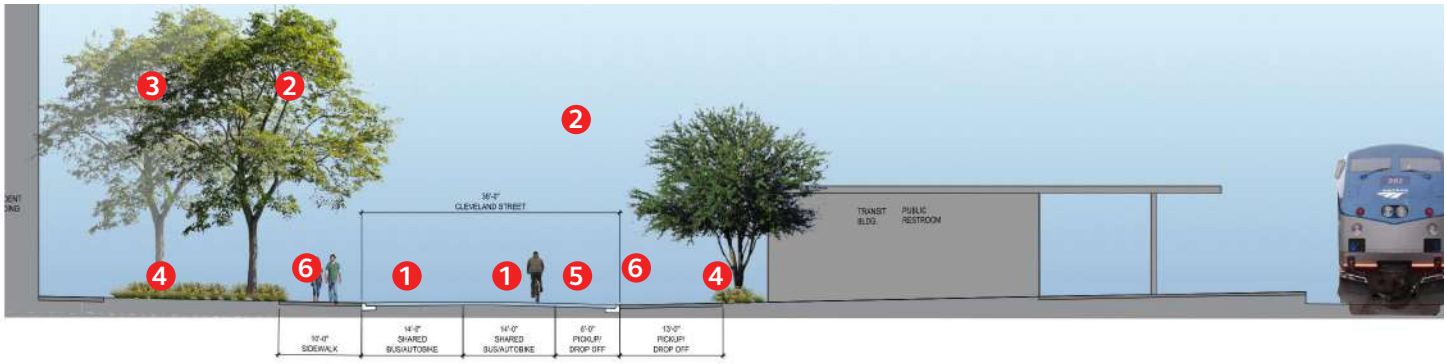


Design Recommendations:

1. Two (2) 14’-0” shared travel lanes (bus/auto/bike)
2. Rhythmic planting of canopy trees
3. Landscape planting area
4. One (1) 12’-0” layover bus bay
5. Sidewalk



Exhibit 5.3 : S. Cleveland Street Cross Section 3

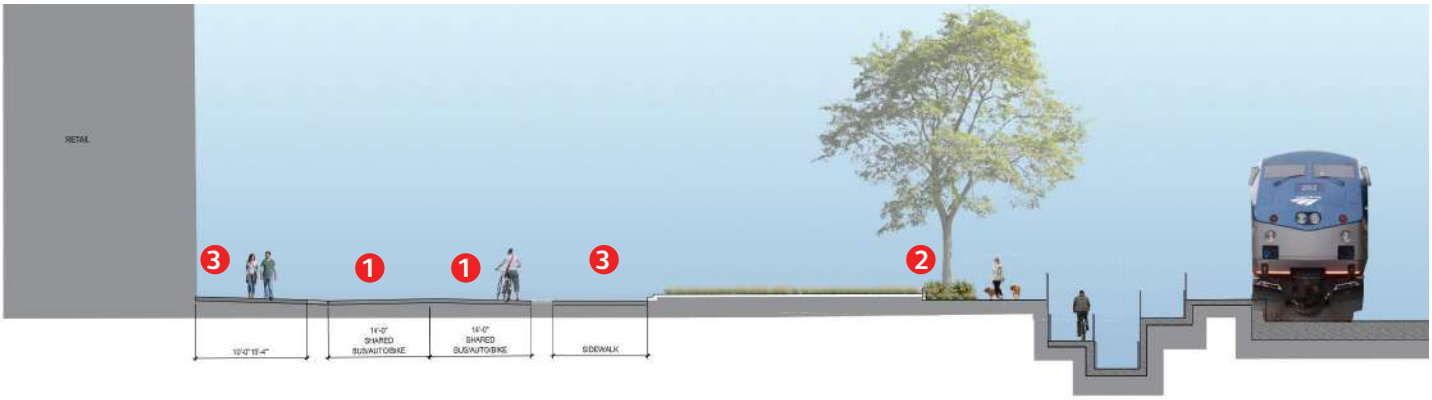


Design Recommendations:

1. Two (2) 14’-0” shared travel lanes (bus/auto/bike)
2. Rhythmic planting of canopy trees
3. Double row of canopy trees
4. Landscape planting area
5. One (1) 8’-0” pick-up/drop-off lane
6. Sidewalk



Exhibit 5.4 : S. Cleveland Street Cross Section 4

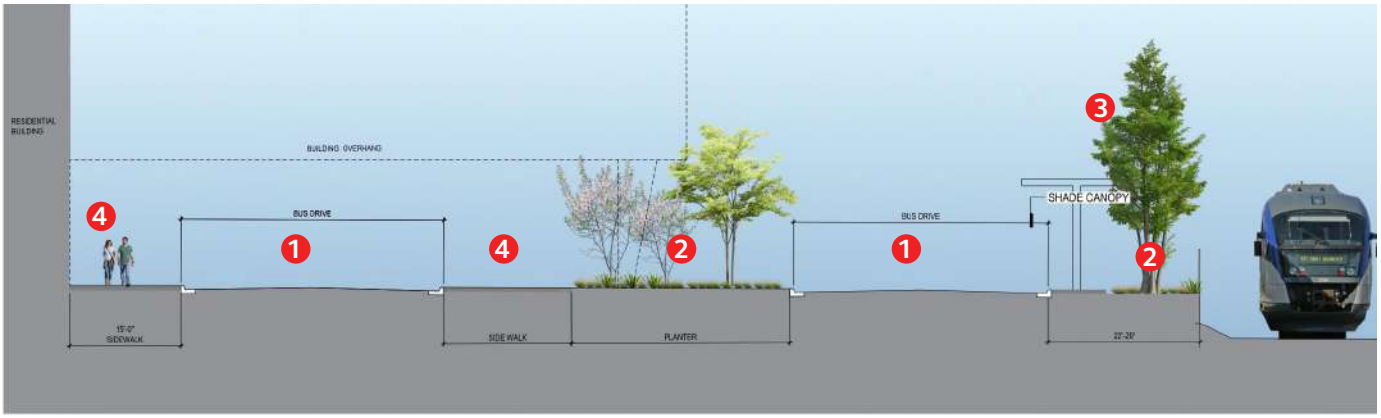


Design Recommendations:

1. Two (2) 14’-0” shared travel lanes (bus/auto/bike)
2. Landscape planting area
3. Sidewalk



Exhibit 5.5 : Bus Transfer Zone Cross Section



Design Recommendations:

1. Bus drive
2. Landscape planting area
3. Shade canopy
4. Sidewalk

5.4 GENERAL PUBLIC OUTDOOR SPACE DESIGN GUIDELINES

Public Outdoor Space Character & Use

Site Character & Quality: Design public outdoor spaces that are highly accessible, invite users, and reinforce project identity. As far as feasible, encourage designs that allow for flexible use; in general, these spaces should be located at or near street grade, and not significantly elevated or depressed.

Convenience & Comfort: Make outdoor spaces comfortable for human occupation and social interaction, utilizing such elements as decorative paving, plants, site furniture, and lighting to shape, embellish, and give purpose to these spaces. Where appropriate, introduce design elements such as canopies and trellises that establish a pleasing transition between indoors and outdoors.

Safety & Surveillance: Design outdoor spaces with safety in mind, allowing for active surveillance from adjacent buildings and the street; in addition, provide sufficient security lighting.

Comfortable Microclimate: Use canopy trees and structures to provide overhead cover, regulate sun and shade, and create a pleasant micro-climate.

Low Maintenance / Sustainable Design: Emphasize low maintenance design, utilizing quality materials that will withstand wear and hold up in an urban setting. Additionally, minimize resource inputs through water-wise landscape design, as well as the use of energy efficient outdoor lighting.

Low Impact Design: Employ low-impact design measures, such as biofiltration planter areas and modular wetland biofiltration BMPs that aid in the management of stormwater runoff.





Public Outdoor Space Amenities

Site Materials & Fixtures: Employ a rich, yet coordinated palette of landscape materials and fixtures to provide scale, texture, and color and reinforce the design character and function of public space. Landscape materials should be selected for their quality, durability, and ease of maintenance.

Special Paving: Encourage the use of special paving and patterns to enhance and distinguish outdoor gathering space and where high levels of pedestrian activity are anticipated. Provide durable, all-weather surfaces such as brick, and concrete and granite pavers.

Site Furnishings: Introduce site furnishings that enhance pedestrian safety, comfort, and use, including shade structures, seating, trash receptacles, bicycle racks, lighting, etc.; consider opportunities for unique, artistic expression in the design and character of site furnishings, while maintaining a consistent look and feel for the project.

Planting Design: Introduce an attractive and coordinated planting design that reinforces outdoor space function and programming, and that enlivens and enriches the space. As far as feasible and in accordance with size and scale of the space, offer a practicable combination of shade trees, shrubs, groundcovers, and accent plants.

Plant Selection: Select plants suited to the soil and climatic conditions of the site, emphasizing native, adapted, and drought tolerant species that reduce water use; water intensive landscapes that rely on turf grass and extensive annual beds should be minimized.

Site Lighting: Provide lighting to both increase nighttime safety and security, and enrich the outdoor setting. Energy efficient and decorative, pedestrian-scaled light fixtures that are compatible with the overall landscape design, and that emit a warm light are recommended; special landscape lighting (e.g., twinkle lights) may also be considered.

Public Signage: Facilitate visitor orientation and use, and generate interest by introducing wayfinding signs and graphic elements as appropriate; signage and graphic elements should be consistent with an overall program of public signage for the project.

Public Arts: Consider including public art pieces and/or special landscape features within outdoor spaces, especially at activity nodes or as focal points; for example, a sculpture may serve as a special point of interest and attraction.



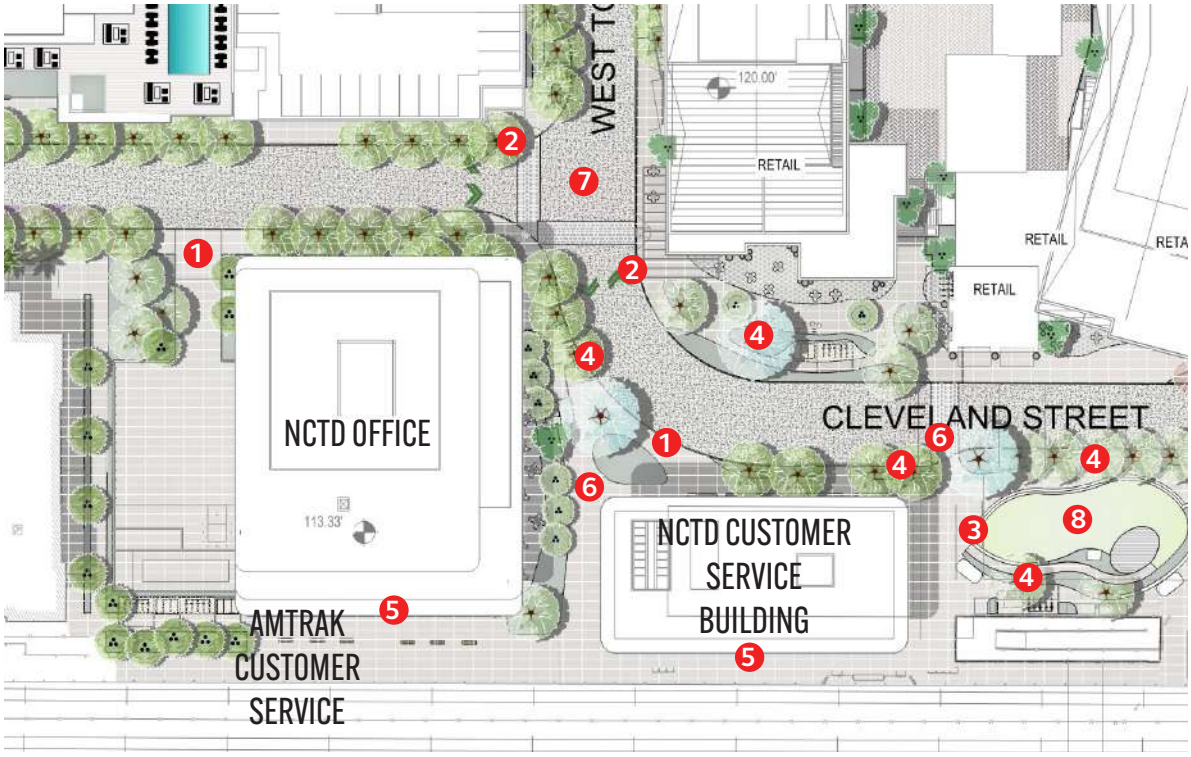


5.5 OUTDOOR SPACE DESIGN CONCEPTS



Key Map

Exhibit 5.6 : Station Plaza Design Concept



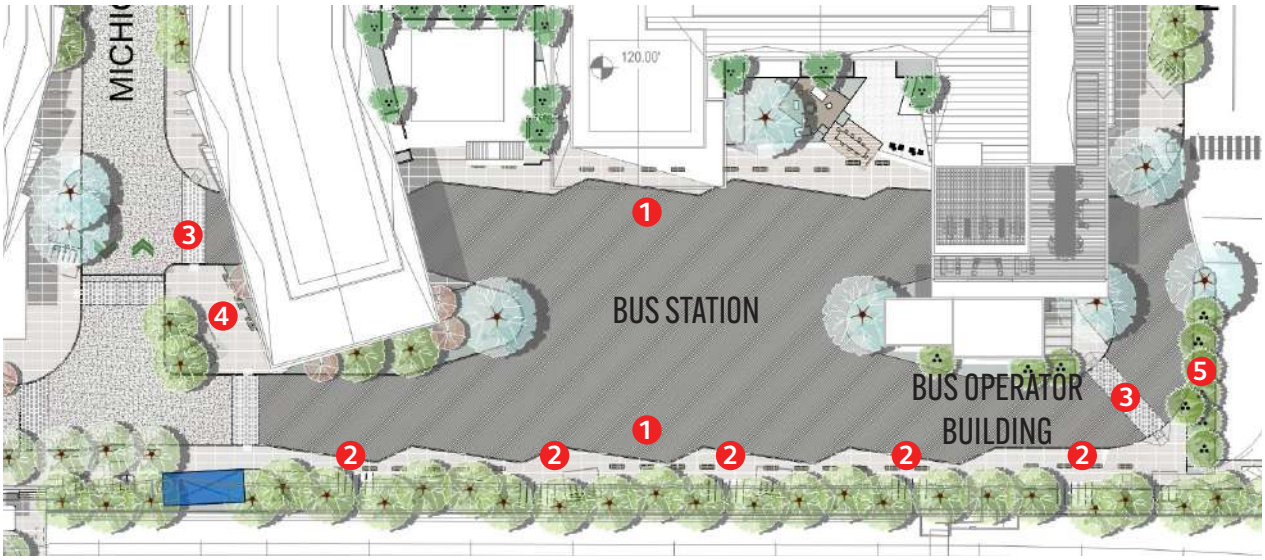
Design Recommendations:

1. Wide sidewalks and pedestrian promenades to enhance circulation
2. Shared mobility routes and options to support multi-modal transportation
3. Vertical iconography to support wayfinding
4. Canopy trees to provide shade and enhanced micro-climate
5. Unique shade structures with interspersed seating accommodate commuters and other plaza users
6. Special paving within plaza establishes decorative pattern
7. Special paving within vehicular travel lane slows traffic and supports safe pedestrian crossing
8. Planter areas / green spaces add visual appeal and accommodate flexible use



Key Map

Exhibit 5.7 : Bus Transfer Zone Design Concept



Design Recommendations:

1. Commuter bus bays
2. Unique shade structures with interspersed seating accommodates commuters
3. Special paving adds visual appeal and facilitates safe pedestrian movement
4. Bus transfer island continues decorative paving motif and adds planter areas for enhanced appearance
5. Plant material screening at neighborhood edge



6

PRIVATE REALM STANDARDS & GUIDELINES

6.1 Purpose & Intent
6.2 Development Standards
6.3 General Design Guidelines
6.4 Supplementary Design Guidelines

DESIGN GUIDELINES

6

6.1 PURPOSE & INTENT

The purpose of the Private Realm Standards & Guidelines is to achieve creative, high-quality design that realizes the Specific Plan's Development & Design Principles and supports the Urban Design Concept. These criteria shall apply to all proposed construction within each of the three (3) private and four (4) public development parcels as delineated in **Exhibit 3.1**. The development standards and design guidelines contained herein shall take precedence over conflicting provisions of the City of Oceanside Zoning Ordinance, unless otherwise noted. Where the Specific Plan is silent, the provisions of the Zoning Ordinance shall apply.

Enrich Outdoor Gathering Spaces with Landscape & Special Paving



Conceptual Drawing Subject to Change





SENSE OF PLACE

Imbuing the sense of place with architecture, from the ocean, beach and surf culture, warmth of the sun, to the distinct silhouettes of the palm trees over the sky, the building resonates with the context it is placed and become part of the memorable fabric.



FUN AND LIFESTYLE

Casual vibes and the Southern California lifestyle that is filled with joy under the sun brings people to Oceanside and the region. The project should embody this sense of happiness and vibrant culture that celebrates people and their lives.















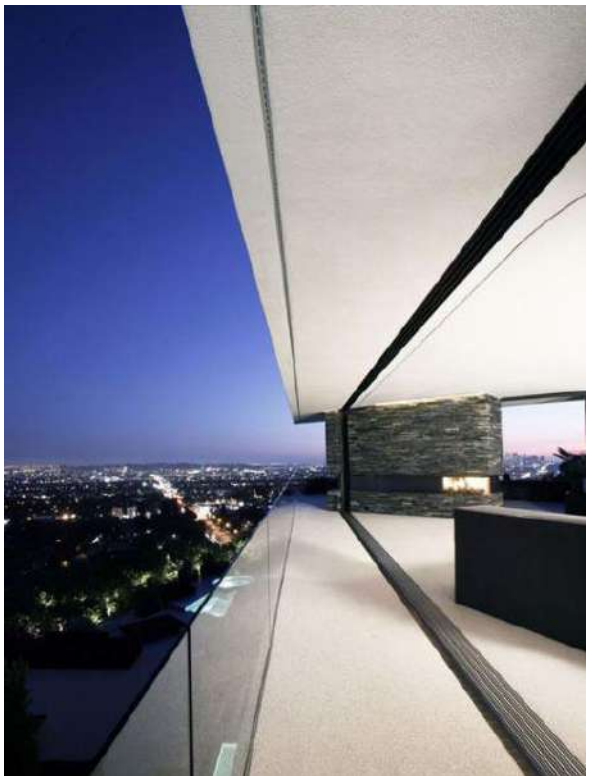


LIGHT SHADOW AND COLOR

From the early traditions of Mediterranean and Spanish influences to the modern architectural legacy of Irving Gill, clean lines and white stucco remains and the most striking material to reveal the forms against the blue sky and portrays the fascinating play of light and shadow on the building surfaces changing throughout the day. Selective introduction of colors become vibrant addition against white backdrops as well.

OF SKY AND HORIZON

Many buildings in Southern California in the tradition of the Mid-century modern architecture sought to dramatically capture the sky and the endless horizons in between the two horizontal planes of floor and ceiling, resulting in the deep eaves and balconies that accentuates the strong horizontal lines on the exterior.

















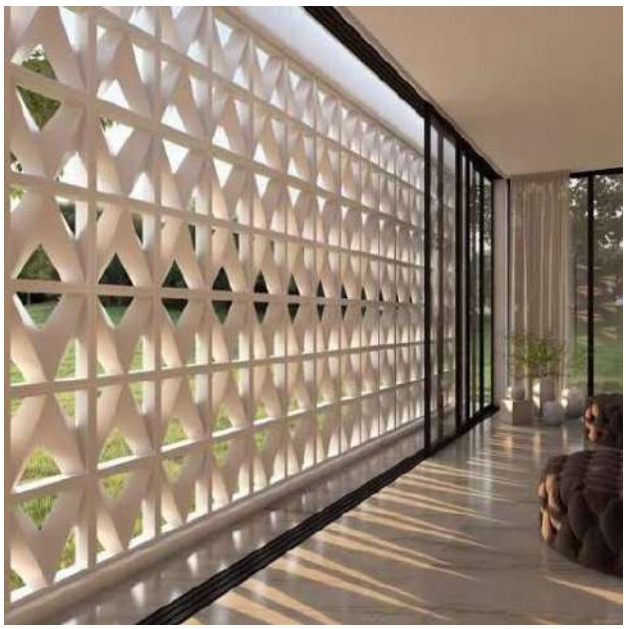
LEARNING FROM NATURE

Similar to how the canopies of palms come together to form a natural pergola that shades outdoor areas for comfort, the trellises and canopies shade the indoor-outdoor rooms bringing nature into the daily lives and at the same time their varying geometries create beautiful patterns to admire.



FORM + FUNCTION

Another frequently seen sun-shading devices are the shutters and screens over the fenestrations that over time developed into an art work that is functional and visually unique representing the craftsmanship and the technology of the times.





6.3 DEVELOPMENT STANDARDS

Table 6.1 : Building Envelope Standards

BUILDING ENVELOPE STANDARDS	
FAR:	4.0 maximum
Residential Density:	maximum 547 dwelling units within the Specific Plan area
Height:	90 feet maximum vertical distance measured from the average level of the highest and lowest point of that portion of the building-site covered by the building to the highest point of the structural roof excluding Vertical Roof Projections: parapets, elevator overruns, stair enclosrues, and mechanical screening
Setbacks:	0 feet maximum
Building Encroachments:	• **Stoops, Porches, Access Ramps & Stairs:** 6 feet maximum encroachment into the Public R.O.W • **Balconies & Architectural Overhangs:** 6 feet maximum encroachment into the Public R.O.W. • Block 4 may allow for encroachments of occupiable building area into the designated NCTD bus station site, provided the encroachment is in accordance with an approved development plan, and the encroachment promotes architectural interest and does not exceed an area coverage of 10,000 square feet. • **Maximum Allowable Vertical Roof Projections:** 5 feet for parapets, 16 feet elevator overruns, 12 feet stair enclosures, and 20 feet mechanical screening.

Table 6.2 : Open Space Standards

OPEN SPACE STANDARDS	
Open Space Requirement:	• Area: 150 square feet for each dwelling unit
Common Open Space:	• Dimensions: 10 feet minimum dimension • Location: may be provided at ground level and/or upper-level deck
Private Open Space:	• Dimensions: 6 feet minimum dimension • Location: may be provided as patio or balcony
Landscape Area:	• Area: 10% minimum landscape area • Location: may be provided at ground level and/or upper-level deck • Permissible Landscape: may include areas devoted to planter areas, common patio areas, and pools and other recreational facilities

Table 6.3 : Parking & Loading Standards

PARKING & LOADING STANDARDS	
Parking Ratios:	• Residential: No parking required per Gov. Code § 65863.2 • Commercial: No parking required per Gov. Code § 65863.2 • Government Facilities: 2.9 spaces per 1,000 square feet • Hotel: - 0.8 spaces per hotel room - 10.0 spaces per 1,000 square feet of hotel meeting room
Commuter Parking:	560 replacement parking stalls for the Oceanside Transit Center shall be provided within the Specific Plan area
Parking Location:	Required parking for uses on a given parcel may be provided on another parcel within the Specific Plan Area
Parking Reduction:	A reduction in parking may be approved by the City Planner for shared parking and inclusionary dwelling units, subject to the findings of a parking study

PARKING & LOADING STANDARDS CONT'D	
Loading Requirements:	• Hotel: 1 loading space per building primarily devoted to hotel use • Commercial & Government Office: 1 loading space per building primarily devoted to office • Commercial - Retail / F&B: none required; street loading permissible • Residential: none required; white curb loading permissible • Size: 10 feet x 20 feet with 10 feet vertical clearance
EV Parking:	40% of required parking spaces shall be dedicated to EV parking / 25% of required EV spaces shall provide a charger
Bicycle Parking:	Bicycle parking shall be provided in the amount of 5% of the total parking requirement; required parking shall be for commercial use (non-public use)

6.4 GENERAL DESIGN GUIDELINES

Site Planning Guidelines

Site Character: Place site elements, including buildings, circulation routes, parking, common outdoor space, and landscape areas to create an orderly site plan and contribute to a positive neighborhood character.

Building Placement: Locate and mass buildings to consistently frame and define outdoor space, including streets and sidewalks and outdoor gathering areas. In particular, buildings should reinforce the street edge especially where a high level of pedestrian activity is desired.

Site Access & Circulation: Design vehicular, bicycle, and pedestrian circulation systems for safe, efficient, and convenient site access and utilization. In particular, provide safe, convenient, and clearly identifiable pedestrian walkways, designed to minimize conflicts with vehicular access and circulation. Shaded pedestrian walkways and connections are encouraged.

Parking: Position and design parking facilities to reduce their visual impact, as well as for safe and efficient ingress and egress. Subterranean parking is encouraged to the extent feasible, while surface parking is generally discouraged, especially expansive parking lots.

Loading Areas: Place required loading areas for non-residential buildings on-site away from active pedestrian areas; curbside loading for residential, retail, food and beverage, and similar uses will be accommodated.

Service & Trash Areas: Locate and screen service areas to minimize their visual impact while permitting suitable access by service providers. Trash areas should be placed in areas of low visibility and screened from street views or areas with high pedestrian traffic; screening should be provided through compatible architectural treatment and plantings.

Outdoor Space: Incorporate appropriated size and usable outdoor space such as on-site plazas, courtyards, and terraces; these spaces should normally be defined and contained through building and landscape to take on the character of an “outdoor room” that accommodates social interaction and passive recreational activity.

Attractive & Orderly Landscape Areas



Shaded Outdoor Rooms



Exhibit 6.1 : Design Guidelines Illustration 1



Design Recommendations:

1. Buildings located and massed to consistently frame and define outdoor space
2. Planter areas add visual appeal and create barrier between pedestrian and street traffic
3. Safe, convenient, and clearly defined pedestrian walkways designed to minimize conflicts with vehicular and bus access and circulation
4. Rooftop screening to minimize visual impact of service areas
5. Courtyards and plazas defined and contained to take on the character of an “outdoor room” accommodating social interaction and passive recreational activity

Building Design Guidelines

Building Character & Quality: Design visually attractive buildings that improve the aesthetic quality of site and surroundings. Buildings should exhibit a unified composition that achieves a sense of proportion and balance in both exterior form and the placement of such features as windows, doors, and other architectural elements.

Height & Scale: Encourage compatibility in height and scale with the surrounding context while providing a sensitive transition in scale to an adjacent smaller structure.

Building Form & Massing: Employ simple, yet varied massing to create visual interest and emphasize key building elements.

Roof Form & Design: Complement the composition of the building by varying roof form in accordance with the building's massing and design. The building's roof line should be treated in a visually interesting manner, and flat roofs should incorporate a strong and attractively detailed parapet.

Rooftop Screening: Locate and screen rooftop equipment so that it is not visible from streets or active pedestrian areas; rooftop screening should be integral to the building's form.

Façade Articulation: Modulate exterior building walls especially along streets and areas with high pedestrian traffic; articulation may include change of wall plane, door and window treatment, and other compatible architectural treatment that creates an interesting pattern of projections and provides visual relief (e.g., balconies, canopies and overhangs, eaves, etc.).

Simple Varied Massing



Modulated Exterior Building Walls



Exhibit 6.2 : Design Guidelines Illustration 2



Design Recommendations:

1. Street level retail uses accommodate commuters and other plaza users and activate the street and public outdoor space
2. Planter areas add visual appeal and create barrier between pedestrian and street traffic
3. Simple yet varied massing to create visual interest and emphasis key building elements
4. Visually interesting roof line adding to the character of the building

Building Design Guidelines Cont'd

Windows & Doors: Use window and doors to establish scale and give architectural expression to the facade; there should be a clear pattern of fenestration that unifies the building.

Architectural Details: Incorporate architectural details that provide visual interest and introduce a human dimension; for example, pilasters, course lines, window heads, cornices, etc. This guideline is especially important for elevations that are readily visible to the public. Ensure that architectural features are integral and contribute to a harmonious design; ornamentation and features that appear tacked-on or artificially thin are discouraged.

Materials & Finishes: Choose materials, textures, and colors that are consistent with the overall character and enhance the visual quality of the building; the use of compatible materials should extend to all sides of the building. Select high quality building materials and finishes that convey a sense of permanence and that withstand weather and wear.

Screening: Locate and screen mechanical and rooftop equipment to minimize its visibility from streets or active pedestrian areas; rooftop screening should be integral to the building's form.

High Quality Building Materials



Clear Pattern of Fenestration



Windows Unify Building



Human Scale Architectural Details



Exhibit 6.3 : Design Guidelines Illustration 3



Design Recommendations:

1. Street level retail uses accommodate commuters and other plaza users
2. Special street paving enhances pedestrian experience and slows lane traffic for safe pedestrian crossing
3. Streetscape banners paired with vehicular lighting enhance the public realm and highlight the rhythmic planting
4. Planter areas add visual appeal
5. Shade structures providing pedestrian respite and attractive streetscape environment
6. Balconies and terraces create interesting pattern of projections and provides visual relief

Landscape Design Guidelines

Landscape Character & Quality: Provide a landscape setting that is compatible with the building architecture, enhances the overall aesthetic character and function of the site, and creates a pleasing environment for pedestrian circulation and gathering. Consider special landscape treatment at entryways and for outdoor gathering areas, for example, through accent planting, decorative hardscape, etc.; nonetheless, ease of maintenance should be considered in the overall design and selection of landscape materials.

Outdoor Space Design: Furnish and enrich outdoor gathering spaces with amenities such as attractive plantings, benches and seating, pedestrian-scaled light fixtures, decorative paving, etc.; outdoor seating areas should be shaded by trees and structures such as trellises, pergolas, canopies, etc.

Plant Materials: Introduce a rich, coordinated palette of planting materials within landscape areas, including a practicable combination of shade trees, shrubs, groundcovers, and accent plants. Drought tolerant species and plants adapted to the local environment are encouraged; turf areas and other water intensive plantings should be kept to a minimum.

Hardscape Materials: Utilize durable all weather hardscape materials that will accommodate pedestrian activity, are compatible with their surroundings, and enhance the overall site design; decorative paving should highlight active pedestrian areas.

Benches & Special Landscape Treatment



Coordinated Modern Planters



Exhibit 6.4 : Design Guidelines Illustration 4



Design Recommendations:

1. Sizeable communal landscaped flex space that enhances the overall aesthetic character and function of the site
2. Enlarged building overhang to provide shade and shelter
3. Attractive mix of shade trees, shrubs, groundcover, and accent plants
4. Ample pedestrian amenities including bike racks and benches to accommodate pedestrian activity
5. Decorative paving to highlight active pedestrian zone
6. Various types of outdoor seating providing pedestrian comfort for active transit area

Signage & Lighting Guidelines

Lighting Character: Select a complementary family of fixtures with a similar aesthetic, emphasizing efficiency and good light control; direct glare should not spill onto adjacent properties and streets. Additionally, exterior lighting fixtures should be compatible with the building design and complement the landscape character.

Signage Character: Design and place signage in a manner consistent with the character and quality of the building and landscape; on-site signage should be treated as a family that incorporates similar "language" in terms of materials, colors, etc. High-quality and creative signage is encouraged; however, signs should not create visual clutter and flashing or moving signs are normally discouraged.

Public Art & Graphics: Explore opportunities to integrate compatible graphic elements and works of community and public art into the building and site design, for example, to highlight visual focal points and enrich outdoor gathering spaces.

Creative Signage



High Quality Signage



Complimentary Sign Family



Unique Public Art



6.4 SUPPLEMENTARY DESIGN GUIDELINES

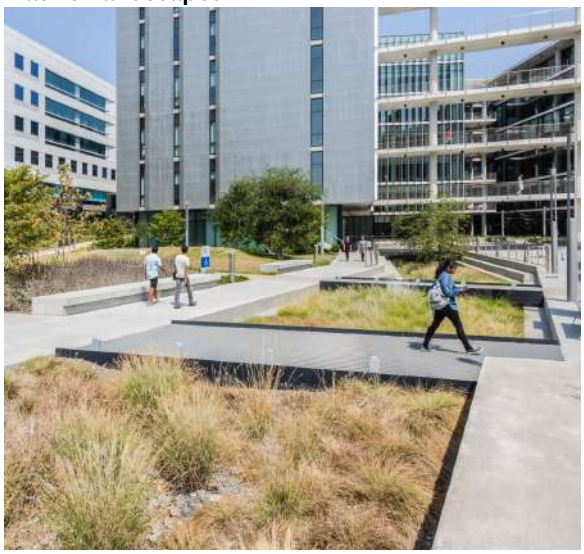
Sustainability Guidelines

Water-wise Landscape: Emphasize efficient use of water resources through the selection of native and drought tolerant plants and the installation of efficient irrigation systems; water intensive landscapes are generally discouraged.

Site Shading & Cooling: Utilize landscape to create comfortable micro-climates and reduce the heat island effect. Select and place canopy trees and provide structures to shade pedestrian areas.

Sustainable Building Measures: Explore opportunities to utilize green building practices; for example, introduce cross ventilation and shading along south facing facades.

Native Landscapes



Canopies for Shaded Pedestrian Areas



Efficient Irrigation



Drought Tolerant Planting



Street-Level Activation Guidelines

Active Use: Encourage ground floor uses that support commercial activity and social gathering, such as retail shops, food and beverage establishments, or community space that will activate streets and public outdoor space. As far as feasible, minimize the amount of street frontage devoted to access, parking, and servicing.

Street Frontage: Emphasize human scale design and introduce visual interest at street level to animate the building edge. The ground floor should be differentiated from upper levels, for example, through changes in massing, architectural relief, materials, etc., and storefront entrances should be distinct from main building entrances.

Transparency: Provide a high degree of ground floor transparency at street level, especially for storefront windows and where there is a high degree of pedestrian traffic. Ground floor commercial uses should be free of reflective coatings, exterior mounted gates, and security grills.

Storefront Signage: Place storefront signage in accordance with façade rhythm, scale, and proportions; signs should be appropriately scaled to fit the storefront and shall not obscure architectural features such as vertical piers, trim work, ornamental features, etc.

Creative Signage



Ground Floor Commercial Uses



Street Level Transparency



Structured Parking Guidelines

Structured Parking Character & Quality: Design parking structures to architecturally complement adjacent buildings; the use of quality materials is expected.

Vehicular & Pedestrian Access: Vehicular and pedestrian entrances should be readily identifiable, for example through articulation, change of material and color, signage and lighting, etc. Vehicular entrances should be located to minimize conflicts with pedestrians.

Active Uses: Laminate parking facilities with active uses such as retail or community space, where feasible, especially in areas of high pedestrian activity.

Screening: Shield parked vehicles from view as much as possible, for example, with artistic screen walls and panels, latticework, landscape buffers, or other suitable screening device. Landscape plantings and features such as trees, shrubbery, vines, green walls, or berms along the street level of parking structures mat be used to screen or buffer views from the public right-of-way and active pedestrian areas.

Convenience & Safety: Use wayfinding graphics and lighting within and surrounding parking structures to promote safe pedestrian and vehicular entry and exit movement patterns. Lighting should be provided at the minimum levels necessary to provide safety and security, and should be shielded to minimize glare and intrusion on adjacent uses and properties.

Shielded Vehicles



Landscape Screening



Creative Parking Lamination



Sustainable Design Solutions



7

INFRASTRUCTURE

7.1 Grading
7.2 Drainage
7.3 Water
7.4 Sanitary Sewer
7.5 Dry Utilities

INFRASTRUCTURE

7

7.1 GRADING

The existing terrain at the site is characterized by mild to moderate sloping pavement areas that generally drain westerly across the site. The existing railroad right-of-way is the lowest westerly point immediately adjacent to the development area. Generally proposed grades across the site will mimic the existing conditions. Vehicular and pedestrian access points will be designed for the new building structures to connect with Tremont St. and the new roadways proposed within the development. Surface grades will be designed to coordinate with drainage and water quality BMP features required to service the prospect. Accessible paths of travel will be provided throughout the new development area to meet the current Accessibility Code requirements.

7.2 DRAINAGE

Existing Drainage: The project site currently drains offsite in three (3) separate watershed tributaries, named the north tributary, the central tributary, and the south tributary, for ease of reference.

The north tributary includes the existing bus terminal roundabout drains to the north towards the intersection of Cleveland Street and Seagaze Drive where runoff is captured by two (2) curb inlets that are tied to a traditional 24" reinforced concrete pipe (RCP) municipal underground storm drain system draining to the north in S. Cleveland Street to Surfriderway, then west into the Pacific Ocean.

The central tributary includes the transit center, parking lot, and train station platform drains to an existing 15" RCP underneath the railroad that discharges into Meyers Street via a curb outlet drain. The existing curb outlet drain in Meyers St. is a drainage device that does not meet current city standards. A traditional municipal underground storm drain system does not exist in Meyers Street. The nearest municipal storm drain system to the Meyers Street curb outlet is located at the intersection of Tyson Street and Pacific Street, several blocks away. The central tributary also receives upstream offsite flow from the east from a catch basin on Topeka Street, conveying flow from Coast Highway, Topeka Street, and the private properties adjacent to Topeka Street, to the 15" RCP under the railroad tracks. Due to the lack of a traditional municipal underground storm drain facilities downstream, the central drainage area includes an existing underground peak reduction detention system on the upstream, or east, side of the railroad tracks consisting of dual 36" RCP pipes in the existing transit center parking lot tied to an orifice plate that reduces the peak discharge from this drainage area through the

15” RCP and curb outlet on Meyers Street. The peak reduction system is in place because the 15” CSP and curb outlet do not provide adequate capacity to convey the peak storm events from the central tributary through this segment of the system. Due to the limited capacity of the system the central tributary middle area experiences some localized ponding during peak storm events around the drainage area’s low point at an inlet on the east side of the railroad tracks.

The southerly tributary includes the transit center parking lot and existing NCTD office building on Tremont Street. The southerly tributary also receives upstream offsite flow from the east, from Coast Highway, Michigan Ave, and the private developments adjacent to Michigan Ave, through a catch basin at the Michigan Ave and Tremont St. intersection that discharges into sheet flow on the west side of Tremont Street, inside NCTD’s property. The surface drainage in the central tributary is picked up on the NCTD property by an existing box culvert that discharges via surface flow and a squash box RCB culvert into Cleveland Street at the Missouri Avenue intersection via a curb outlet structure. A traditional municipal underground storm drain system does not exist in South Cleveland Ave at the Missouri Avenue intersection. Therefore, the storm flow from the south tributary drains via surface flows south in S. Clevland St. to Wisconsin Avenue where is intercepted by a municipal underground storm drain system located at the intersection of South Cleveland Avenue and Wisconsin Ave. Storm flow continues west in Wisconsin Ave. in an underground municipal storm drain system to the Pacific Ocean.

Conceptual Drainage Analysis & Alternatives: The project would replace the existing on-site storm drain system with a new municipal storm drain system that captures the upstream offsite flows on the east side of Tremont Street. The new storm drain system constructed with the project would respect the drainage boundaries, discharge points, and peak flow rates the of the predeveloped condition of the project site.

The north tributary area would connect to an existing 24” inch reinforced concrete pipe (RCP) municipal storm drain S. Cleveland Street.

The central tributary area would construct a new municipal storm drain system to connect to the existing 15-inch reinforced concrete pipe (RCP) pipe under the railroad track and will improve a parkway drain on Meyers Street the 15” RCP discharges into. The project would utilize three underground detention chambers within the NCTD property to attenuate peak flow rates to not exceed the existing capacity conditions of the 15-inch RCP under the railroad tracks. The Meyers Avenue curb outlet would be reconstructed to improve hydraulic performance. The flows discharged into Meyers Street would not exceed the maximum permitted flow depths permitted by engineering standards in the street cross section p with the proposed parkway drain improvements.

In the south tributary a new municipal storm drain system would be constructed in Cleveland Street from Missouri Ave. to Wisconsin Ave. to convey flow from the project site, and public and private areas upstream of the project site. In the current existing condition stormwater flows in the south tributary are conveyed via Cleveland Street as surface discharge southerly into two existing catch basins at the Cleveland Street and Wisconsin Avenue intersection. Due to this existing condition, Cleveland Street experiences localized flooding conditions during heavy rainfall events. The project would construct a new 36-inch RCP underground municipal storm drain, approximately 1,400 feet in length, in Cleveland Street to the existing 42-inch RCP lateral at the Cleveland Street and Wisconsin St. intersection. The 36-inch RCP would be designed to convey the 100 year peak storm event to comply with the City of Oceanside engineering design criteria. The new storm drain system in Cleveland Street would be constructed using conventional open trench construction to meet city construction standards for acceptance by the City of Oceanside for long term maintenance. The new 36-inch RCP in S. Clevland is a proposed project design feature that would provide benefit to the area by significantly reducing flooding events in S. Clevland St. by conveying most peak storm event flows in an underground municipal storm drain system. Additionally, the new 36-inch RCP storm drain in Cleveland Street would provide additional community by providing a municipal storm drain that would reduce long term maintenance of S. Clevland St. without the damaging scour effects of surface street flow, and would provide underground storm drain capacity for new development along Cleveland Street.

Water Quality: The project would be designed to comply with the City of Oceanside's water quality ordinance and model storm water management plan template and would incorporate low impact design (LID) best management practices (BMPs) to improve the quality of the stormwater discharged from the site. The project LID approach would use biofiltration BMPs incorporated into landscape areas adjacent to buildings and within the new the transit plaza. Public streets would also use biofiltration LID BMPs installed within the street tree wells regularly spaced along all public streets.

7.3 WATER

Domestic Water System Analysis: A hydraulic analysis evaluated the capacity of the existing offsite domestic water system and size of pipelines required to support the proposed land use. The hydraulic analysis revealed the need to upsize one off-site domestic water line in Missouri Ave from 6" ACP to 8" PVC. All other offsite pipelines are of sufficient size to support the proposed uses. All on site pipelines will be 8" PVC to meet the City of Oceanside engineering standards.

It is expected for the City of Oceanside to provide recycled water service to the site in the future using existing brine discharge lines in the Seagaze Ave. and Tremont Street rights of way. The project will provide recycled water lines within the new development area to support the landscape improvements for the site. Initially the recycled water lines will be dry and landscape irrigation meters will be connected to the domestic water system. Once the city converts the brine lines to recycled water supply the project's recycled water pipe network will be connected to the new recycled water supply lines. At this time the city will disconnect the irrigation meters from the domestic water lines and connect the meters to the recycled water pipe network.

7.4 SANITARY SEWER

Sewer System Analysis: A sewer system capacity analysis evaluated the capacity of the existing sewer system to accept developed flows from the project site. The results do not require upsize of any portion of the offsite existing sewer system. All proposed sanitary sewer systems will be required to be 8" PVC to meet City standards. Existing sanitary sewer manhole connections are available to provide service to the project at the Seagaze Ave. and S. Cleveland Street intersection and at the S. Cleveland Street and Missouri Ave. intersection.

7.5 DRY UTILITIES

Electric: SDG&E has two Transformers serving the existing NCTD Transit Center. The transformer serving the existing Oceanside Transit Center building will need to be removed. The transformer serving the Transit Rail at the end of Michigan Avenue will need to be protected in place. The 12KV line serving this transformer will need to be relocated because it will conflict with the proposed development. There are existing overhead electric lines along Michigan Ave that may need to be relocated or undergrounded. There are existing overhead electric lines running along the alley south of Michigan Avenue that serve the existing buildings that will remain. These overhead lines will need to be protected in place. The existing overhead electric 12KV lines along the east side of Tremont Street and the Underground 12 KV electric facilities along Seagaze Drive are possible sources for the new development.

Gas: There is an existing SDG&E Gas main running along the south side of Michigan Avenue that turns north and serves several gas meters for the existing Transit Center Building. The gas meters will be removed along with the services to the meters. There may need to be a relocation of the Gas main line to maintain the SDG&E crossing under the tracks. The existing Gas lines along Tremont Street and Michigan Avenue are possible sources for the new development.

Communications: AT&T has a system running down Cleveland Street that serves the Transit Center and runs under the tracks at the same location as the SDG&E Gas Main. This line will need to be relocated to clear the conflict with the proposed development and maintain the feed under the tracks. The AT&T Maps show Fiber Facilities along Topeka serving the existing site. There are existing overhead AT&T lines along Michigan Ave that may need to be relocated or undergrounded. There are existing overhead AT&T lines running along the alley south of Michigan Avenue that serve the existing buildings that will remain. These overhead lines will need to be protected in place. The existing AT&T facilities along Tremont Street, Michigan Avenue and Topeka are possible sources for the new development.

COX Communications has existing Overhead lines along Michigan Avenue that may need to be relocated or undergrounded. These lines are a possible source for the new development. There are existing overhead COX lines running along the alley south of Michigan Avenue that serve the existing buildings that will remain. These overhead lines will need to be protected in place. There are other fiber/communication lines that serve the existing Transit Center. There will need to be a USA Mark Out done in order to verify the locations of these lines as well as confirming the locations of the other dry utilities.

8

PLAN IMPLEMENTATION

8.1 Plan Adoption
8.2 Applications
8.3 Development Phasing
8.4 Plan Changes

PLAN IMPLEMENTATION

8

8.1 PLAN ADOPTION

The OTC Specific Plan and corresponding Zoning Amendment (ZA) shall be adopted by City Council ordinance, accompanied by concurrent City Council resolutions approving a General Plan Amendment (GPA), amendment to the Land Use Plan of the Local Coastal Program, and certification of the Environmental Impact Report (EIR). Adoption of the Specific Plan establishes land use regulations, development standards, and design guidelines applicable to the planning area.

Wherever this Specific Plan contains provisions which differ from those provisions contained in other adopted City codes and regulations, the Specific Plan shall prevail and supersede the contrary provisions of that code or regulation. Where the Specific Plan is silent on a particular issue, other City codes and regulations shall apply, provided that the application of such code or regulation does not frustrate or impede the implementation of the Specific Plan.

8.2 SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this title, or any future amendments or additions hereto, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this title, or any future amendments or additions hereto. The City Council hereby declares that it would have adopted these titles and each sentence, subsection, sentence, clause, phrase, or portion or any future amendments or additions thereto, irrespective of the fact that any one or more sections, subsections, clauses, phrases, portions or any future amendments or additions thereto may be declared invalid or unconstitutional.

8.3 DEVELOPMENT APPLICATIONS

Several applications shall be submitted and approved in support of the proposed development, many of which shall proceed concurrently with the Specific Plan:

General Plan Amendment General Plan: To maintain consistency between the General Plan and the Specific Plan, a General Plan Amendment (GPA) is required to change the land use designation for the project site from various designations (reference Section 1: Introduction) to Specific Plan (SP). The GPA will also revise the Downtown Redevelopment District to remove that portion of the project site which currently lies within its boundaries. Review and recommendation shall be provided by the Planning Commission prior to final review and approval by the City Council.

Zoning Amendment: A Zone Amendment (ZA) is required to change the zoning designation for the project site from various designations (reference Section 1: Introduction) to Specific

Plan (SP). The application for reclassification to the SP Zone shall be processed is accordance with Article 45 (Amendments) of the Zoning Ordinance; review and recommendation shall be provided by the Planning Commission prior to final review and approval by the City Council. The Specific Plan shall serve as the regulating document, including applicable land use regulations, development standards, and design guidelines.

Development Plan: A Development Plan shall be processed concurrently with the ZA and Specific Plan, and in accordance with the processes and procedures as described in Article 43 of the Zoning Ordinance. The Development Plan shall comply with the permitted uses and development criteria as set forth in the Specific Plan and other applicable regulations contained with the City of Oceanside Zoning Ordinance. It shall be reviewed by the Planning Division and other appropriate City Departments, with final review and approval by the Planning Commission; the Planning Commission has authority to impose conditions of approval on the Development Plan. The intent is to ensure architectural compliance with City Ordinances, and to ensure that the proposal does not create public service and facility demands that exceed the capacity of existing and planned infrastructure.

LCP Amendment: The site lies within the Coastal Zone, and therefore, adoption of the Specific Plan and GPA requires concurrent amendment to the LCP Land Use Plan; as noted in Section 1: Introduction, an LCP has been adopted by the City of Oceanside, including a Land Use Plan (LUP), that regulates development within the City's Coastal Zone. The amendment will require approval by the City Council, with subsequent review and certification by the California Coastal Commission. City review of the LCP Amendment is subject to additional noticing and processing requirements as set forth in Section 4509 of the Zoning Ordinance.

Coastal Development Permit: The proposed project will require a Coastal Development Permit due to its location in the Coastal Zone. A Regular Coastal Permit (per the City's Coastal Permit Handbook) shall be processed concurrently with all other required approvals, although issuance of the Coastal Development Permit is subject to the Coastal Commission's certification of the corresponding LCP amendment. To approve the Coastal Development Permit, the City must find that the project is in conformance with the LCP and its policies.

Subdivision Map: A subdivision map will need to be processed through Tentative and Final Maps to create at least eight (8) parcels, consistent with the proposed Development Plan. The Tentative Map shall be processed concurrently with the above-described applications, with review and approval by the Planning Commission; the City Council shall have final jurisdiction over the Final Map.

CEQA Compliance: In accordance with the California Environmental Quality Act (CEQA) an Environmental Impact Report (EIR) has been to provide the public and decision-makers with information concerning the potential impacts associated with development of the project. The EIR has been prepared in accordance with State CEQA guidelines by the City of Oceanside acting as Lead Agency, with NCTD functioning as a Responsible Agency. The City Council as decision-making body for the various applications for entitlement shall certify that the final EIR has been completed in compliance with CEQA; the final EIR was presented to the decision-making body of the Lead Agency and that the decision-making body reviewed and considered the information contained in the final EIR prior to approving the project; and the final EIR reflects the Lead Agency's independent judgment and analysis.

Additional Approvals: Applications related to development of the proposed project such as precise grading, infrastructure / utility improvement plans, building permits, etc. shall be reviewed according to established City of Oceanside policies and procedures. Conditional Use Permits shall be processed in accordance with Article 41 of the Zoning Code.

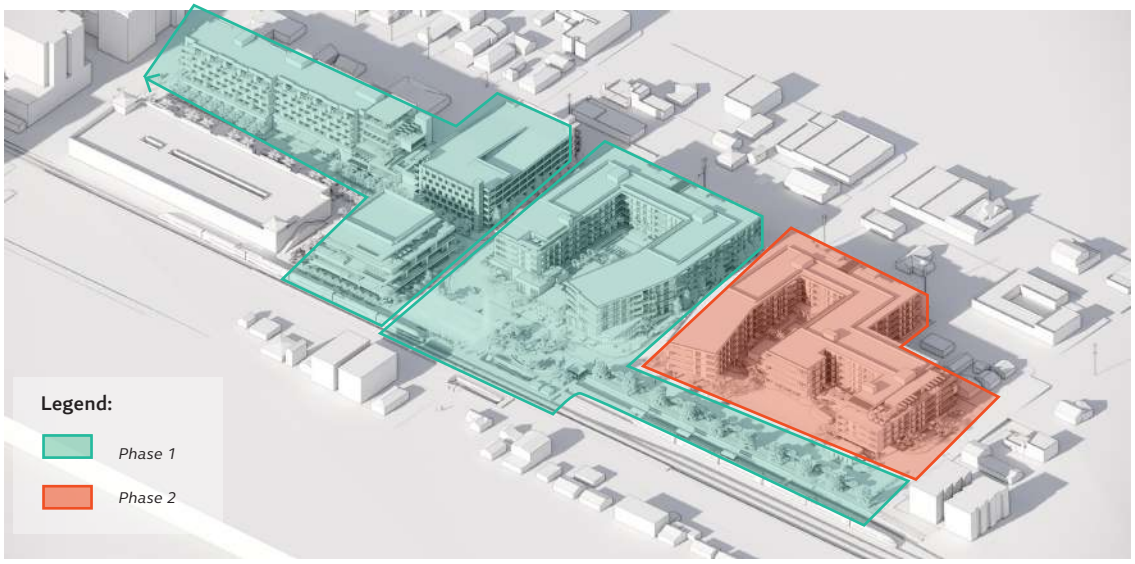
NCTD Jurisdiction: NCTD was created by the California State Legislature's approval of the North County Transit District Act. (Pub. Util. Code § 125000.) While local agencies of the State are subject to local land use regulations, regional State agencies are not subject to these local regulations. (Gov. Code § 53090(a); Rapid Transit Advocates, Inc. v. Southern Cal. Rapid Transit Dist. (1986) 185 Cal. App. 3d 996 (Rapid Transit Advocates).) Transit districts are regional State agencies that are exempt from local land use regulations, even if the proposed activity is wholly located within the boundaries of one city or county. (Rapid Transit Advocates, 185 Cal. App. 3d at pp. 1000-1002.) On-going coordination between the project developer, the City and NCTD during the entitlement process is advised to determine which NCTD facilities will and won't require City review and approval.

8.4 DEVELOPMENT PHASING

Phased Delivery: It is anticipated that the proposed project will be constructed in two (2) phases with an estimated time frame of about seven (7) years from entitlement through final delivery. The Conceptual Phasing Plan for on-site development is depicted in **Exhibit 8.1**. Phasing of the development has been structured to ensure that operations of the transit facilities are not interrupted during construction of the project. Time limits on approval of the Development Plan shall be in accordance with Section 43 of the Zoning Ordinance.

Phase 1: During the initial phase of development all existing uses on Blocks 2, 3, 4, 5, 6, and 7 will be demolished. New construction will encompass the NCTD Headquarters on Block 7, the public parking structure on Block 2; the residential apartment buildings and related amenities on Blocks 3 and 4, and a new intermodal Transit Center, Station Plaza, bus circulation and commuter bus bays on Blocks 5 and 6. NCTD's office at 311 Tremont Street and existing bus terminal on Block 1 will remain open and operating during Phase 1.

Exhibit 8.1 Development Phasing Concept



Phase 2: With the completion of the transit improvements during Phase 1, the existing bus terminal and the existing NCTD office located at 311 Tremont Street will be demolished. The second phase of development will include construction of the hotel on Lot 1 and various roadway improvements, including connecting S. Cleveland St through the site.

8.5 PUBLIC IMPROVEMENTS & FINANCING

Required Public Improvements: Various public improvements will be constructed as described in Section 4: Development Framework, and further detailed and illustrated in Section 5: Public Realm Standards & Guidelines. These improvements will encompass public roadways and circulation, public outdoor space, and public infrastructure, including water, sewer and storm drain improvements.

Public Improvement Financing: The size and scope of the project suggest that a variety of measures may be required to finance the construction of required public improvements. Financing programs may include, but are not limited to, Special Assessment Districts, State and Federal grants and loans, and various types of impact fees and exactions.

Operations & Maintenance: Maintenance responsibilities for public and common area improvements may be addressed in Operations and Maintenance Development Agreement and/or other agreement(s) between the landowner, project developer, and the City of Oceanside. Those responsibilities will, to the extent they may be different, take precedence over the concepts described in this Specific Plan.

8.6 PLAN CHANGES

Plan Flexibility: During project development and construction, revisions to the Specific Plan may become necessary due to changing conditions that could not be envisioned at the time of review and approval. Therefore, the Specific Plan establishes mechanisms that will allow the City and project proponent the flexibility to respond to changes in circumstances, new information, or other relevant factors, including but not limited to changes in design preferences and market conditions. In particular, the Specific Plan accommodates minor modifications through administrative review, while a process of Plan Amendment is required for more substantive changes. Changes to the Development Plan shall be processed in accordance with Article 43 of the Zoning Ordinance.

Plan Amendment: Proposed changes to the Specific Plan shall be reviewed by the City Planner to the determine the extent to which those modifications differ from the intent and requirements of the plan, including established land use regulations, development standards, and design guidelines. Substantial modifications as determined by the City Planner shall require an application to amend the Specific Plan in accordance with the processes and procedures set forth in Article 45 of the Zoning Ordinance.

Minor Modifications: The City Planner may waive the requirement for an application to amend the Specific Plan if the requested changes are minor, do not involve substantial alterations or additions to the plan, and are in substantial conformance with the intent of the plan. Such modifications may be requested and approved through the Planning Division's Substantial Conformity Application, and shall follow the guidance contained within the application form. Nonetheless, for the purposes of the OTC Specific Plan, the following shall also be considered minor modification; in any instance where the Specific Plan conflicts with the guidance presented in the application form, the Specific Plan provisions will take precedence.

- Minor adjustments to the gross square footage, dwelling unit count, parking count, and similar program elements as described in Section 3: Development Plan, not to exceed 10% within any development block and provided the overall intent and plan objectives are achieved.
- Minor revisions to the plan layout as described in Section 4: Development Framework, provided the overall intent and plan objectives are achieved.
- Minor revisions and alternative design solutions from those described and illustrated in Section 5: Public Realm Standards & Guidelines, provided the overall intent and purpose of the Development & Design Principles are achieved.
- Minor deviations from any quantified development standard as set forth in Section 6: Private Realm Standards & Guidelines, including Floor Area Ratio, not to exceed 10% and provided the overall intent and Development Principles are achieved.
- Minor deviations and alternative design solutions from those described in Section 6: Private Realm Standards & Guidelines, provided the overall intent and purpose of the Development & Design Principles are achieved.
- Revisions to the location of infrastructure and/or service providers as described in Section 7: Infrastructure, provided that the agency or jurisdiction that regulates such infrastructure and/or service has reviewed and approved the revisions.
- Adjustments to the Development Phasing as described in Section 8: Implementation, provided the overall intent and plan objectives are achieved.
- The addition of new information to the Specific Plan, in the form of maps and/or text, for the purpose of clarification that does not change the effect or intent of any regulation.
- Clarification, including determination of meaning and intent, of any unclear or vague section, portion of a section, phrase, or word contained within the Specific Plan, including typographical and grammatical errors.



OCEANSIDE TRANSIT CENTER

OCEANSIDE, CA

DEVELOPMENT PLAN RESUBMITTAL 7 - 05/14/2025

DEVELOPER
TOLL BROTHERS APARTMENT LIVING
23422 MILL CREEK DRIVE, SUITE 105
LAGUNA HILLS, CA 92653

ARCHITECT
ARCADIS INC
333 SOUTH HOPE STREET, SUITE C-200,
LOS ANGELES, CA 90034

CIVIL ENGINEER
TRAFFIC & PARKING
STANTEC
801 SOUTH FIGUEROA STREET, #300
LOS ANGELES, CA 90017-3007

GEOTECHNICAL
NOVA SERVICES
4373 VIEWRIDGE AVENUE, SUITE B
SAN DIEGO, CA 92123

DRY UTILITY
POWER PLUS - SAN DIEGO
436 N. QUINCE
ESCONDIDO, CA 92025

LANDSCAPE ARCHITECT
MCCULLOUGH
703 16TH STREET, SUITE 100
SAN DIEGO, CA 92101

MECHANICAL & ELECTRICAL
GOUVIS ENGINEERING
15 STUDEBAKER
IRVINE, CA 92618

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

COVER SHEET

G-000

© 2023 Arcadis Inc.

SHEET INDEX	
NO.	SHEET NAME
GENERAL	
G-000	COVER SHEET
G-001	SHEET INDEX
G-002	PROJECT SUMMARY
G-003	PHOTOGRAPHS
G-004A	3D RENDERINGS
G-004B	3D RENDERINGS
G-005	ILLUSTRATIVE SITE PLAN
CIVIL	
C1	TITLE SHEET
C2	SITE SECTIONS AND DETAILS
C3	SITE SECTIONS AND DETAILS
C4	MASTER TECHNICAL SITE PLAN
C5	VESTING TENTATIVE TRACT MAP
C6	PRELIMINARY GRADING & DRAINAGE
C7	PRELIMINARY WET UTILITIES
C8	PRELIMINARY STROM DRAIN
C9	FIRE ACCESS CIRCULATION PLAN
C10	ENCUMBRANCE MAP
C-11	ENCUMBRANCE MAP
LANDSCAPE	
L-001	EXISTING TREE PLAN
L-002	NOTES
L-011	OVERALL SITE LANDSCAPE PLAN
L-012	LANDSCAPE PLAN
L-013	LANDSCAPE PLAN
L-014	LANDSCAPE PLAN
L-015	LANDSCAPE PLAN
L-016	LANDSCAPE PLAN
L-021	HOTEL LANDSCAPE PLAN
L-022	HOTEL LANDSCAPE PLAN
L-023	OFFICE (LEVEL 1) LANDSCAPE PLAN
L-024	OFFICE (LEVEL 2) LANDSCAPE PLAN
L-025	OFFICE (LEVEL 3) LANDSCAPE PLAN
L-026	OFFICE (LEVEL 4) LANDSCAPE PLAN
L-027	R1 RESIDENTIAL (BLOCK 2) LANDSCAPE PLAN
L-028	R2 RESIDENTIAL (BLOCK 3) LANDSCAPE PLAN
L-029	R2 RESIDENTIAL (BLOCK 3) LEVEL 5 AMENITY PLAN
L-031	WALL & FENCE DETAILS
ARCHITECTURAL	
A-001	MATERIAL SCHEDULE
A-100	OVERALL SITE PLAN
A-101	OVERALL B2 FLOOR PLAN
A-102	OVERALL B1 FLOOR PLAN
A-103	OVERALL LOWER GROUND FLOOR PLAN
A-104	OVERALL UPPER GROUND FLOOR PLAN
A-105	OVERALL L2 FLOOR PLAN
A-106	OVERALL L3 FLOOR PLAN
A-107	OVERALL L4 FLOOR PLAN
A-108	OVERALL L5 FLOOR PLAN
A-109	OVERALL L6 FLOOR PLAN
A-110	TRASH MANAGEMENT OVERALL PLAN
A-201	OVERALL SITE ELEVATION
A-301	OVERALL SITE SECTION
A-OF-001	OFFICE AREA PLANS
A-OF-002	OFFICE FLOOR USABLE AREA
A-OF-101	OFFICE FLOOR PLANS
A-OF-102	OFFICE FLOOR PLANS
A-OF-103	OFFICE FLOOR PLANS
A-OF-201	OFFICE ELEVATIONS
A-OF-301	OFFICE BUILDING SECTIONS
A-OF-401	CUSTOMER SERVICE CENTER_NCTD
A-OF-402	TRANSIT BUILDINGS_BUS
A-HT-001	HOTEL AREA PLANS
A-HT-1B1	HOTEL LEVEL B2 FLOOR PLAN
A-HT-1B2	HOTEL LEVEL B1 FLOOR PLAN
A-HT-002	LIFE SAFETY PLANS
A-HT-101	HOTEL LOWER GROUND FLOOR PLAN
A-HT-102	HOTEL LEVEL 2 FLOOR PLAN
A-HT-103	HOTEL LEVEL 3 FLOOR PLAN
A-HT-104	HOTEL LEVEL4 FLOOR PLAN
A-HT-105	HOTEL LEVEL5 FLOOR PLAN
A-HT-106	HOTEL LEVEL6 FLOOR PLAN
A-HT-107	HOTEL ROOF PLAN
A-HT-201	HOTEL ELEVATIONS
A-HT-301	HOTEL SECTIONS
A-PG-001	GARAGE AREA PLANS
A-PG-100	PARKING GARAGE LEVEL B1 & B2 FLOOR PLAN
A-PG-101	PARKING GARAGE LEVEL LOWER & UPPER GROUND
A-PG-102	PARKING GARAGE LEVEL L2 & L3 FLOOR PLAN
A-PG-103	PARKING GARAGE LEVEL L4 & L5 FLOOR PLAN
A-PG-104	PARKING GARAGE LEVEL L6 & LOWER ROOF PLAN
A-PG-105	PARKING GARAGE UPPER ROOF PLAN
A-PG-201	PARKING GARAGE ELEVATIONS
A-PG-202	PARKING GARAGE ELEVATIONS
A-PG-301	PARKING GARAGE SECTION
A-R1-001	GROSS AREA PLANS
A-R1-1B1	R1 LEVEL B1 FLOOR PLAN
A-R1-1B2	R1 LEVEL B2 FLOOR PLAN
A-R1-002	LIFE SAFETY PLANS
A-R1-101A	R1 LOWER GROUND FLOOR PLAN
A-R1-101B	R1 UPPER GROUND FLOOR PLAN
A-R1-102	R1 LEVEL 2 FLOOR PLAN
A-R1-103	R1 LEVEL 3 FLOOR PLAN
A-R1-104	R1 LEVEL 4 FLOOR PLAN
A-R1-105	R1 LEVEL 5 FLOOR PLAN
A-R1-106	R1 ROOF FLOOR PLAN
A-R1-201	R1 BUILDING ELEVATIONS
A-R1-202	R1 BUILDING ELEVATIONS
A-R1-301	R1 BUILDING SECTIONS
A-R2-001	GROSS AREA PLANS
A-R2-1B1	R2 LEVEL B1 FLOOR PLAN
A-R2-1B2	R2 LEVEL B2 FLOOR PLAN
A-R2-002	LIFE SAFETY PLANS
A-R2-101A	R2 LOWER GROUND FLOOR PLAN
A-R2-101B	R2 UPPER GROUND FLOOR PLAN
A-R2-102	R2 LEVEL 2 FLOOR PLAN
A-R2-103	R2 LEVEL 3 FLOOR PLAN
A-R2-104	R2 LEVEL 4 FLOOR PLAN
A-R2-105	R2 LEVEL 5 FLOOR PLAN
A-R2-106	R2 ROOF FLOOR PLAN
A-R2-201	R2 BUILDING ELEVATIONS
A-R2-202	R2 BUILDING ELEVATIONS
A-R2-301	R2 BUILDING SECTIONS

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-16-2025	DP SUBMITTAL 7

Schematic Design

SHEET INDEX

G-001

© 2023 Arcadis Inc.

PROJECT DESCRIPTION

DESCRIPTION OF PROPERTY:
THE SITE CONSISTS OF MULTIPLE LOTS TOTALING APPROX. 10.15 ACRES, CURRENTLY OCCUPIED BY THE OCEANSIDE TRANSIT CENTER AND THE ADJACENT SURFACE PARKING LOTS. A TRANSIT-ORIENTED DEVELOPMENT IS PROPOSED AND WILL BE A MIXED-USE PROGRAM CONSISTING OF FIVE NEW BUILDINGS INCLUDING TWO FIVE-STORY MIXED-USE RESIDENTIAL BUILDINGS, ONE FOUR-STORY OFFICE BUILDING, ONE SIX-STORY HOTEL, AND ONE STANDALONE PARKING BUILDING WITH A PUBLIC COMMUNITY ROOM ON THE GROUND LEVEL, IN ADDITION TO THE STANDALONE PARKING BUILDING. PARKING SPACES WILL BE PROVIDED ON BELOW-GRADE LEVELS OF THE HOTEL AND RESIDENTIAL MIXED-USE BUILDINGS. THE PROPOSED PROJECT ALSO INCLUDES A NEW TRANSIT CENTER, A BUS STATION WITH 12 STOPS, A PUBLIC PLAZA, AND VARIOUS PUBLIC AND PRIVATE OPEN SPACES AROUND THE BUILDINGS.

REQUESTED DISCRETIONARY APPROVAL(S):
DEVELOPMENT PLAN
SPECIFIC PLAN

DEVELOPMENT SUMMARY

LEGAL DESCRIPTION	TRACT I PARCEL 1 : APN: 150-345-17-00 PARCEL 2 : APN: 150-345-07-00 THROUGH 150-345-08-00 TRACT II PARCEL 1 : APN: 150-343-07-00 THROUGH 150-343-24-00 PARCEL 2 : APN: 150-343-05-00 AND 150-343-06-00
APPLICANT	MICHAEL MCCANN TOLL BROTHERS APARTMENT LIVING 23422 MILL CREEK DRIVE, SUITE 105 LAGUNA HILLS, CA 92653 (949) 370-8155
SITE ADDRESS	235 SOUTH TREMONT AVENUE OCEANSIDE, CA 92054
SITE AREA	GROSS: 442,134 SF (10.15 ACRES)
BUILDING AREAS (GFA)	TOTAL ABOVE-GRADE NON-PARKING 624,792 SF TOTAL BELOW-GRADE NON-PARKING (B1+B2) 24,703 SF TOTAL NON-PARKING 649,495 SF TOTAL ABOVE-GRADE PARKING 336,545 SF TOTAL BELOW-GRADE PARKING (B1+B2) 396,799 SF TOTAL PARKING 733,344 SF **TOTAL PROJECT 1,382,839 SF**
ZONING DESIGNATION	OCEANSIDE TRANSIT CENTER SPECIFIC PLAN
TRANSIT ORIENTED DEVELOPMENT	SITE IS LESS THAN .5 MILES FROM OCEANSIDE TRANSIT CENTER. MIXED-USE PROJECTS IN THE TOD AREA REQUIRE A MIXED-USE DEVELOPMENT PLAN THAT WILL INCORPORATE DEVELOPMENT STANDARD MODIFICATIONS.
UNIT COUNT:	**BLOCK 3** STUDIOS 69 1-BEDROOM 124 2-BEDROOM 49 3-BEDROOM 8 **TOTAL 250 (38 INCLUSIONARY)** **BLOCK 4** STUDIOS 56 1-BEDROOM 155 2-BEDROOM 76 3-BEDROOM 10 **TOTAL 297 (45 INCLUSIONARY)**

BUILDING CODE SUMMARY

OCCUPANCY	A, B, M, R-2, S
CONSTRUCTION TYPE & STORIES *PER TABLE 504.4 THE TYPE OF CONSTRUCTION MUST BE PER 2019 CBC FOR EACH BUILDING*	HOTEL (BLOCK 1) : TYPE IA (2 LEVELS BELOW GRADE, 1 LEVEL ABOVE GRADE) TYPE IIIA (5 LEVELS ABOVE PODIUM) PARKING GARAGE (BLOCK 2) : TYPE IA (2 LEVELS BELOW GRADE, 8 LEVELS ABOVE GRADE) RESIDENTIAL BUILDING R1 (BLOCK 3) : TYPE IA (2 LEVELS BELOW GRADE, 1 LEVEL ABOVE GRADE) TYPE IIIA (5 LEVELS ABOVE PODIUM) RESIDENTIAL BUILDING R2 (BLOCK 4) : TYPE IA (2 LEVELS BELOW GRADE, 1 LEVEL ABOVE GRADE) TYPE IIIA (5 LEVELS ABOVE PODIUM) OFFICE BUILDING (BLOCK 5) : TYPE IIIA (1 LEVEL ABOVE GRADE) CUSTOMER SERVICE CENTER (BLOCK 6): TYPE IIIA (1 LEVEL ABOVE GRADE) OFFICE BUILDING (BLOCK 7) : TYPE IIIA (4 LEVELS ABOVE GRADE)
FIRE SPRINKLERS	NFPA 13
BUILDING USES (INCLUDING POTENTIAL USES)	RESIDENTIAL DAYCARE F&B CONV. MARKET GROCER <8000SF RETAIL HOTEL OFFICE PARKING GARAGE CUSTOMER SERVICE CENTER
APPLICABLE CODES	2021 OCEANSIDE ZONING CODE 2022 CALIFORNIA BUILDING CODE 2022 CALIFORNIA RESIDENTIAL CODE 2022 CALIFORNIA FIRE CODE 2022 CALIFORNIA ELECTRICAL CODE 2022 CALIFORNIA MECHANICAL CODE 2022 CALIFORNIA PLUMBING CODE 2022 CALIFORNIA ENERGY CODE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE 2019 ASME A17.3, SAFETY CODES FOR ELEVATORS AND ESCALATORS 2010 STANDARDS FOR ACCESSIBLE DESIGN— TITLE III RULE OF THE AMERICANS WITH DISABILITIES ACT (ADA) 2013 NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS 2008 NFPA 70, NATIONAL ELECTRICAL CODE 2013 NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE 2013 NFPA 80, STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES

ZONING CONFORMANCE MATRIX

*REFERENCE SECTION 6 IN SPECIFIC PLAN

SUBJECT	REQUIRED PER SPECIFIC PLAN*	PROVIDED
MAX FLOOR AREA RATIO (F.A.R.)	4.0 MAX	1.88 (823,397 SF / 438,912 SF)
DENSITY	MAXIMUM 547 DWELLING UNITS	BLOCK 3 = 250 UNITS BLOCK 4 = 297 UNITS TOTAL = 547 UNITS
SETBACKS	FRONT: NONE REAR: NONE SIDE: NONE	FRONT: NONE REAR: NONE SIDE: NONE
HEIGHT	90' MAX (MEASURED FROM THE AVERAGE LEVEL OF THE HIGHEST AND LOWEST POINT OF THAT PORTION OF THE BUILDING-SITE COVERED BY THE BUILDING TO THE HIGHEST POINT OF THE STRUCTURAL ROOF EXCLUDING VERTICAL ROOF PROJECTIONS PER SPECIFIC PLAN)	REFER TO BUILDING SECTIONS AND ELEVATIONS
LANDSCAPING	10% MIN. LANDSCAPE AREA = 442,134 * 0.1 = **44,213 SF MIN.** MAY BE PROVIDED AT GROUND LEVEL OR UPPER-LEVEL DECK. MAY INCLUDE AREAS DEVOTED TO PLANTER AREAS, COMMON PATIOS AREAS, AND POOLS AND OTHER RECREATIONAL FACILITIES	TOTAL LANDSCAPE AREA = **44,213 SF**
OPEN SPACE	TOTAL OPEN SPACE: **150 SF PER UNIT** BLOCK 3 RESIDENTIAL: 150*250 = **37,500 SF MIN.** BLOCK 4 RESIDENTIAL:150*297 = **44,550 SF MIN.** COMMON OPEN SPACE: 10' MIN. DIMENSION, PRIVATE OPEN SPACE: 6' MIN. DIMENSION	BLOCK 3 RESIDENTIAL TOTAL OPEN SPACE = **45,296 SF** COMMON OPEN SPACE = 21,107 SF PRIVATE OPEN SPACE = 24,188 SF BLOCK 4 RESIDENTIAL TOTAL OPEN SPACE = **55,326 SF** COMMON OPEN SPACE = 27,151 SF PRIVATE OPEN SPACE = 28,175 SF
OFF-STREET PARKING PER USE	RESIDENTIAL NO PARKING REQUIRED PER GOV. CODE § 65863.2 RETAIL/F&B NO PARKING REQUIRED PER GOV. CODE § 65863.2 HOTEL PER SPECIFIC PLAN: .8 SPACE/UNIT = 170 * .8 = **136** 10 SPACE/ 1000 SF MEETING SPACE = 3748/100 = **37** OFFICE PER SPECIFIC PLAN: 2.9 SPACE /1000 NET SF = 58,156(INCTD OFFICE)+1,667(AMTRAK)+3,124(INCTD CUSTOMER)+1,033(BUS OPERATOR)/1000*2.9 = **190** COMMUTER PER SPECIFIC PLAN: **560** REPLACEMENT PARKING FOR OCEANSIDE TRANSIT CENTER COMMUNITY ROOM PER SPECIFIC PLAN: 1 SPACE / 40 SF = **51** **TOTAL REQUIRED PARKING = 974**	RESIDENTIAL TOTAL PARKING BLOCK 3 = 381 SPACES TOTAL PARKING BLOCK 4 = 409 SPACES RETAIL/F&B TOTAL PARKING = 0 SPACES HOTEL TOTAL PARKING BLOCK 1 = 177 SPACES OFFICE TOTAL PARKING BLOCK 2 = 190 SPACES COMMUTER TOTAL PARKING BLOCK 2 = 560 SPACES COMMUNITY ROOM TOTAL PARKING BLOCK 2 = 51 SPACES **TOTAL PROVIDED PARKING = 1,768 SPACES**
BICYCLE PARKING (*PER SPECIFIC PLAN*)	5% OF CAR PARKING REQ. FOR COMMERCIAL USE (NON-PUBLIC USE) RESIDENTIAL: BLOCK 3=328*.05=**17**; BLOCK 4=403*.05=**21** HOTEL: BLOCK 1=177*.05=**9** OFFICE: BLOCK 7 =189*.05=**10** COMMUTER: BLOCK 2=560*.05=**28**	RESIDENTIAL: TOTAL PARKING BLOCK 3 = 51 TOTAL PARKING BLOCK 4 = 51 HOTEL: TOTAL PARKING BLOCK 1 = 13 OFFICE /COMMUTER (PARKING GARAGE) TOTAL PARKING BLOCK 1 = 38
ACCESSIBLE PARKING (*PER CBC 2022*)	RESIDENTIAL(PER 1109A.4. 2% OF ASSIGNED PARKING SPACES, PER 1109A.8.6: ONE IN EVERY EIGHT FOR VAN) BLOCK 3=328*.02=**7** (1 VAN) BLOCK 4=403*.02=**9** (2 VAN) NON-RESIDENTIAL(PER TABLE 11B-208.2 & 11B-208.2.4: ONE IN EVERY SIX FOR VAN) HOTEL BLOCK 1 = **6** (1 VAN) BLOCK 2 COMMUTER/RETAIL/F&B = **12** (2 VAN) BLOCK 2 OFFICE = **6** (1 VAN)	RESIDENTIAL: BLOCK 3=381*.02=**8** (3 VAN) BLOCK 4=409*.02=**9** (2 VAN) NON-RESIDENTIAL: HOTEL BLOCK 1 = **6** (1 VAN) BLOCK 2 COMMUTER/COMMUNITY ROOM/RETAIL/F&B = **12** (2 VAN) BLOCK 7 OFFICE = **6** (1 VAN)
EV PARKING (*PER CGBC 2022 4.106.4.2.2 AND TABLE 5.106.5.3.1/ CITY OF OCEANSIDE COMPREHENSIVE ZONING ORDINANCE 3048 TABLE 1 AND TABLE 2*)	CGBC 2022 CODE REQUIRED BLOCK 3 RESIDENTIAL: EV CAPABLE=39; EV READY=96; EV CHARGERS=20 **TOTAL EV SPACES=155** BLOCK 4 RESIDENTIAL: EV CAPABLE=41; EV READY=103; EV CHARGERS=21 **TOTAL EV SPACES=165** BLOCK 1 HOTEL: EV CAPABLE=18; EV READY=45; EV CHARGERS=9 **TOTAL=72** NON-RESIDENTIAL: BLOCK 2 OFFICE = 35 EV CAPABLE SPACES (INCLUDING 9 EVCS, 1 VAN ACCESSIBLE, 1 STANDARD ACCESSIBLE, 0 AMBULATORY) BLOCK 2 COMMUTER/RETAIL/F&B = **123** EV (INCLUDING 28 EVCS, 1 VAN ACCESSIBLE, 1 STANDARD ACCESSIBLE, 1 AMBULATORY)	CITY OF OCEANSIDE ZONING ORDINANCE REQUIRED BLOCK 3 RESIDENTIAL: EV RESERVED=**57** (15% OF REQUIRED PARKING SPACES) EV CHARGERS=**28** (50% OF REQUIRED EV SPACES) BLOCK 4 RESIDENTIAL: EV RESERVED=**61** (15% OF REQUIRED PARKING SPACES) EV CHARGERS=**30** (50% OF REQUIRED EV SPACES) BLOCK 1 HOTEL: EV RESERVED=**26** (15% OF REQUIRED PARKING SPACES) EV CHARGERS=**13** (PER OCEANSIDE TABLE) NON-RESIDENTIAL: BLOCK 2 OFFICE: EV RESERVED= **29**(15% OF REQUIRED PARKING SPACES) EV CHARGERS= **15** (50% OF REQUIRED EV SPACES) BLOCK 2 COMMUTER/RETAIL/F&B: EV RESERVED= **91** (15% OF REQUIRED PARKING SPACES) EV CHARGERS= **46** (50% OF REQUIRED EV SPACES)	BLOCK 3 RESIDENTIAL: EV SPACES = 155 (PER CGBC 2022) EV CHARGERS = 28 (PER OCEANSIDE ZONING ORDINANCE) BLOCK 4 RESIDENTIAL: EV SPACES = 165 (PER CGBC 2022) EV CHARGERS = 30 (PER OCEANSIDE ZONING ORDINANCE) HOTEL: EV SPACES = 72 (PER CGBC 2022) EV CHARGERS = 13 (PER OCEANSIDE ZONING ORDINANCE) BLOCK 2 OFFICE (PARKING GARAGE) = **35** EV CAPABLE SPACES (PER CGBC 2022 INCLUDING 1 VAN ACCESSIBLE, 1 STANDARD ACCESSIBLE, 0 AMBULATORY) **15** EV CHARGERS (PER OCEANSIDE ZONING ORDINANCE) BLOCK 2 COMMUTER/RETAIL/F&B (PARKING GARAGE) = **123** EV (PER CGBC 2022 INCLUDING 1 VAN ACCESSIBLE, 1 STANDARD ACCESSIBLE, 1 AMBULATORY) **46** EV CHARGERS (PER OCEANSIDE ZONING ORDINANCE) **TOTAL PROVIDED EV SPACES = 550 SPACES**
LOADING	HOTEL: 1 OFFICE : 1 RETAIL : NONE (STREET) RESIDENTIAL : NONE (WHITE CURB)	HOTEL: 1 OFFICE : 1 RETAIL : NONE (STREET) RESIDENTIAL : NONE (WHITE CURB)

VICINITY MAP



GENERAL BUILDING NOTES

1. WHERE MIXED OCCUPANCY BUILDINGS CONTAIN NONSEPARATED USES, THE FOLLOWING SHALL APPLY:
   a. THE USE OF NONSEPARATED OCCUPANCIES REQUIRES THE MOST RESTRICTIVE PROVISIONS OF CBC 403 AND CHAPTER 9 TO APPLY TO THE ENTIRE BUILDING.
   b. PER TABLE 705.8 WALLS 3 TO 5 FEET FROM THE PL MUST NOT HAVE OPENING OF MORE THAN 15%, WALLS 5 TO 10 NOT LESS THAN 25%, WALLS 10 TO 15 FEET NOT MORE THAN 45%.
2. WHERE MIXED OCCUPANCY BUILDINGS CONTAIN SEPARATED USES, THE FOLLOWING SHALL APPLY:
   a. FIRE-RESISTANCE RATED WALLS USED TO SEPARATE ADJOINING OCCUPANCIES SHALL BE CONSTRUCTED AS FIRE BARRIERS IN ACCORDANCE WITH SECTION 707; FIRE PARTITIONS SHALL NOT BE ALLOWED. (CBC 508.4.4.1)
   b. FIRE-RESISTANCE RATED FLOOR-CEILING ASSEMBLIES USED TO SEPARATE ADJOINING OCCUPANCIES SHALL COMPLY WITH CBC 711. (CBC 711.2.4.1)
3. WHERE MIXED OCCUPANCY BUILDINGS CONTAIN ACCESSORY AREAS, THE AGGREGATE AREA OF ALL ACCESSORY AREAS WITHIN A SINGLE OCCUPANCY SHALL NOT EXCEED 10% OF THE FLOOR AREA OF THE PRIMARY OCCUPANCY. (CBC 508.2.3)
4. MEANS OF EGRESS DOORS SHALL BE READILY DISTINGUISHABLE FROM THE ADJACENT CONSTRUCTION AND FINISHES SUCH THAT THE DOORS ARE EASILY RECOGNIZABLE AS DOORS. MIRRORS OR SIMILAR REFLECTING MATERIALS SHALL NOT BE USED ON MEANS OF EGRESS DOORS. MEANS OF EGRESS DOORS SHALL NOT BE CONCEALED BY CURTAINS, DRAPES, DECORATIONS OR SIMILAR MATERIALS. (CFC 1010.1)
5. ALL OUTDOOR LIGHTING SHALL MEET CHAPTER 39 OF THE CITY CODE (LIGHT POLLUTION ORDINANCE) AND SHALL BE SHIELDED APPROPRIATELY.
6. EXTERIOR WALLS OF ALL BUILDINGS SHALL COMPLY WITH CBC TABLE 705.2
7. CBC 1027.5 LOCATION. EXTERIOR EXIT STAIRWAYS AND RAMPS SHALL HAVE A MINIMUM FIRE SEPARATION DISTANCE OF 10 FEET (3048 MM) MEASURED AT RIGHT ANGLES FROM THE EXTERIOR EDGE OF THE STAIRWAY OR RAMPS, INCLUDING LANDINGS, TO:
   1. ADJACENT LOT LINES.
   2. OTHER PORTIONS OF THE BUILDING.
   3. OTHER BUILDINGS ON THE SAME LOT UNLESS THE ADJACENT BUILDING EXTERIOR WALLS AND OPENINGS ARE PROTECTED IN ACCORDANCE WITH SECTION 705 BASED ON FIRE SEPARATION DISTANCE. FOR THE PURPOSES OF THIS SECTION, OTHER PORTIONS OF THE BUILDING SHALL BE TREATED AS SEPARATE BUILDINGS
8. 1022.7 INTERIOR EXIT STAIRWAY AND RAMP EXTERIOR WALLS EXTERIOR WALLS OF THE INTERIOR EXIT STAIRWAY OR RAMP SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 705 FOR EXTERIOR WALLS. WHERE NONRATED WALLS OR UNPROTECTED OPENINGS ENCLOSE THE EXTERIOR OF THE STAIRWAY OR RAMPS AND THE WALLS OR OPENINGS ARE EXPOSED BY OTHER PARTS OF THE BUILDING AT AN ANGLE OF LESS THAN 180 DEGREES (3.14 RAD), THE BUILDING EXTERIOR WALLS WITHIN 10 FEET (3048 MM) HORIZONTALLY OF A NONRATED WALL OR UNPROTECTED OPENING SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 1 HOUR. OPENINGS WITHIN SUCH EXTERIOR WALLS SHALL BE PROTECTED BY OPENING PROTECTIVES HAVING A FIRE PROTECTION RATING OF NOT LESS THAN 3/4 HOUR. THE CONSTRUCTION SHALL EXTEND VERTICALLY FROM THE GROUND TO A POINT 10 FEET (3048 MM) ABOVE THE TOPMOST LANDING OF THE STAIRWAY OR RAMP, OR TO THE ROOF LINE, WHICHEVER IS LOWER.
9. BUILDINGS OR PORTIONS OF BUILDINGS AND FACILITIES WITHIN THE SCOPE OF THIS CHAPTER SHALL BE ACCESSIBLE TO PERSONS WITH DISABILITIES. EACH BUILDING ON A BUILDING SITE SHALL BE CONSIDERED SEPARATELY WHEN DETERMINING THE REQUIREMENTS CONTAINED IN THIS CHAPTER, EXCEPT WHEN CALCULATING THE NUMBER OF UNITS WHICH MUST COMPLY WITH SECTION 1102A.3.1, DWELLING UNITS WITHIN A SINGLE STRUCTURE SEPARATED BY FIREWALLS DO NOT CONSTITUTE SEPARATE BUILDINGS.
10. APARTMENT BUILDINGS WITH 3 OR MORE DWELLING UNITS INCLUDING TIMESHARE APARTMENTS NOT CONSIDERED A PLACE OF PUBLIC ACCOMMODATION OR TRANSIENT LODGING AS DEFINED IN HEALTH AND SAFETY CODE SECTION 19955 (A), AND CHAPTER 2 OF THE CALIFORNIA BUILDING CODE

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
0		
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-16-2025	DP SUBMITTAL 7

Schematic Design

PROJECT SUMMARY

G-002

© 2023 Arcadis Inc.



































ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

PHOTOGRAPHS

G-003

© 2023 Arcadis Inc.







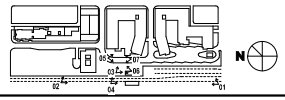








* RENDERINGS ARE FOR REFERENCE ONLY AND THE DESIGN IS SUBJECT TO CHANGE. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR PROPOSED DESIGN.



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

3D RENDERINGS

G-004A

© 2023 Arcadis Inc.













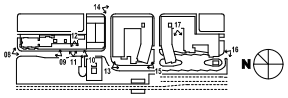








* RENDERINGS ARE FOR REFERENCE ONLY AND THE DESIGN IS SUBJECT TO CHANGE. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR PROPOSED DESIGN.



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

3D RENDERINGS

G-004B

© 2023 Arcadis Inc.

HOTEL
GFA: 173,463 SF (INCLD. 12,806 SF RETAIL)
KEYS: 170

PARKING GARAGE
CARS: 800 (611 PUBLIC + 190 OFFICE)
BIKES: 38

RESIDENTIAL - R1
GFA: 280,520 SF (INCLD. 16,390 SF RETAIL)
UNITS: 250 (38 INCLUSIONARY)

RESIDENTIAL - R2
GFA: 324,185 SF
UNITS: 297 (45 INCLUSIONARY)



AMTRAK CUSTOMER SERVICE
GFA: 1,689 SF

NCTD OFFICE
GFA: 59,156 SF

NCTD CUSTOMER SERVICE BUILDING
GFA: 3,124 SF (EXCLD. PUBLIC RESTROOM)

TRANSIT PLAZA TOWER

BUS STATION

BUS OPERATOR BUILDING
GFA: 1,033 SF (EXCLD. PUBLIC RESTROOM)

N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

ILLUSTRATIVE SITE PLAN

G-005

© 2023 Arcadis Inc.

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN

FOR SUBDIVISION AND COMMERCIAL CONDOMINIUM PURPOSES

NCTD OCEANSIDE TRANSIT CENTER, 235 SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

GENERAL NOTES:

1.	TOTAL AREA:	GROSS: 442134 SF (10.15 ACRES)
2.	EXISTING ZONING:	D-5, D-14, OP, PUT, R-3, D-5
3.	PROPOSED ZONING:	D-1
4.	NUMBER OF EXISTING PARCELS:	8
5.	FEMA FLOOD INSURANCE RATE MAP NO.:	06073C0734J eff. 12/20/2019, ZONE X, WITH BFE ZONE AE, AO, AH, VE, AR
6.	CONTOUR INTERVAL:	1 FT
7.	MAX. SLOPE GRADIENT:	10% MAX
8.	PERCENT OF PROJECT IN STREETS:	19.20% (1.93 ACRES)
9.	AMOUNT OF GRADING:	286,000 CY CUT; 1,000 CY FILL
10.	ASSESSORS PARCEL NUMBERS:	SEE SHEET C9

CONDOMINIUM NOTE:

LOTS 3, 4 AND 5 OF THIS TRACT IS APPROVED BY THE CITY OF OCEANSIDE FOR CREATION OF COMMERCIAL CONDOMINIUMS CONSISTING OF UP TO 6 UNITS, AND THE ESTABLISHMENT OF CONDOMINIUMS AND SEPARATION OF THREE-DIMENSIONAL PORTIONS OF THE PROPERTY FROM THE REMAINDER THEREOF SHALL NOT CONSTITUTE A FURTHER SUBDIVISION AS DEFINED IN GOVERNMENT CODE §66424 AND, PURSUANT TO THE AUTHORITY OF CALIFORNIA GOVERNMENT CODE §66427(e), MAY OCCUR BY THE RECORDING OF ONE OR MORE CONDOMINIUM PLANS WITHOUT FURTHER APPROVAL BY THE CITY.

DESIGN NOTES:

1. ALL STREET DESIGN SHALL CONFORM TO THE CITY OF OCEANSIDE DESIGN STANDARDS AS REQUIRED BY THE CITY ENGINEER.
2. EASEMENTS SHALL BE PROVIDED, REMOVED OR RELOCATED AS REQUIRED BY THE CITY ENGINEER.
3. ALL PROPOSED UTILITIES SHALL BE UNDERGROUNDED AND EASEMENTS PROVIDED.
4. GEOTECHNICAL INVESTIGATION PREPARED BY: NOVA
5. THE DEVELOPER SHALL INSTALL STREET LIGHTS PER THE CITY OF OCEANSIDE ENGINEERING DEPARTMENT TRAFFIC DIVISION, THE STREET LIGHT DESIGN MANUAL AND THE CITY OF OCEANSIDE STANDARD DRAWING NO. M-4. STREET LIGHT LOCATIONS MAY VARY IN FINAL DESIGN.
6. ALL RETAINING WALLS IN EXCESS OF 4 FEET SHALL BE PLANTABLE.
7. ALL PROPOSED SEWER IS PUBLIC AND SHALL BE INSTALLED PER CITY OF OCEANSIDE STANDARDS.
8. ALL PROPOSED WATER IS PUBLIC AND SHALL BE INSTALLED PER CITY OF OCEANSIDE STANDARDS.
9. FINISH GRADES ARE APPROXIMATE AND SUBJECT TO CHANGE IN FINAL DESIGN, AS ALLOWED PER SUBSTANTIAL CONFORMITY.
10. ALL FUTURE DRIVEWAYS AND GEOMETRIC DESIGN SHALL BE DESIGNED IN COMPLIANCE WITH THE CITY OF OCEANSIDE ENGINEERS DESIGN STANDARDS.

BENCHMARK:

NATIONAL GEODETIC SURVEY DX3234, STAMPED PIER NO 2 1933

ELEVATION 28.65' (NAVD88)

AT THE END OF THE PIER EXTENDING WEST FROM THE WEST END OF THIRD STREET, APPROXIMATELY 420' WEST OF THE CENTER LINE OF PACIFIC STREET, SET IN THE TOP OF THE SOUTH CONCRETE CURBING ON THE PIER, 25.9' EAST OF THE STATION MARK

BASIS OF BEARINGS:

THE BASIS OF COORDINATES FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM (CCS83) ZONE VI, NAD 83 (2011.00 EPOCH), AS PER RECORD OF SURVEY 21787, FILED 8/21/2014 BY RBF CONSULTING, AS DETERMINED BY THE FOLLOWING CONTROL STATIONS:

3002 (DSME), 3004 (P474), 3005 (P478), 3006 (SBCC), 1004, 1005, 1006 AND 2102 (DX3432)

TOPOGRAPHY SOURCE:

THIS SURVEY IS BASED UPON AERIAL PHOTOGRAPHY FLOWN ON APRIL 2, 2021 BY R.J. LUNG AND ASSOCIATES.

LEGAL DESCRIPTION:

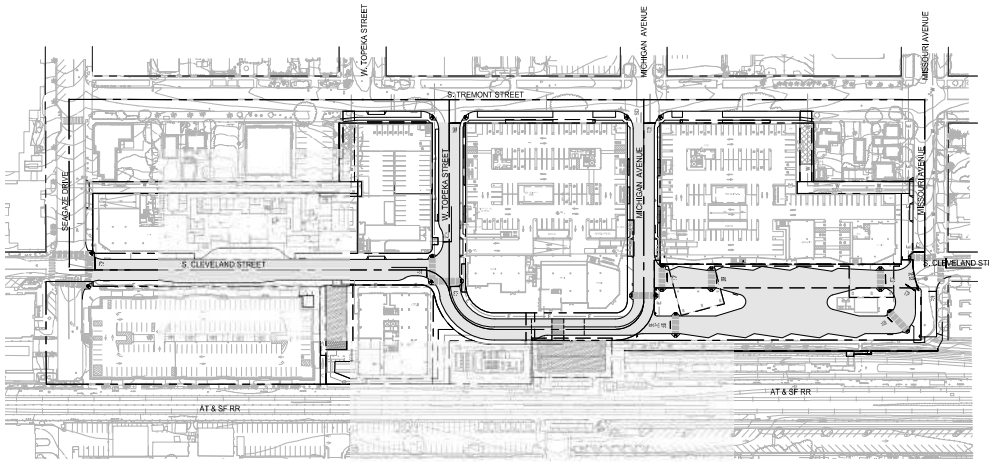
SEE SHEET C9

EASEMENTS:

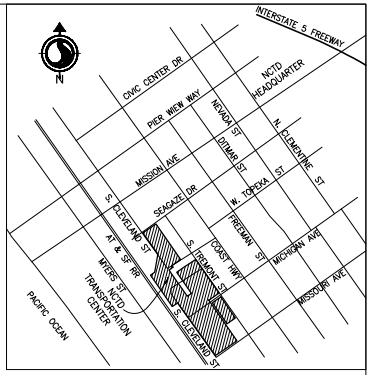
SEE SHEET C10

SITE DATA:

1. SETBACKS:
   - BACKYARD: NONE
   - FRONT YARD: NONE
   - SIDE YARD: NONE
2. LANDSCAPE COVERAGE: 43,891 SF



LOCATION MAP
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.



VINCINITY MAP
NOT TO SCALE

SHEET INDEX:

SHEET C1 – TITLE SHEET
SHEET C2 – SITE SECTIONS AND DETAILS
SHEET C3 – SITE SECTIONS AND DETAILS
SHEET C4 – MASTER TECHNICAL SITE PLAN
SHEET C5 – VESTING TENTATIVE TRACT MAP
SHEET C6 – PRELIMINARY GRADING & DRAINAGE
SHEET C7 – LID BMP FEATURES
SHEET C8 – LID BMP FEATURES
SHEET C9 – PRELIMINARY WET UTILITIES
SHEET C10 – S. CLEVELAND ST. PRELIMINARY STORM DRAIN
SHEET C11 – FIRE ACCESS CIRCULATION PLAN
SHEET C12 – ENCUMBRANCE MAP
SHEET C13 – ENCUMBRANCE MAP

LEGEND:

- BOUNDARY LINE
- CENTER LINE
- CURB AND GUTTER
- PROP. DRIVEWAY
- EXIST. CONTOUR
- PROP. CONTOUR
- EASEMENT LINE
- PROP. RETAINING WALL
- EXIST. SEWER
- EXIST. WATER
- EXIST. STORM DRAIN
- EXIST. GAS
- EXIST. OVERHEAD POWER
- PROP. SEWER
- PROP. WATER
- PROP. STORM DRAIN
- PROP. GAS
- EXIST. FIRE HYDRANT
- PROP. FIRE HYDRANT
- EXIST. SUBDIVISION BOUNDARY
- FH FIRE HYDRANT
- MH MANHOLE
- PA LANDSCAPE PLANTERS
- PAE PUBLIC ACCESS EASEMENT
- TURF BLOCK BOMANITE GRASSCRETE
- UNDERGROUND WATER QUALITY BMP CHAMBERS
- PROP. ADA RAMP

OWNER:

NORTH SAN DIEGO COUNTY TRANSIT DEVELOPMENT BOARD, AS TO TRACTS I, III AND PARCEL 2 OF TRACT II.
NORTH SAN DIEGO COUNTY TRANSIT BOARD, AS TO PARCEL 1 OF TRACT II.

DEVELOPER:

TOLL BROTHERS APARTMENT LIVING
MICHAEL MCCANN
23422 MILL CREEK DRIVE, SUITE 105
LAGUNA HILLS, CA 92653
(949) 370-8155

CIVIL ENGINEER:

STANTEC
EDWARD DAWSON GROVE
801 SOUTH FIGUEROA STREET, #500
LOS ANGELES, CA 90017-3007
TED.GROVE@STANTEC.COM

05.14.25
EDWARD DAWSON GROVE RCE 61374 DATE

ARCHITECT:

CALLISONRTKL INC
333 SOUTH HOPE STREET, SUITE C-200
LOS ANGELES, CA 90034

GEOTECHNICAL:

NOVA SERVICES
4373 VIEWRIDGE AVENUE, SUITE B
SAN DIEGO, CA 92123

LOT #	DESCRIPTION	AREA (ACRES)
1	HOTEL	1.10
2	PARKING STRUCTURE	0.72
3	RESIDENTIAL MIXED USE	2.03
4	RESIDENTIAL	1.85
5	NCTD BUS STATION (PUBLIC ACCESS)	1.37
6	NCTD TRAIN PLATFORM PLAZA (PUBLIC ACCESS)	0.31
7	NCTD OFFICE	0.71
TOTAL		8.09
PUBLIC R.O.W.		2.06
SUBTOTAL SUBDIVISION BOUNDARY		10.15
LOT 8	CITY OF OCEANSIDE PARKING STRUCTURE	1.84
TRACT MAP PROJECT AREA		12.00

DEVELOPMENT PLAN - D22-00016
TENTATIVE MAP - T22-00006
GENERAL PLAN AMENDMENT - GPA22-00002
REGULAR COASTAL PERMIT - RC22-00011

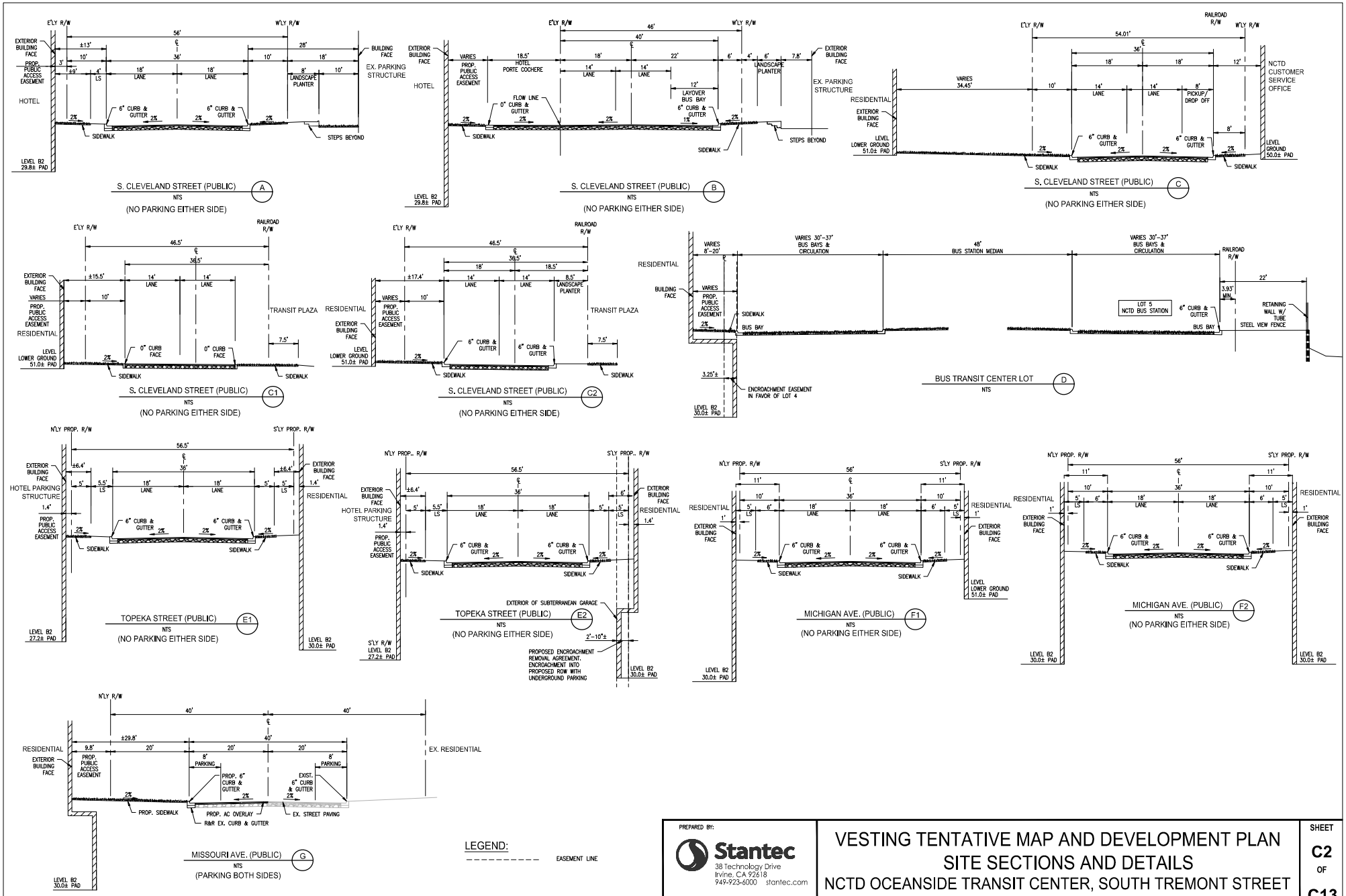
PREPARED BY:
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
TITLE SHEET
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C1 OF C13

MAY 14, 2025

DRAWING: J:\2042217900\drawing\sheet_files\2217900-100title.dwg PLOTTED: 8/22/2022 10:25 AM BY: Ahmed, Faiza



PREPARED BY:

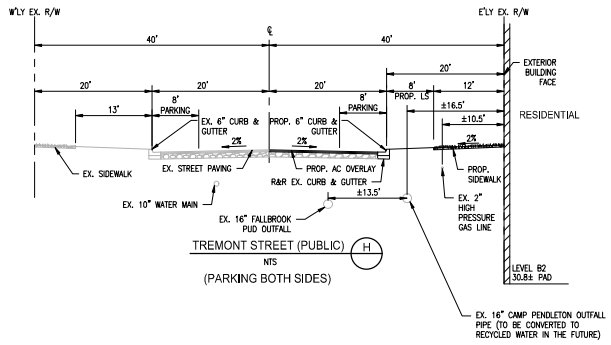
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
SITE SECTIONS AND DETAILS
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

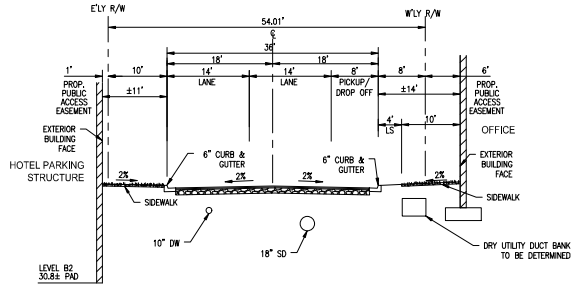
SHEET
C2
OF
C13

MAY 14, 2025

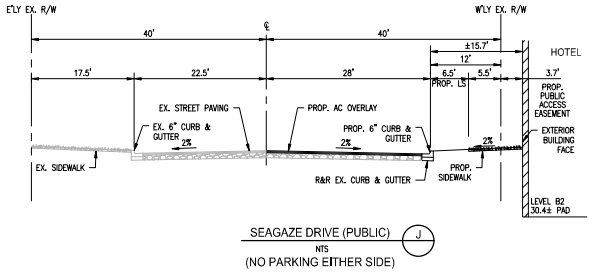
DRAWING: \\us3300-pafiler01\shared_projects\204221900\drawing sheet_files\c219000--1002dm.dwg PLOTTED: 8/22/2022 10:26 AM BY: Ahmed, Faiza



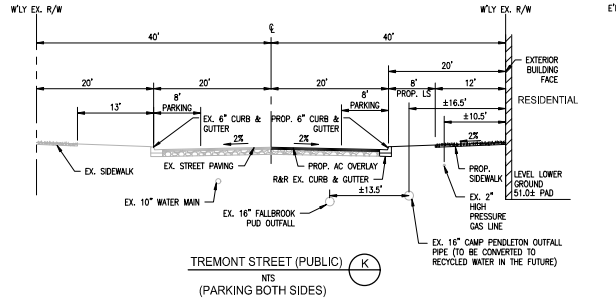
TREMONT STREET (PUBLIC) H
NTS
(PARKING BOTH SIDES)



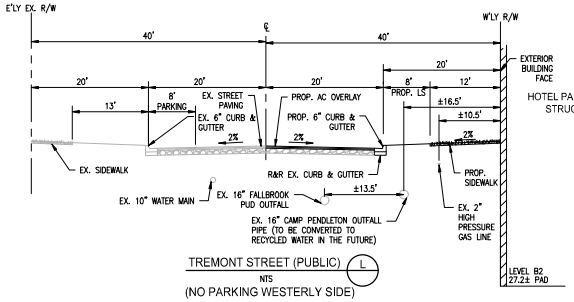
S. CLEVELAND STREET (PUBLIC) I
NTS
(NO PARKING EITHER SIDE)



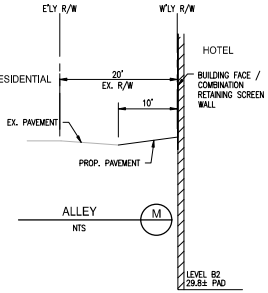
SEAGAZE DRIVE (PUBLIC) J
NTS
(NO PARKING EITHER SIDE)



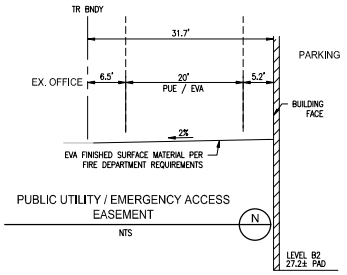
TREMONT STREET (PUBLIC) K
NTS
(PARKING BOTH SIDES)



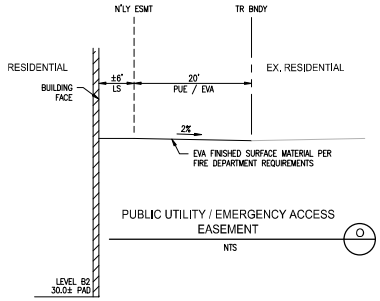
TREMONT STREET (PUBLIC) L
NTS
(NO PARKING WESTERLY SIDE)



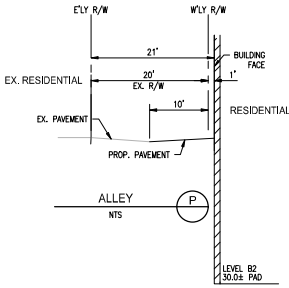
ALLEY M
NTS



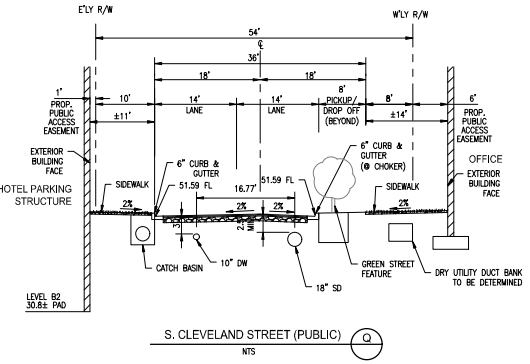
PUBLIC UTILITY / EMERGENCY ACCESS EASEMENT N
NTS



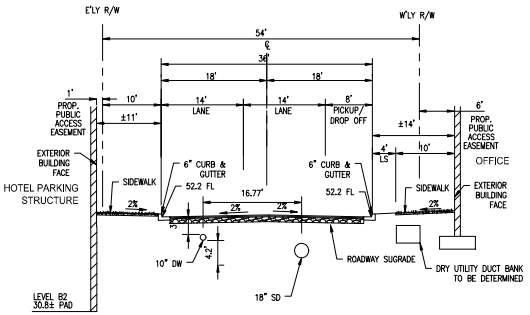
PUBLIC UTILITY / EMERGENCY ACCESS EASEMENT O
NTS



ALLEY P
NTS



S. CLEVELAND STREET (PUBLIC) Q
NTS



S. CLEVELAND STREET (PUBLIC) R
NTS

LEGEND:

EASEMENT LINE

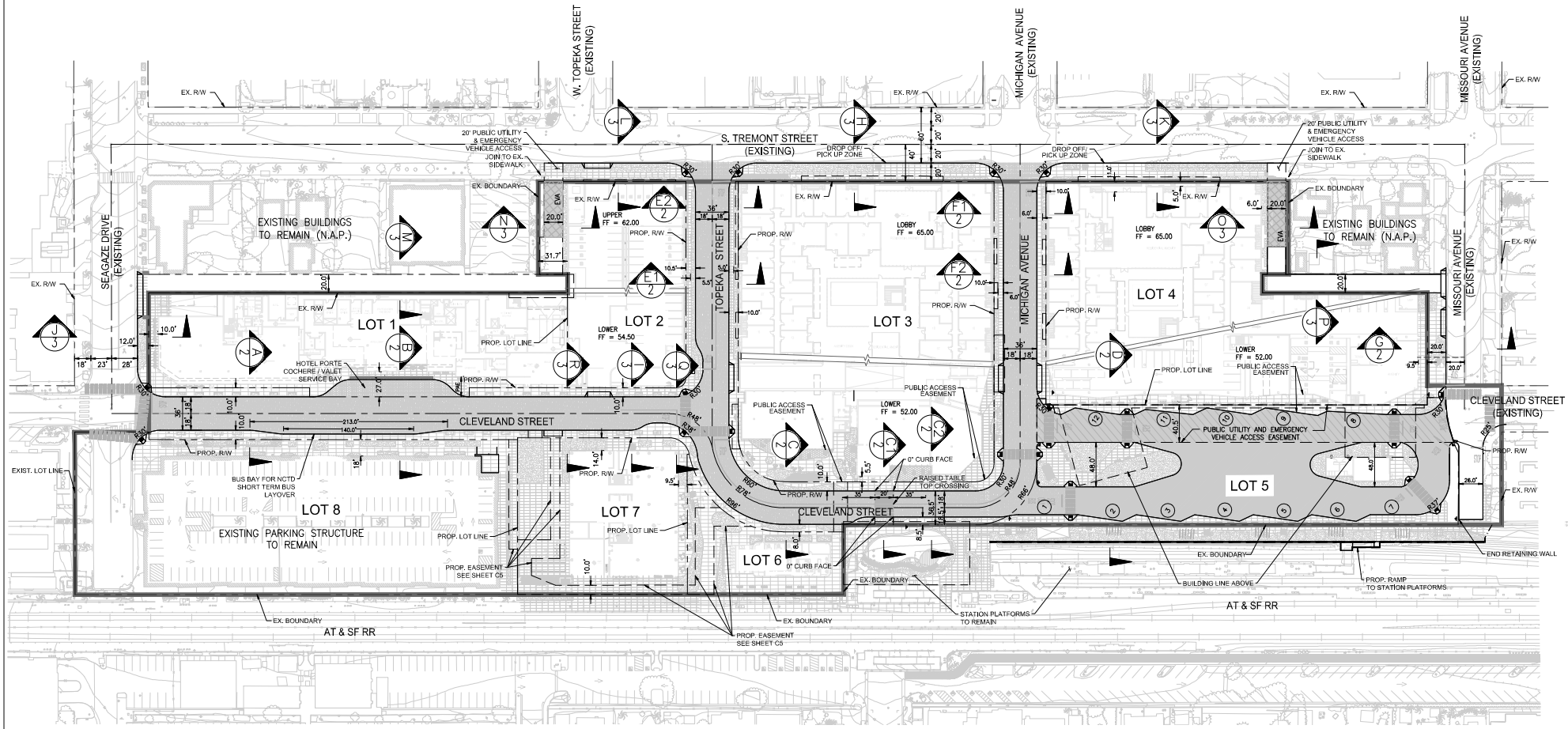
PREPARED BY:
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
SITE SECTIONS AND DETAILS
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C3 OF C13

MAY 14, 2025

DRAWING: c:\2025217900\drawing\sheet_files\217900c-1003sv.dwg PLOTTED: 8/22/2025 10:25 AM BY: Perez, Edward



LEGEND:

- R/W/ BOUNDARY LINE
- CENTER LINE
- CURB AND GUTTER
- PROP. DRIVEWAY
- EXIST. CONTOUR
- PROP. CONTOUR
- EASEMENT LINE
- PROP. RETAINING WALL
- EXIST. SEWER
- EXIST. WATER
- EXIST. STORM DRAIN
- EXIST. GAS
- EXIST. OVERHEAD POWER
- PROP. SEWER
- PROP. WATER
- PROP. PUBLIC STORM DRAIN
- PROP. RECYCLE WATER
- PROP. GAS
- PEDESTRIAN CROSSING
- PROP. ADA RAMP
- EXIST. FIRE HYDRANT
- PROP. PUBLIC FIRE HYDRANT
- PROJECT BOUNDARY
- PAE — PUBLIC ACCESS EASEMENT
- FH — FIRE HYDRANT
- FIRE DEPARTMENT APPROVED EVA FINISHED SURFACE
- BUS TRANSFER PARKING STALL NUMBER

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

PREPARED BY:

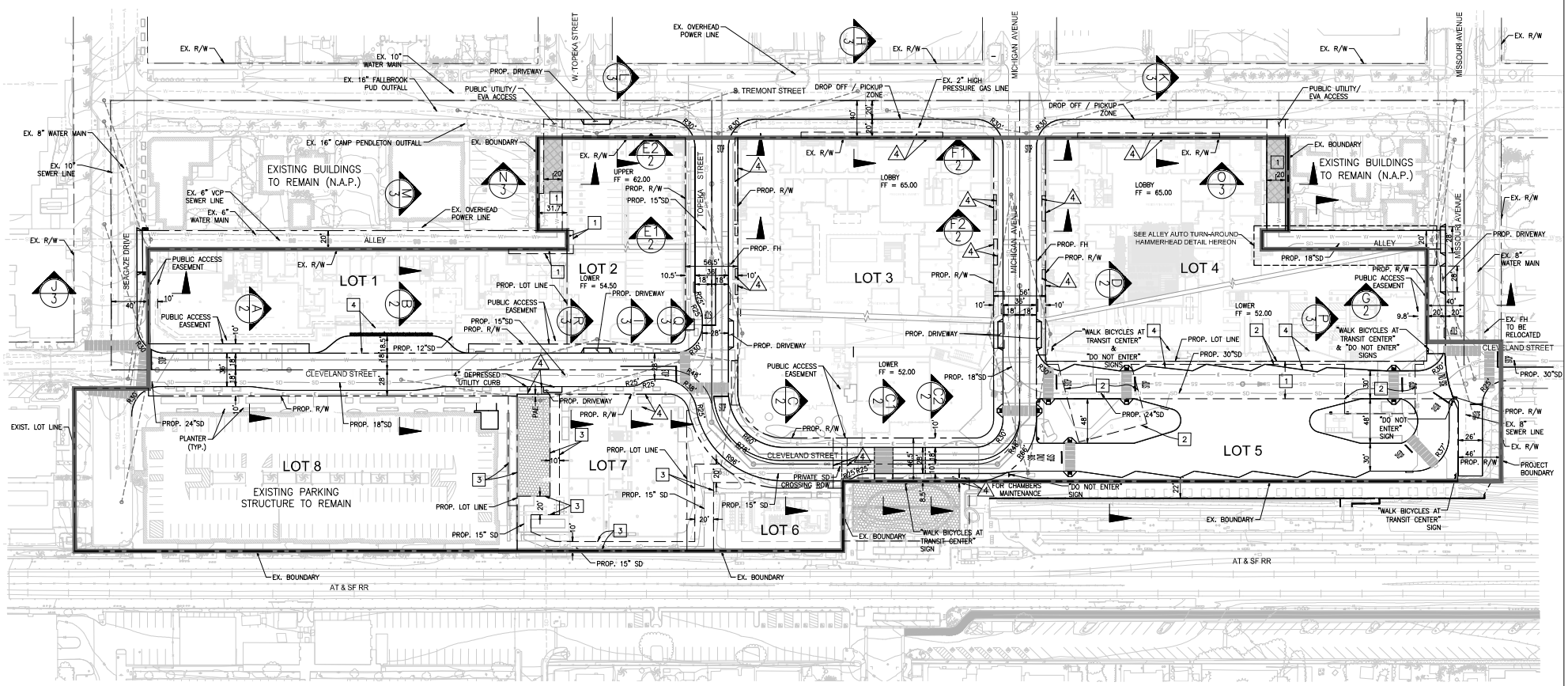
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
MASTER TECHNICAL SITE PLAN
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C4 OF C13

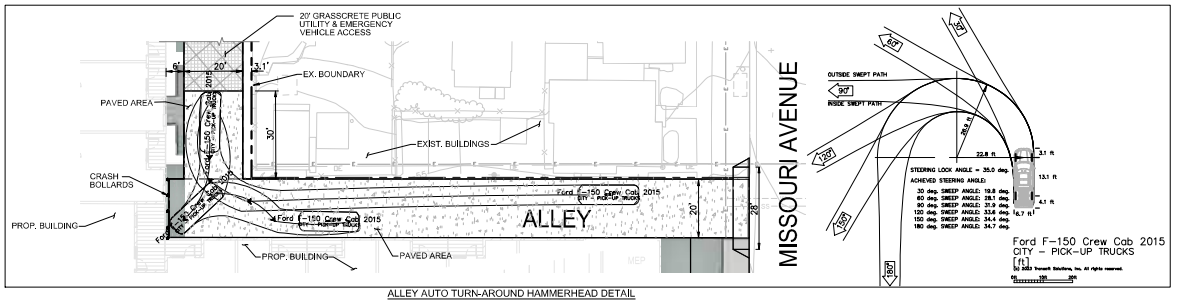
MAY 14, 2025

DRAWING: c:\2021\79000\drawing\sheet_files\217900c-100dwg.dwg PLOTTED: 8/22/2022 10:25 AM BY: Ahmad, Faiza



LEGEND:

- R/W/ BOUNDARY LINE
- CENTER LINE
- CURB AND GUTTER
- PROP. DRIVEWAY
- EXIST. CONTOUR
- PROP. CONTOUR
- EASEMENT LINE
- PROP. RETAINING WALL
- EXIST. SEWER
- EXIST. WATER
- EXIST. STORM DRAIN
- EXIST. GAS
- EXIST. OVERHEAD POWER
- PROP. SEWER
- PROP. WATER
- PROP. PUBLIC STORM DRAIN
- PROP. RECYCLE WATER
- PROP. GAS
- EXIST. FIRE HYDRANT
- PROP. PUBLIC FIRE HYDRANT
- PROJECT BOUNDARY
- PA — LANDSCAPE PLANTERS
- PAE — PUBLIC ACCESS EASEMENT
- FH — FIRE HYDRANT
- PRIVATE UNDERGROUND PEAK REDUCTOIN DETENTION CHAMBER



ALLEY AUTO TURN-AROUND HAMMERHEAD DETAIL
SCALE: 1"=20'

SEE ENCUMBRANCE MAP SHEET C12 FOR EXISTING EASEMENTS AND RIGHT OF WAY TO BE QUITCLAIMED, OR ABANDONED

PROPOSED EASEMENTS

1. PUBLIC UTILITY AND EMERGENCY VEHICLE ACCESS
2. ENCROACHMENT EASEMENT IN FAVOR OF LOT 4
3. PUBLIC UTILITY EASEMENT
4. PUBLIC ACCESS EASEMENT
4. PROPOSED ENCROACHMENT REMOVAL AGREEMENT

GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

PREPARED BY:
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

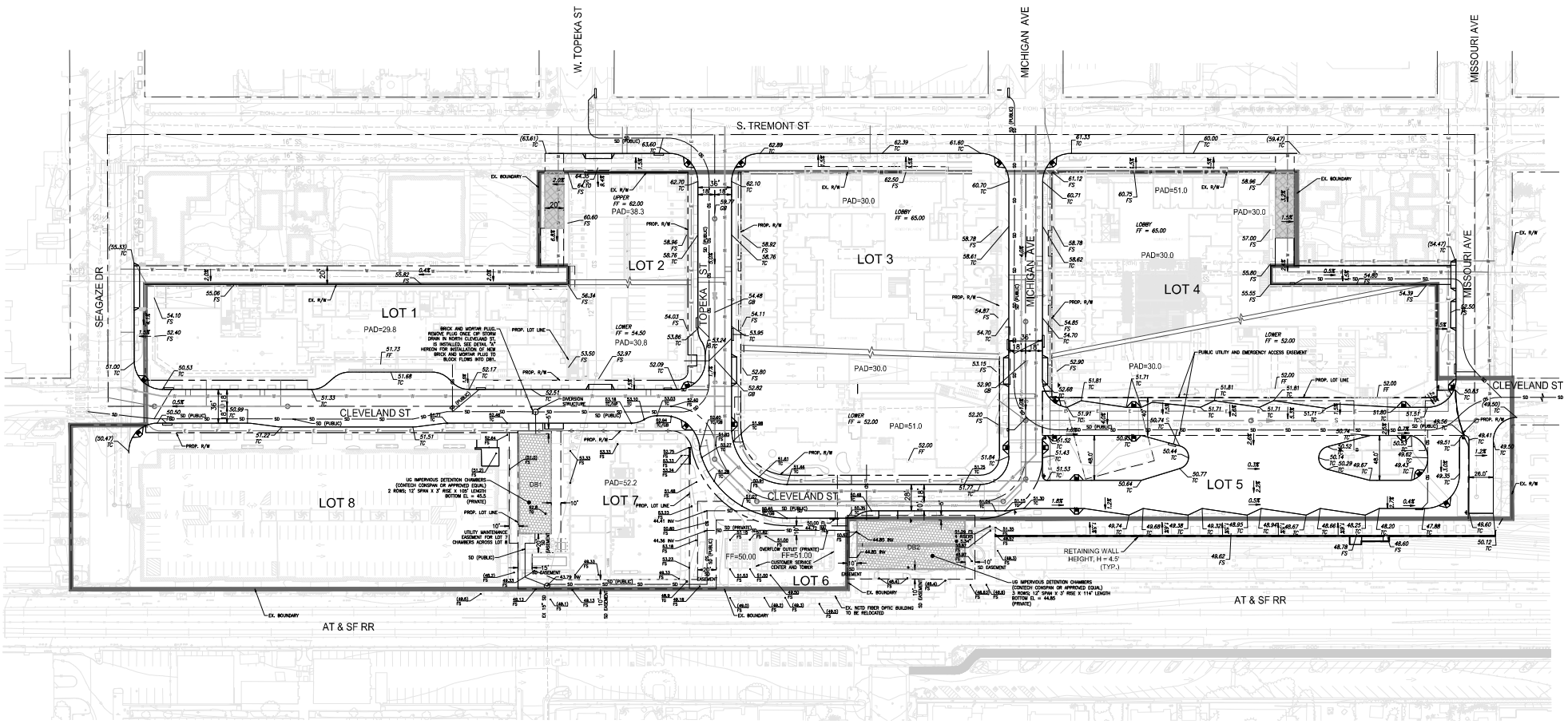
VESTING TENTATIVE MAP AND DEVELOPMENT PLAN

NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C5 OF C13

MAY 14, 2025

DRAWING: c:\2042317900\drawing\sheet_files\2317900c-1005sv.dwg PLOTTED: 8/22/2022 10:25 AM BY: Ahmed, Faiza

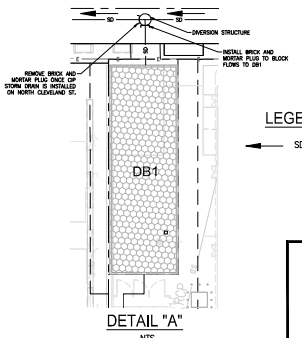


GRADING NOTES:

1. TOTAL AMOUNT OF CUT: 247,000 CY; TOTAL AMOUNT OF FILL: 700 CY
2. RETAINING WALLS: LENGTH: 800 LF; MAX HEIGHT: 7 FT
3. VOLUMES ARE CALCULATED TO ESTIMATED BOTTOM OF FOUNDATION FLOOR FOR BUILDINGS AND SUBGRADE FOR ROAD/HARDSCAPES

LEGEND:

R/W/ BOUNDARY LINE	PROP. SEWER
CENTER LINE	PROP. WATER
CURB AND GUTTER	PROP. PUBLIC STORM DRAIN
PROP. DRIVEWAY	PROP. RECYCLE WATER
EXIST. CONTOUR	PROP. GAS
PROP. CONTOUR	EXIST. FIRE HYDRANT
EASEMENT LINE	PROP. PUBLIC FIRE HYDRANT
PROP. RETAINING WALL	PROJECT BOUNDARY
EXIST. SEWER	PAE — PUBLIC ACCESS EASEMENT
EXIST. WATER	FH — FIRE HYDRANT
EXIST. STORM DRAIN	PRIVATE UNDERGROUND PEAK REDUCTION DETENTION CHAMBERS
EXIST. GAS	PAD=29.8 — ESTIMATED LOWEST LEVEL PAD ELEVATION TO BE DETERMINED WITH FINAL CONSTRUCTION DRAWINGS
EXIST. OVERHEAD POWER	



DETAIL "A"
NTS

LEGEND:

SD FLOW DIRECTION

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

PREPARED BY:

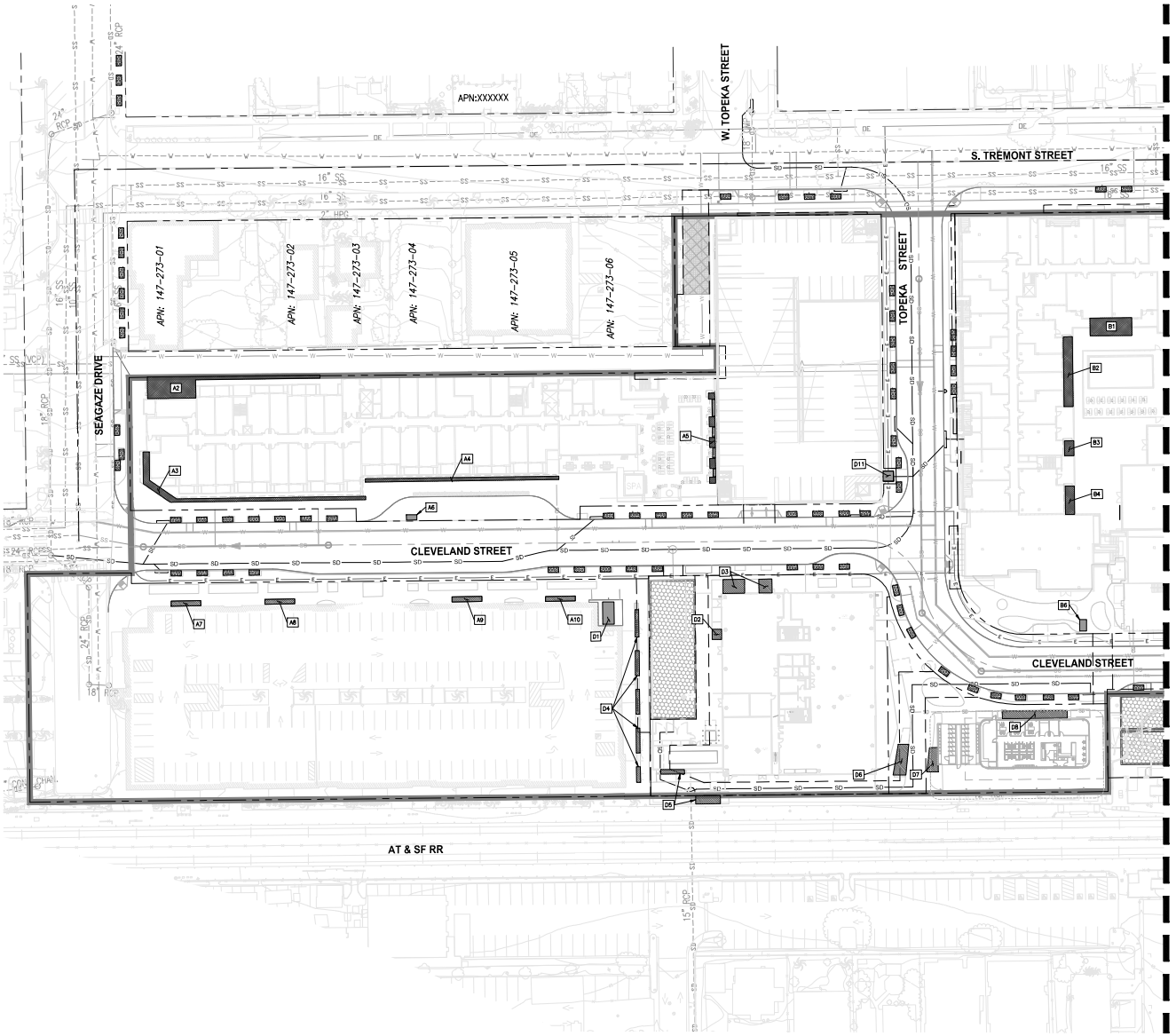
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
PRELIMINARY GRADING & DRAINAGE
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C6 OF C13

MAY 14, 2025

DRAWING: c:\2042217900\drawing\sheet_files\2217900c-1008sv.dwg PLOTTED: 8/22/2022 10:25 AM BY: Ahmad, Faiza



LEGEND:

- IN-GROUND BIOFILTRATION PLANTER (PRIVATE)
- RAISED BIOFILTRATION PLANTER (PRIVATE)
- BIOFILTRATION PROPRIETARY UNIT (PRIVATE)
- TREE WELLS (PUBLIC)
- PROJECT BOUNDARY

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

PREPARED BY:

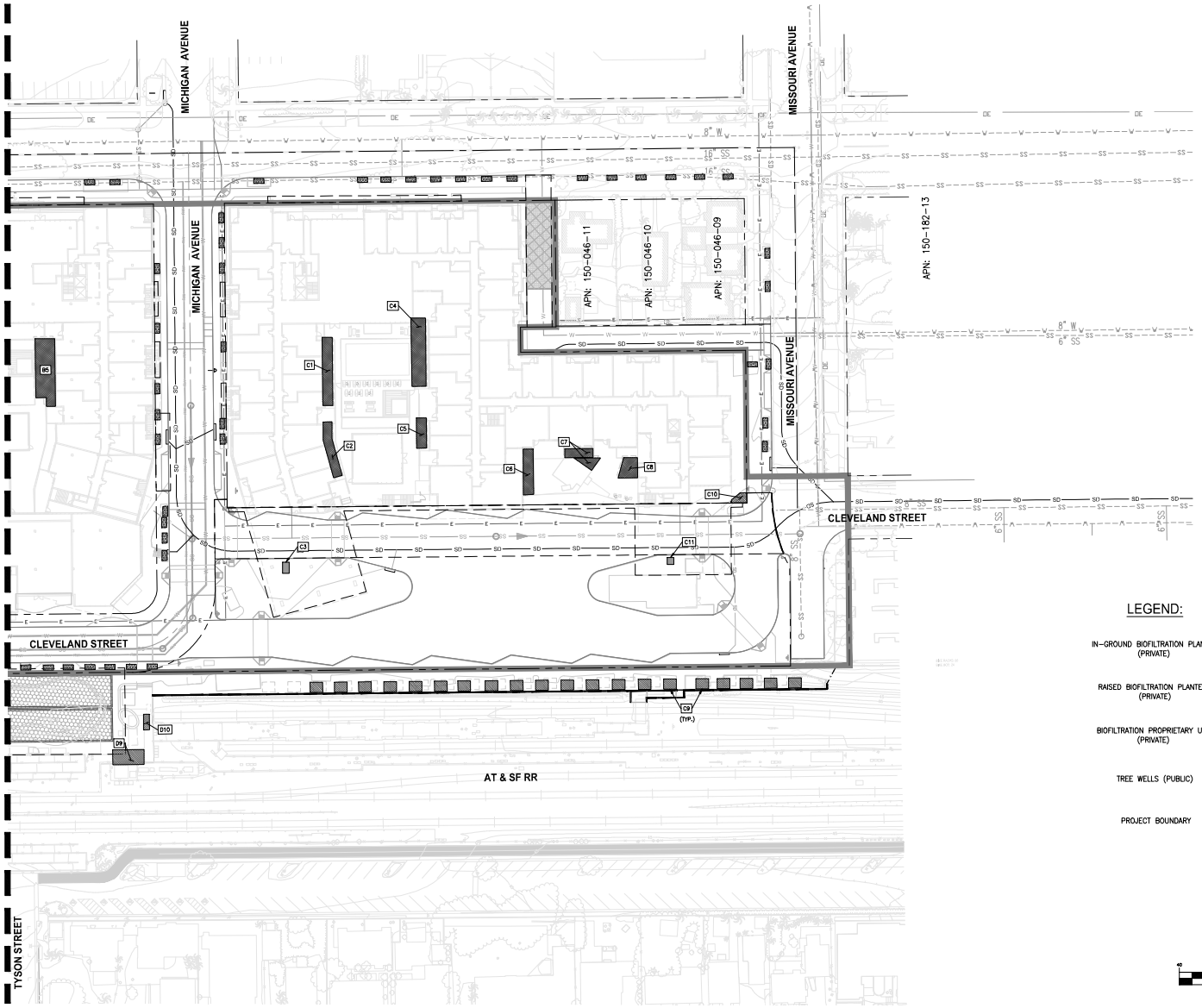
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
LID BMP FEATURES
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C7 OF C13

MAY 14, 2025

DRAWING: c:\2042217900\drawing\sheet_files\2217900c-1022sheet.dwg PLOTTED: 8/22/2022 10:25 AM BY: Ahmad, Faiza



LEGEND:

- IN-GROUND BIOFILTRATION PLANTER (PRIVATE)
- RAISED BIOFILTRATION PLANTER (PRIVATE)
- BIOFILTRATION PROPRIETARY UNIT (PRIVATE)
- TREE WELLS (PUBLIC)
- PROJECT BOUNDARY

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

PREPARED BY:

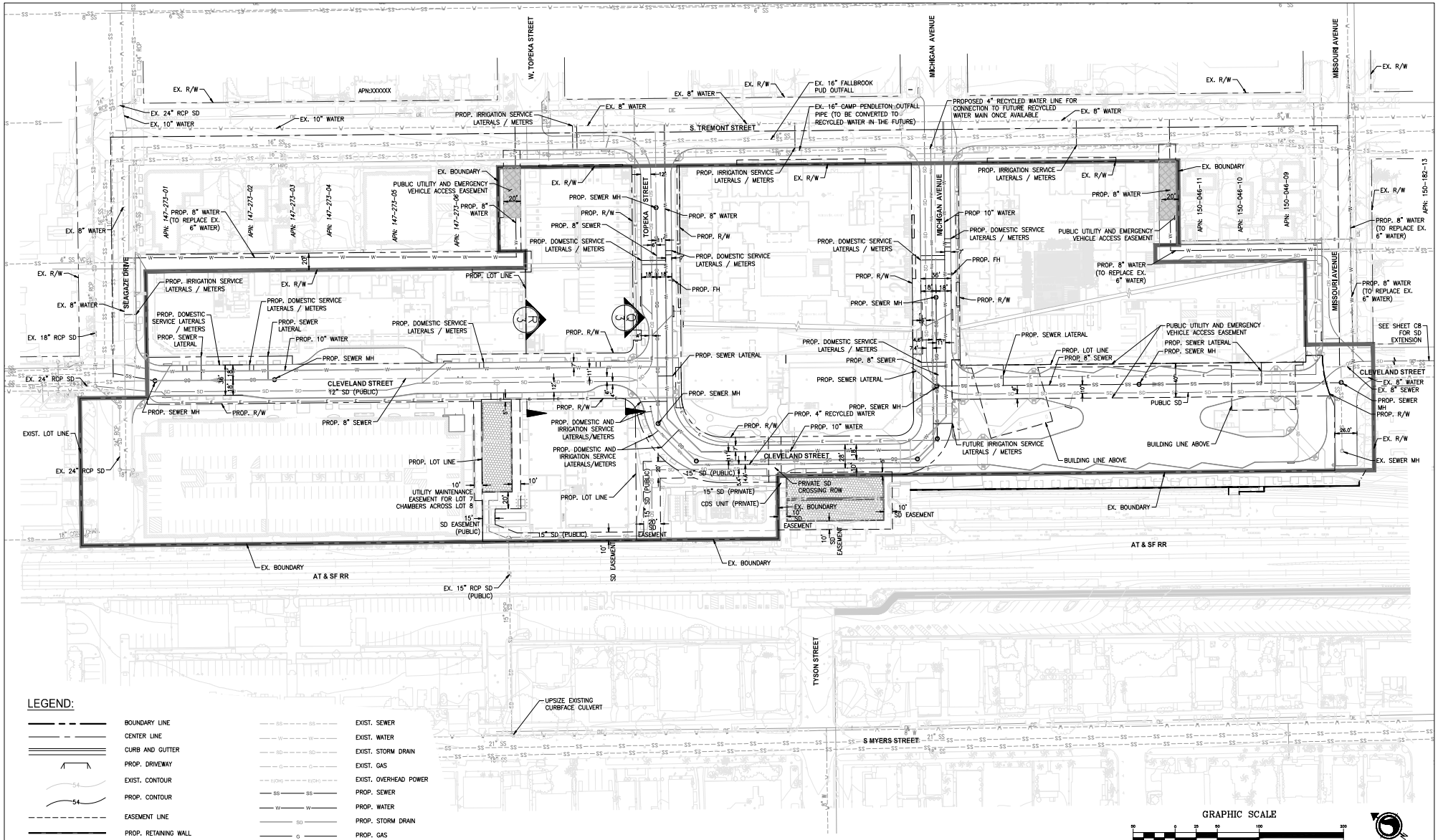
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
LID BMP FEATURES
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C8 OF C13

MAY 14, 2025

DRAWING: c:\2042217900\drawing\sheet_files\2217900c-1023sv.dwg PLOTTED: 8/22/2022 10:25 AM BY: Ahmad, Faiz



LEGEND:

- BOUNDARY LINE
- CENTER LINE
- CURB AND GUTTER
- PROP. DRIVEWAY
- EXIST. CONTOUR
- PROP. CONTOUR
- EASEMENT LINE
- PROP. RETAINING WALL
- SIGHT VISIBILITY LINES
- EXIST. FIRE HYDRANT
- PROP. PUBLIC FIRE HYDRANT
- EXIST. SUBDIVISION BOUNDARY
- PAE PUBLIC ACCESS EASEMENT
- FH FIRE HYDRANT
- MH MANHOLE
- EXIST. SEWER
- EXIST. WATER
- EXIST. STORM DRAIN
- EXIST. GAS
- EXIST. OVERHEAD POWER
- PROP. SEWER
- PROP. WATER
- PROP. STORM DRAIN
- PROP. GAS
- PROP. RECYCLED WATER
- PROP. ELEC.
- PEDESTRIAN CROSSING
- PROP. ADA RAMP
- TURF BLOCK BOMANITE GRASSCRETE
- PRIVATE UNDERGROUND PEAK REDUCTION DETENTION CHAMBERS

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

PREPARED BY:
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
PRELIMINARY WET UTILITIES
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C9 OF C13

MAY 14, 2025

DRAWING: \\us0300-prfs01\shared_projects\259221900\drawing\sheet_files\259221900-1107tm.dwg PLOTTED: 9/22/2022 10:26 AM BY: Ahmad, Faiza



LEGEND:

- EXIST. CONTOUR
- EXIST. SEWER
- EXIST. WATER
- EXIST. STORM DRAIN
- EXIST. GAS
- EXIST. OVERHEAD POWER
- PROP. SEWER
- PROP. WATER
- PROP. STORM DRAIN
- PROP. GAS
- PROP. RECYCLED WATER
- PROP. ELEC.

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

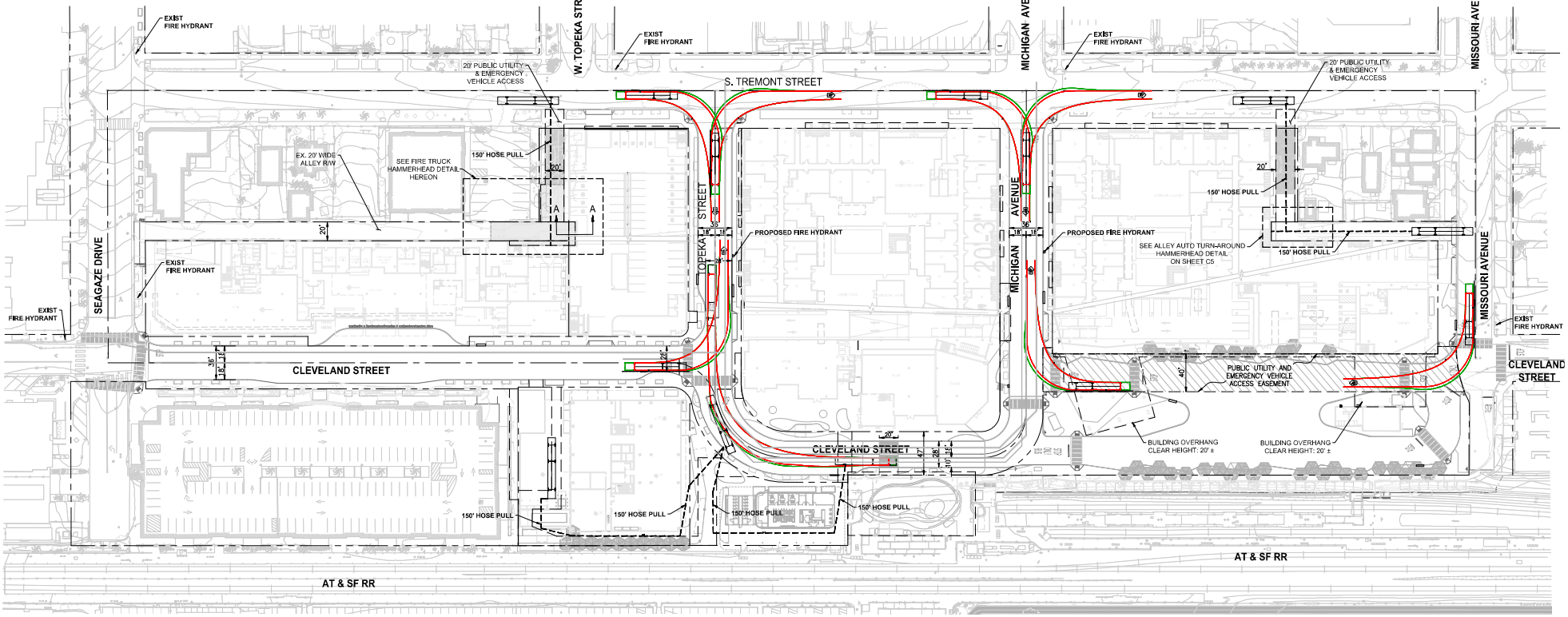
PREPARED BY:
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
S. CLEVELAND ST. PRELIMINARY STORM DRAIN
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C10 OF C13

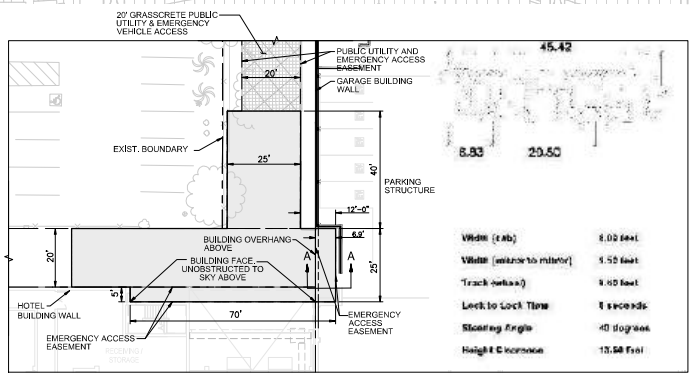
MAY 14, 2025

DRAWING: \\us3300-prfs01\shared_projects\249227900\drawing\sheet_files\27900c--1020sm.dwg PLOTTED: 9/22/2022 10:25 AM BY: Ahmed, Faiza

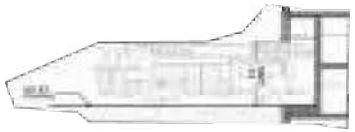


LEGEND:

- R/W/ BOUNDARY LINE
- CENTER LINE
- CURB AND GUTTER
- PROP. DRIVEWAY
- EXIST. CONTOUR
- PROP. CONTOUR
- EASEMENT LINE
- PROP. RETAINING WALL
- EXIST. SEWER
- EXIST. WATER
- EXIST. STORM DRAIN
- EXIST. GAS
- EXIST. OVERHEAD POWER
- PROP. SEWER
- PROP. WATER
- PROP. PUBLIC STORM DRAIN
- PROP. GAS
- EXIST. FIRE HYDRANT
- PROP. PUBLIC FIRE HYDRANT
- PROJECT BOUNDARY
- PAE — PUBLIC ACCESS EASEMENT
- FH — FIRE HYDRANT
- TURF BLOCK BOMANITE GRASSCRETE



FIRE TRUCK HAMMERHEAD
SCALE: 1"=20'

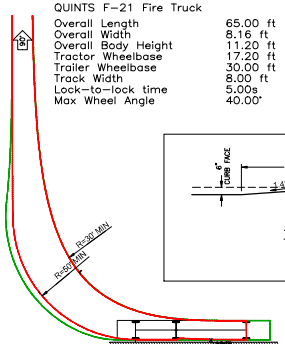


SECTION A-A

DESIGN VEHICLE

QUINTS F-21 Fire Truck

Overall Length	65.00 ft
Overall Width	8.16 ft
Overall Body Height	11.20 ft
Tractor Wheelbase	17.20 ft
Trailer Wheelbase	30.00 ft
Track Width	8.00 ft
Lock-to-lock time	5.00s
Max Wheel Angle	40.00°



90° TURNING TEMPLATE

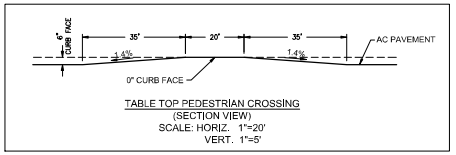
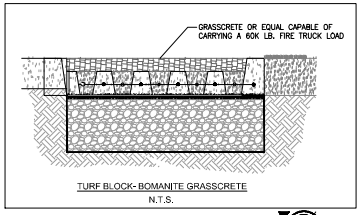


TABLE TOP PEDESTRIAN CROSSING
(SECTION VIEW)
SCALE: HORIZ. 1"=20'
VERT. 1"=5'

FIRE ACCESS NOTES

- A MINIMUM VERTICAL CLEARANCE OF 13 FEET AND 6 INCHES SHALL BE PROVIDED AND MAINTAINED.
- ACCESS ROADWAYS SHALL BE PROVIDED WITH A 50 FOOT OUTSIDE AND 30 FOOT INSIDE TURNING RADIUS.
- THE GRADE FOR FIRE ACCESS ROADWAYS SHALL NOT EXCEED 12%.
- ALL FIRE DEPARTMENT ACCESS ROADWAYS SHALL BE PAINTED/STRIPED AS FIRE LANES.
- EACH FDC SHALL BE LOCATED WITHIN 40' OF A HYDRANT AND BE LOCATED ON THE SAME SIDE OF THE STREET.



TURF BLOCK- BOMANITE GRASSCRETE
N.T.S.

GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

PREPARED BY:
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN
FIRE ACCESS CIRCULATION PLAN
NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET
CITY OF OCEANSIDE, CALIFORNIA

SHEET C11 OF C13

MAY 14, 2025

DRAWING: c:\2042317900\drawing\sheet_files\2317900-1008rev.dwg PLOTTED: 8/22/2022 10:25 AM BY: Ahmed, Faiza

TITLE DIGEST

TITLE ITEMS REFERRED TO HEREON ARE BASED ON INFORMATION CONTAINED IN FIRST AMERICAN TITLE COMPANY PRELIMINARY REPORT NO. NHSC-6555761, DATED MARCH 30, 2021.

THE FOLLOWING DIGEST OF TITLE ITEMS HAS BEEN PREPARED FOR THE CONVENIENCE OF THE USER. FOR FULL PARTICULARS, PLEASE REFER TO THOSE DOCUMENTS REFERENCED THEREIN.

PLOTTABLE EASEMENTS OF RECORD ARE INDICATED HEREON AND REFER TO THE CORRESPONDING ITEM NUMBER IN THE REFERENCED REPORT.

VESTING INTEREST

THE ESTATE OR INTEREST IN THE LAND DESCRIBED IN THIS REPORT IS:

A FEE.

LEGAL DESCRIPTION

THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

TRACT I: (147-350-24-00 AND 147-350-25-00)

PARCEL 1:

LOTS 9 THROUGH 16, BLOCK 7, OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 344, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JULY 1, 1885, LOT 9, BLOCK 7, BRYAN'S ADDITION, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

PARCEL 2:

ALL OF BLOCK 8 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

TOGETHER WITH THOSE PORTIONS OF CLEVELAND STREET AND MICHIGAN AVENUE VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

PARCEL 3:

FRACTIONAL LOT 8 IN BLOCK 9 OF BRYAN'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

TOGETHER WITH THE NORTHERLY 20 FEET OF TOPEKA STREET AS VACATED AND CLOSED TO PUBLIC USE, LYING SOUTHEASTERLY OF AND ADJACENT TO SAID LOT.

PARCEL 4:

LOTS 1, 2, 3, 4 AND 5 IN BLOCK 10 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

ALSO THAT PORTION OF TOPEKA STREET LYING WESTERLY FROM CLEVELAND STREET AND NORTH OF AND ADJACENT TO SAID LOT 1, BLOCK 10, WHICH SAID PORTION OF TOPEKA STREETS WAS CLOSED TO PUBLIC USE BY RESOLUTION NO. 915, IN THE CITY COUNCIL OF THE CITY OF OCEANSIDE, CALIFORNIA.

ALSO TOGETHER WITH THOSE PORTIONS OF CLEVELAND STREET AND TYSON STREET VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

LEGAL DESCRIPTION (CONTINUED)

PARCEL 5:

THAT PORTION OF A TRACT OF LAND COMMONLY KNOWN AS THE DEPOT GROUNDS IN OCEANSIDE, TOGETHER WITH THAT CERTAIN 200.00 FOOT RIGHT-OF-WAY OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY LYING SOUTHEASTERLY OF SAID DEPOT GROUNDS, ALL IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 313, BY H.P VINCENT, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, JULY 19, 1886, DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST WESTERLY CORNER OF LOT 16, BLOCK 7 OF OCEANSIDE, ACCORDING TO MAP THEREOF NO. 344, FILED IN SAID COUNTY RECORDER'S OFFICE ON JULY 1, 1885; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY LINE OF SAID BLOCK 7 AND ITS SOUTHEASTERLY PROLONGATION 443.70 FEET, MORE OR LESS TO THE MOST EASTERLY CORNER OF SAID DEPOT GROUNDS; THENCE SOUTHWESTERLY ALONG THE SOUTHEASTERLY LINE OF SAID DEPOT GROUNDS, 150.00 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF THE ATCHISON, TOPEKA AND SANTA FE RAILROAD BEING ALSO THE NORTHWESTERLY PROLONGATION OF THE SOUTHWESTERLY LINE OF BLOCK 10 OF BRYAN'S ADDITION TO OCEANSIDE AS SHOWN ON MAP THEREOF NO. 219, FILED IN SAID COUNTY RECORDER'S OFFICE ON MARCH 10, 1887; THENCE SOUTHEASTERLY ALONG SAID PROLONGATION AND SAID SOUTHWESTERLY LINE TO THE MOST SOUTHERLY CORNER OF LOT 5 IN SAID BLOCK 10; THENCE SOUTHWESTERLY ALONG THE SOUTHWESTERLY PROLONGATION OF THE SOUTHEASTERLY LINE OF SAID LOT 5, A DISTANCE OF 75.00 FEET; THENCE NORTHWESTERLY ALONG A LINE THAT IS PARALLEL WITH AND 75.00 FEET SOUTHWESTERLY OF SAID SOUTHWESTERLY LINE OF BLOCK 10 OF BRYAN'S ADDITION, MAP NO. 219, A DISTANCE OF 371.70 FEET; THENCE AT RIGHT ANGLES, NORTHEASTERLY 47.00 FEET; THENCE ALONG A LINE THAT BEARS LEFT 45°00'00" FROM THE NORTHEASTERLY PROLONGATION OF THE LAST MENTIONED LINE, 181.02 FEET TO A POINT ON A LINE THAT IS PARALLEL WITH AND 50.00 FEET SOUTHWESTERLY OF THE SOUTHWESTERLY LINE OF SAID BLOCK 7 OF OCEANSIDE, MAP NO. 344; THENCE ALONG SAID PARALLEL LINE, NORTHWESTERLY TO A POINT ON THE SOUTHWESTERLY PROLONGATION OF THE NORTHWESTERLY LINE OF SAID LOT 16, BLOCK 7 OF MAP NO. 344; THENCE NORTHEASTERLY

TRACT II:

PARCEL 1: (APN 150-046-17-00)

LOTS 1, 2, 3, 4 AND 5 IN BLOCK 12 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

PARCEL 2: (APN 150-046-01-00 THROUGH 150-046-08-00)

LOTS 9 THROUGH 16 INCLUSIVE, IN BLOCK 12 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY MARCH 10, 1887.

EXCEPTING THEREFROM, ALL OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER ALL OF THE ABOVE DESCRIBED REAL PROPERTY, BUT WITHOUT ANY RIGHT TO PENETRATE, USE OR DISTURB THE SURFACE OF SAID PROPERTY OR ANY PORTION OF SAID PROPERTY WITHIN FIVE HUNDRED FEET (500') OF THE SURFACE THEREOF.

TOGETHER WITH PORTIONS OF CLEVELAND STREET AND MICHIGAN AVENUE VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

TRACT III:

PARCEL 1: (APN 150-043-01-00 THROUGH 150-043-04-00)

ALL OF LOTS 7 AND 8 IN BLOCK 10 AND 11 OF LOTS 1, 2, 3 AND 4 IN BLOCK 11, ALL BEING BYRON'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887, TOGETHER WITH THAT PORTION OF MICHIGAN AVENUE (80.00 FEET WIDE) LYING ADJACENT TO AND BETWEEN SAID BLOCKS AS VACATED AND CLOSED TO PUBLIC USE ON DECEMBER 23, 1931 BY RESOLUTION NO. 633 OF THE CITY COUNCIL OF THE CITY OF OCEANSIDE.

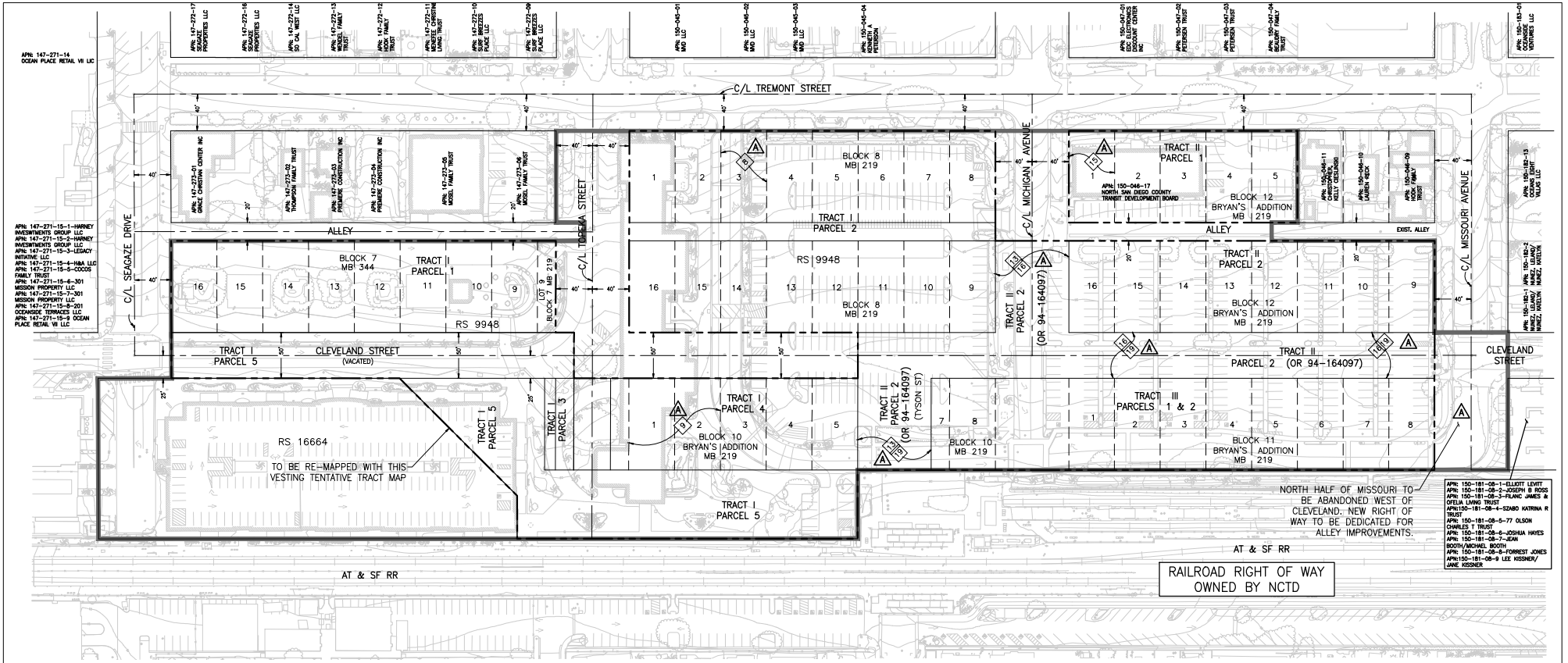
PREPARED BY:
Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN ENCUMBRANCE MAP

NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET

CITY OF OCEANSIDE, CALIFORNIA

DWGREG: \\us300-prfs01\shared_projects\204221900\drawing\sheet_files\21900c--1009tm.dwg PLOTTED: 9/22/2022 10:05 AM BY: Ahmad, Faiza



EXCEPTIONS

THE FOLLOWING MATTERS AFFECT TRACT I:

A 4 AN EASEMENT TO THE CITY OF OCEANSIDE FOR HIGHWAY PURPOSES RECORDED JUNE 29, 1922 IN BOOK 751, PAGE 282, DEEDS. (LOCATION OF THE EASEMENT IS INDETERMINATE FROM RECORD INFORMATION)

A 5 RESOLUTION NO. 2507 TO CHANGE STREET NAME TO TRANSIT STREET RECORDED MARCH 22, 1956 IN BOOK 6028, PAGE 360, OFFICIAL RECORDS.

A 6 THE FACT THAT THE LAND LIES WITHIN THE BOUNDARIES OF THE DOWNTOWN REDEVELOPMENT PROJECT AREA, AS DISCLOSED BY THE DOCUMENT RECORDED NOVEMBER 21, 1975 AS INSTRUMENT NO. 75-328187, OFFICIAL RECORDS. A MODIFICATION DOCUMENT RECORDED AUGUST 12, 1982 AS INSTRUMENT NO. 82-0248561, OFFICIAL RECORDS.

A 7 COVENANTS, CONDITIONS AND RESTRICTIONS IN A GRANT DEED RECORDED MAY 8, 1981 AS INSTRUMENT NO. 81-0142429, OFFICIAL RECORDS.

A 8 AN EASEMENT TO SAN DIEGO GAS AND ELECTRIC COMPANY FOR AN UNDERGROUND ELECTRICAL SYSTEM RECORDED FEBRUARY 16, 1983 AS INSTRUMENT NO. 83-050385, OFFICIAL RECORDS. (AFFECTS LOT 3, BLOCK 8, BRYAN'S ADDITION. EXACT LOCATION IS INDETERMINATE FROM RECORD INFORMATION)

A 9 A "MEMORANDUM OF LEASE" RECORDED MARCH 23, 1984 AS INSTRUMENT NO. 84-107078, OFFICIAL RECORDS. (AFFECTS LOTS 1 & 2, BLOCK 10, BRYAN'S ADDITION).

A 10 AN ORDER FOR POSSESSION, CASE NO. N18999, RECORDED AUGUST 2, 1984 AS INSTRUMENT NO. 84-294906, OFFICIAL RECORDS.

A 11 THE EFFECT OF RECORD OF SURVEY NO. 9948.

EXCEPTIONS (CONTINUED)

A 12 RESERVATIONS FROM RESOLUTION NO. 85-67 OVER PORTIONS OF VACATED TYSON STREET RECORDED MAY 31, 1985 AS INSTRUMENT NO. 85-193545, OFFICIAL RECORDS. (PORTION OVER AT & SF RR).

A 13 RESERVATION OF PUBLIC UTILITY EASEMENTS FROM RESOLUTION NO. R94-23 OVER PORTIONS OF VACATED TYSON STREET, CLEVELAND STREET AND MICHIGAN AVENUE RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-164097, OFFICIAL RECORDS.

A 14 RIGHTS OF THE PUBLIC IN AND TO THAT PORTION OF THE LAND LYING WITHIN ANY ROAD, STREET, ALLEY OR HIGHWAY.

THE FOLLOWING MATTERS AFFECT TRACT II:

A 15 AN EASEMENT TO SAN DIEGO GAS AND ELECTRIC COMPANY FOR AN ELECTRICAL SYSTEM RECORDED JUNE 28, 1977 AS INSTRUMENT NO. 256810, OFFICIAL RECORDS. (AFFECTS LOT 1, BLOCK 12, BRYAN'S ADDITION. LOCATION OF THE EASEMENT IS INDETERMINATE FROM RECORD INFORMATION)

A 16 RESERVATION OF PUBLIC UTILITY EASEMENTS FROM RESOLUTION NO. R94-23 OVER PORTIONS OF VACATED TYSON STREET, CLEVELAND STREET AND MICHIGAN AVENUE RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-164097, OFFICIAL RECORDS.

A 17 A "NOTICE OF COMPLETION FOR IFP# 19022-27890" RECORDED OCTOBER 4, 2019 AS INSTRUMENT NO. 2019-0443481, OFFICIAL RECORDS.

THE FOLLOWING MATTERS AFFECT TRACT III:

A 18 THE FACT THAT THE LAND LIES WITHIN THE BOUNDARIES OF THE DOWNTOWN REDEVELOPMENT PROJECT AREA, AS DISCLOSED BY THE DOCUMENT RECORDED JULY 6, 1978 AS INSTRUMENT NO. 78-282288, OFFICIAL RECORDS.

A 19 RESERVATION OF PUBLIC UTILITY EASEMENTS FROM RESOLUTION NO. R94-23 OVER PORTIONS OF VACATED TYSON STREET, CLEVELAND STREET AND MICHIGAN AVENUE RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-164097, OFFICIAL RECORDS.

A 20 RIGHTS OF PARTIES IN POSSESSION.

EASEMENT / RIGHT OF WAY DISPOSITION NOTES

A EXISTING EASEMENTS AND RIGHT OF WAY TO BE QUITCLAIMED, OR ABANDONED

LEGEND:

- BOUNDARY LINE
- CENTER LINE
- CURB AND GUTTER
- PROP. DRIVEWAY
- EXIST. CONTOUR
- PROP. CONTOUR
- EASEMENT LINE
- PROP. RETAINING WALL
- EXIST. SEWER
- EXIST. WATER
- EXIST. STORM DRAIN
- EXIST. GAS
- EXIST. OVERHEAD POWER
- PROP. SEWER
- PROP. WATER
- PROP. STORM DRAIN
- PROP. GAS
- EXIST. FIRE HYDRANT
- EXIST. SUBDIVISION BOUNDARY

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

PREPARED BY:

Stantec
38 Technology Drive
Irvine, CA 92618
949-923-6000 stantec.com

VESTING TENTATIVE MAP AND DEVELOPMENT PLAN ENCUMBRANCE MAP

NCTD OCEANSIDE TRANSIT CENTER, SOUTH TREMONT STREET

CITY OF OCEANSIDE, CALIFORNIA

SHEET C13 OF C13

DRAWING: \\us1300-prfs01\shared_projects\204231790\drawing\sheet_files\21790c-1010sm.dwg PLOTTED: 8/22/2022 10:05 AM BY: Ahmed, Faiza

4.03 ATTACHMENT 3c



EXISTING TREE PLAN

SCALE: 1" = 50'-0"

0 25 50 100
SCALE: 1"=50'-0"

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME
20	EXISTING ARBUTUS X 'MARINA' TO BE REMOVED
9	EXISTING ARECASTRUM ROMANZOFFIANUM TO BE REMOVED
9	EXISTING CUPANIOPSIS ANACARDIOIDES TO BE REMOVED
11	EXISTING ERYTHRINA CAFFRA TO BE REMOVED
19	EXISTING EUCALYPTUS CAMALDULENSIS TO BE REMOVED
14	EXISTING EUCALYPTUS ROSACEA TO BE REMOVED
17	EXISTING MELALEUCA MISSOPHILA TO BE REMOVED
16	EXISTING MELALEUCA QUINQUENERVIA TO BE REMOVED
15	EXISTING PHOENIX CANARIENSIS TO BE REMOVED
5	EXISTING PINUS CANARIENSIS TO BE REMOVED
13	EXISTING PLATANUS RACEMOSA TO BE REMOVED
12	EXISTING TRISTANIA CONFERTA TO BE REMOVED
18	EXISTING ULMUS PARVIFOLIA TO BE REMOVED
9	EXISTING WASHINGTONIA ROBUSTA TO BE REMOVED

Categories	Quantity	10yr Caliper (inches)	Total DBH (inches)
General street tree	93	12	1116
Tremont street tree	19	12	228
Dune tree	23	18	414
Feature tree	22	24	528
Small flowering tree	24	9	216
Small feature tree	45	6	270
Total DBH			2772

Categories	Quantity	10yr BTH (feet)	Total BTH (feet)
Stroot palm	32	24	768
Total BTH			768

TREE REPLACEMENT TABLE

	PROPOSED PLANTING	CURRENT PLANTING
DBH	2772"	886"
BTH	768'	960'

TREE PROTECTION NOTES:

1. A ROOT PROTECTION ZONE SHALL BE DEFINED BY A FOUR FOOT HIGH, TWO BY FOUR BARRIER CONSTRUCTED AROUND ANY POTENTIALLY IMPACTED TREE. THIS BARRIER SHALL BE AT THE DRIP LINE OR AT A DISTANCE FROM THE TRUNK EQUAL TO 6 INCHES FOR EACH INCH OF TRUNK DIAMETER 4 1/2 FEET ABOVE THE GROUND IF THIS METHOD DEFINES A LARGER AREA.
3. SHOULD IT BE NECESSARY TO TRENCH WITHIN THE 8 FT RADIUS OF TREE, TRENCHES SHALL BE HAND DUG. NO ROOTS LARGER THAN ONE INCH SHALL BE CUT UNLESS NO OTHER ALTERNATIVE IS FEASIBLE. ALL SMALLER ROOTS THAT MUST BE CUT SHALL BE SAW CUT AND TRENCHERS FLUSH WITH THE SIDE OF THE TRENCH. IF AT ANY TIME 25 PERCENT OF THE AREA WITHIN THE ROOT PROTECTION ZONE IS BEING SEPARATED FROM THE TREES BY A TRENCH, THE LINE SHALL BE LOCATED BY BORING OR AN ALTERNATIVE LOCATION FOR THE TRENCH ESTABLISHED. THE MINIMUM CLEARANCE BETWEEN AN OPEN TRENCH AND A STREET TREE SHALL BE ONE (1) FOOT, OR SIX (6) INCHES FOR EACH INCH OF TRUNK DIAMETER MEASURED AT 4.5 FEET ABOVE EXISTING GRADE IF THIS METHOD DEFINES A LARGER DISTANCE. THE MAXIMUM CLEARANCE SHALL BE TEN (10) FEET. THE CONTRACTOR SHALL CONFORM TO THESE PROVISIONS UNLESS OTHERWISE DIRECTED OTHERWISE.
3. AT NO TIME SHALL ANY EQUIPMENT, MATERIALS, SUPPLIES OR FILL BE ALLOWED WITHIN THE PRESCRIBED ROOT PROTECTION ZONE UNLESS OTHERWISE DIRECTED. THE ROOT PROTECTION ZONE IS DEFINED AS THE LARGER OF THE DRIP LINE OF THE TREE OR THE DISTANCE FROM THE TRUNK EQUAL TO SIX (6) INCHES FOR EACH INCH OF TRUNK DIAMETER MEASURED AT 4.5 FEET ABOVE EXISTING GRADE.
4. WHEN DEALING WITH COLUMNAR TREE SPECIES THE DRIP LINE AND ROOT PROTECTION ZONE IS INADEQUATE AND MUST BE ADJUSTED TO REFLECT A ROOT PROTECTION RADIUS OF 80% OF THE OVERALL TREE HEIGHT.

Tremont Site

Tree Type	Canopy Area	Quantity	
GENERAL STREET TREE	296 sf	93	29,971 sf
STREET PALM	196 sf	29	5,771 sf
SMALL FEATURE TREE	75 sf	45	3,375 sf
ACCENT TREE	196 sf	11	1,976 sf
SMALL FLOWERING TREE	96 sf	28	2,592 sf
DUNE TREE	296 sf	38	11,480 sf
FEATURE TREE	506 sf	21	10,906 sf
VERTICAL SCREENING TREE	135 sf	34	4,950 sf
TREMONT STREET TREE	319 sf	18	8,575 sf
	2191 sf	382	

Total	28,600 sf	
Required	5,537.1 sf	
Surplus	373.3 sf	

Total Site Area	44,372 sf
Percentage of Site	15%

Permeable Surface Area	11,172 sf
Required	10,799 sf
Deficit	373 sf
Percentage of Site	10%

ARCADIS
OCEANSIDE TRANSIT CENTER

McCulloughLA.com

Toll Brothers Apartment Living

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
1	09.06.2022	DP SUBMITTAL 1
2	02.10.2023	DP SUBMITTAL 2
3	11.30.2023	DP SUBMITTAL 3
4	04.10.2024	DP SUBMITTAL 4
5	09.20.2024	DP SUBMITTAL 5
6	09.19.2025	DP SUBMITTAL 6
7	09.19.2025	DP SUBMITTAL 7

Schematic Design

EXISTING TREE PLAN

L-001

GENERAL STREET TREE	213	
ARBUTUS X 'MARINA' / MARINA STRAWBERRY TREE STANDARD		24" BOX
BAUHINIA PURPUREA / PURPLE ORCHID TREE		15 GAL
CASSIA LEPTOPHYLLA / GOLD MEDALLION TREE		24" BOX
CHILOPSIS LINEARIS / DESERT WILLOW		24" BOX
LAURUS NOBILIS / SWEET BAY		15 GAL
METROSIDEROS EXCELSA / NEW ZEALAND CHRISTMAS TREE		24" BOX
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE		24" BOX
TREMONT STREET TREE	46	
ALBIZIA JULIBRISSIN / SILK TREE		24" BOX
GEIJERA PARVIFLORA / AUSTRALIAN WILLOW		24" BOX
JACARANDA MIMOSIFOLIA / JACARANDA MULTI-TRUNK		24" BOX
PLATANUS MEXICANA 'ALAMO' / MEXICAN SYCAMORE		24" BOX
SEARSIA LANCEA / AFRICAN SUMAC		24" BOX
DUNE TREE	33	
AGONIS FLEXUOSA / PEPPERMINT TREE		24" BOX
GEIJERA PARVIFLORA / AUSTRALIAN WILLOW		24" BOX
MELALEUCA QUINQUENERVIA / CAJEPUT TREE MULTI-TRUNK		24" BOX
PROSOPIS CHILENSIS 'THORNLESS' / THORNLESS CHILEAN MESQUITE		24" BOX
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE		24" BOX
FEATURE TREE	28	
CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK		15 GAL
CHIONANTHUS RETUSUS / CHINESE FRINGE TREE		15 GAL
PITTOSPORUM PHILLYRAEOIDES / DESERT WILLOW PITTOSPORUM		15 GAL
SCHINUS MOLLE / CALIFORNIA PEPPER		24" BOX
TABEBUIA CHRYSOTRICHA / GOLDEN TRUMPET TREE		15 GAL
TIPUANA TIPU / TIPU TREE		24" BOX
TRISTANIOPSIS LAURINA / WATER GUM		15 GAL
SMALL FLOWERING TREE	20	
ACACIA BAILEYANA / BAILEY ACACIA		24" BOX
ACACIA COGNATA / BLUE BUSH ACACIA		15 GAL
ACACIA CULTRIFORMIS / KNIFE ACACIA		15 GAL
ACACIA DEALBATA / SILVER WATTLE		15 GAL
ALBIZIA JULIBRISSIN / SILK TREE		24" BOX
CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK		24" BOX
LAGERSTROEMIA INDICA / CRAPE MYRTLE		15 GAL
LEPTOSPERMUM LAEVIGATUM / AUSTRALIAN TEA TREE		15 GAL
MELALEUCA NESOPHILA / PINK MELALEUCA MULTI-TRUNK		15 GAL
PLUMERIA RUBRA / RED FRANGIPANI		15 GAL
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE		24" BOX
SMALL FEATURE TREE	89	
ALOE 'HERCULES' / HERCULES ALOE		15 GAL
ALOE BAINESII / TREE ALOE		15 GAL
CORDYLINE AUSTRALIS / GRASS PALM		15 GAL
DRACAENA DRACO / DRAGON TREE		15 GAL
DRACAENA MARGINATA / DRACAENA		15 GAL
FICUS ELASTICA / RUBBER TREE		15 GAL
FICUS LYRATA / FIDDLE LEAF FIG		15 GAL
JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER		15 GAL
YUCCA ALOIFOLIA / ALOE YUCCA		15 GAL
YUCCA AUSTRALIS / YUCCA		15 GAL
YUCCA RIGIDA / MEXICAN BLUE YUCCA		15 GAL
YUCCA ROSTRATA / BEAKED YUCCA		15 GAL
STREET PALM	82	
WASHINGTONIA ROBUSTA / MEXICAN FAN PALM		12' BTH
WASHINGTONIA X FILIBUSTA / HYBRID FAN PALM		12' BTH
ACCENT TREE	25	
BEAUCARNEA RECURVATA / PONY TAIL PALM		24" BOX
CUPRESSUS MACROCARPA / MONTEREY CYPRESS		24" BOX
DRACAENA DRACO / DRAGON TREE		24" BOX
YUCCA BREVIFOLIA / JOSHUA TREE		24" BOX
YUCCA ELEPHANTIPES / GIANT YUCCA		24" BOX
VERTICAL SCREENING TREE	71	
ELAEOCARPUS DECIPIENS / JAPANESE BLUEBERRY TREE		15 GAL
HETERomeles ARBUTIFOLIA / TOYON		15 GAL
LAURUS NOBILIS / SWEET BAY		15 GAL
MYRICA CALIFORNICA 'BUXIFOLIA' / PACIFIC WAX MYRTLE		15 GAL
PODOCARPUS GRACILIOR / FERN PINE		15 GAL
GENERAL STREETSCAPE	11,048 SF	
2'-3' O.C.		
ACACIA COGNATA 'ACCOG01' / COUSIN ITT LITTLE RIVER WATTLE		1 GAL. - 5 GAL.
AEONIUM ARBOREUM / TREE AEONIUM		1 GAL. - 5 GAL.
AGAVE ATTENUATA / FOXTAIL AGAVE		1 GAL. - 5 GAL.
ARISTIDA PURPUREA / PURPLE THREEAWN		1 GAL. - 5 GAL.
CARISSA MACROCARPA 'TUTTLEI' / TUTTLE NATAL PLUM		1 GAL. - 5 GAL.
DIANELLA 'TASMANICA 'TR20' TM / TASRED FLAX LILY		1 GAL. - 5 GAL.
ERIOGONUM FASCICULATUM / CALIFORNIA BUCKWHEAT		1 GAL. - 5 GAL.
GREVILLEA ROSMARINIFOLIA 'DWARF FORM' / DWARF ROSEMARY GREVILLEA		1 GAL. - 5 GAL.
GREVILLEA X 'CANBERRA GEM' / CANBERRA GEM GREVILLEA		1 GAL. - 5 GAL.
LIGUSTRUM JAPONICUM 'TEXANUM' / TEXAS JAPANESE PRIVET		1 GAL. - 5 GAL.
LOMANDRA CONFERTIFOLIA 'SEASCAPE' / SEASCAPE MAT RUSH		1 GAL. - 5 GAL.
MUHLENBERGIA 'LINDHEIMER' / LINDHEIMER'S MUHLY		1 GAL. - 5 GAL.
MYRSINE AFRICANA / AFRICAN BOXWOOD		1 GAL. - 5 GAL.
PEDILANTHUS MACROCARPUS / LADY'S SLIPPER		1 GAL. - 5 GAL.
SENECIO SERPENS / BLUE CHALKSTICKS		1 GAL. - 5 GAL.
TRACHELOSPERMUM JASMINOIDES / CHINESE STAR JASMINE		1 GAL. - 5 GAL.

RAISED PLANTER MIX	196 SF	
2'-3' O.C.		
ACHILLEA MILLEFOLIUM / COMMON YARROW		1 GAL. - 5 GAL.
CAREX TESTACEA / ORANGE SEDGE		1 GAL. - 5 GAL.
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL.
ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE		1 GAL. - 5 GAL.
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS		1 GAL. - 5 GAL.
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS		1 GAL. - 5 GAL.
PENSTEMON SPECTABILIS / SHOWY PENSTEMON		1 GAL. - 5 GAL.
PORTULACARIA AFRA / ELEPHANT BUSH		1 GAL.
SALVIA X 'BEES BLISS' / BEE'S BLISS SAGE		1 GAL. - 5 GAL.
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS		1 GAL. - 5 GAL.
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO		1 GAL.
SENECIO VITALIS / BLUE CHALK FINGERS		1 GAL.
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS		1 GAL. - 5 GAL.
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA		1 GAL. - 5 GAL.
DUNE MIX	17,881 SF	
2'-3' O.C.		
ABRONIA VILLOSA / DESERT SAND VERBENA		1 GAL.
AGAVE SHAWII / COASTAL AGAVE		1 GAL. - 5 GAL.
ARISTIDA PURPUREA / PURPLE THREEAWN		1 GAL. - 5 GAL.
BOUTELOUA GRACILIS 'BLONDE AMBITION' / BLONDE AMBITION BLUE GRAMA		1 GAL. - 5 GAL.
CAREX BUCHANANII / LEATHER LEAF SEDGE		1 GAL. - 5 GAL.
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL. - 5 GAL.
LIMONIUM PEREZII / STATICE		1 GAL. - 5 GAL.
MUHLENBERGIA DUBIA / PINE MUHLY		1 GAL. - 5 GAL.
OPUNTIA SANTA-RITA 'TUBAC' TR / SANTA RITA PRICKLYPEAR		1 GAL. - 5 GAL.
ESCHSCHOLZIA CALIFORNICA / PONDEREED		1 GAL. - 5 GAL.
SPHAERALCEA AMBIGUA / DESERT GLOBEMALLOW		1 GAL. - 5 GAL.
XEROSICYOS DANGUY / SILVER DOLLAR VINE		1 GAL.
TREMONT STREETSCAPE	6,111 SF	
2'-3' O.C.		
AEONIUM X 'ZWARTKOP' / ZWARTKOP AEONIUM		1 GAL. - 5 GAL.
DIANELLA REVOLUTA / SPREADING FLAX LILY		1 GAL. - 5 GAL.
DURANTA ERECTA 'GOLD MOUND' / GOLD MOUND DEWDROPS		1 GAL. - 5 GAL.
GREVILLEA KILAUEA / GREVILLEA		1 GAL. - 5 GAL.
HAKEA SUAVEOLENS / SWEET HAKEA		1 GAL. - 5 GAL.
LEUCADENDRON LAUREOLUM / BREVIDORP CONEBUSH		1 GAL. - 5 GAL.
LIGUSTRUM JAPONICUM 'TEXANUM' / TEXAS JAPANESE PRIVET		1 GAL. - 5 GAL.
LIGUSTRUM SINENSE 'SUNSHINE' / SUNSHINE CHINESE PRIVET		1 GAL. - 5 GAL.
LOMANDRA CONFERTIFOLIA 'SEASCAPE' / SEASCAPE MAT RUSH		1 GAL. - 5 GAL.
LOMANDRA LONGIFOLIA 'TANIKA' / TANIKA DWARF MAT RUSH		1 GAL. - 5 GAL.
PENNISETUM X 'FAIRY TAILS' / FAIRY TAILS FOUNTAIN GRASS		1 GAL.
PENSTEMON EATONII / FIRECRACKER PENSTEMON		1 GAL.
POLYGALA MYRTIFOLIA / SWEET-PEA SHRUB		1 GAL. - 5 GAL.
SALVIA LEUCANTHA 'SANTA BARBARA' / SANTA BARBARA MEXICAN BUSH SAGE		1 GAL. - 5 GAL.
SALVIA X 'ALLEN CHICKERING' / ALLEN CHICKERING SAGE		1 GAL. - 5 GAL.
TELOPEA SPECIOSISSIMA / WARATAH		1 GAL. - 5 GAL.
TELOPEA X 'BRAWDERYS' / GERMANDER		1 GAL. - 5 GAL.
TELOPEA X 'BRAWDERYS' / HEDGE GERMANDER		1 GAL. - 5 GAL.
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA		1 GAL. - 5 GAL.
ALLEY MIX	1,272 SF	
2'-3' O.C.		
ACHILLEA MILLEFOLIUM / COMMON YARROW		1 GAL.
DIANELLA REVOLUTA 'BLUE TWIST' TM / BLUE TWIST FLAX LILY		1 GAL.
DIANELLA TASMANICA / FLAX LILY		1 GAL.
DIETES BICOLOR / FORTNIGHT LILY		1 GAL.
LOMANDRA CONFERTIFOLIA / SMALL MAT RUSH		1 GAL.
LOMANDRA LONGIFOLIA / MAT RUSH		1 GAL.
LOMANDRA X 'LOMLON' TM / LIME TUFF DWARF MAT RUSH		1 GAL.
MUHLENBERGIA CAPILLARIS 'REGAL MIST' / REGAL MIST MUHLY GRASS		1 GAL.
PHORMIUM COOKIANUM / MOUNTAIN FLAX		1 GAL.
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS		1 GAL.
BIO FILTRATION PLANTER	19,758 SF	
2'-3' O.C.		
ACHILLEA MILLEFOLIUM / COMMON YARROW		4" POT
AGROSTIS PALLENS / THINGRASS		1 GAL.
ANEMOPSIS CALIFORNICA / YERBA MANSA		1 GAL.
CAREX SPISSA / SAN DIEGO SEDGE		1 GAL.
CAREX SUBFUSCA / BROWN SEDGE		1 GAL.
CAREX TUMULICOLA / FOOTHILL SEDGE		1 GAL.
DISTICHLIS SPICATA / SALTGRASS		1 GAL.
ELEOCHARIS MACROSTACHYA / COMMON SPIKERUSH		1 GAL.
FESTUCA CALIFORNICA / CALIFORNIA FESCUE		1 GAL.
FESTUCA RUBRA / RED FESCUE		1 GAL.
IVA HAYESIANA / SAN DIEGO POVERTY WEED		1 GAL.
JUNCUS PATENS / CALIFORNIA GRAY RUSH		1 GAL.
MAHONIA NEVINII / NEVIN MAHONIA		1 GAL.
MUHLENBERGIA RIGENS / DEER GRASS		1 GAL.
RIBES SPECIOSUM / FUCHSIA FLOWERING GOOSEBERRY		1 GAL.
ROSA CALIFORNICA / CALIFORNIA WILD ROSE		1 GAL.
SCIRPUS CERNUUS / LOW BULRUSH		1 GAL.
HARDY TURF	5,129 SF	
FESTUCA ARUNDINACEA 'MARATHON II' / MARATHON II FESCUE		SOD

LONGTERM MAINTENANCE:
ALL REQUIRED LANDSCAPE AREAS TO BE MAINTAINED BY OWNER, INCLUDING ROW PLANTING. THE LANDSCAPED AREAS SHALL BE MAINTAINED FREE OFF DEBRIS AND LITTER AND ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. LANDSCAPE AS PART OF THE PROJECT SHALL BE MAINTAINED AND IRRIGATED FOR THE LIFE OF THE PERMIT.

TRASH
TRASH IS TO BE STORED IN INTERNAL TRASH ROOMS AND WILL BE ROLLED OUT TO THE STREET AND COLLECTED TWICE A WEEK.

INVASIVE PLANT NOTE:
ALL EXISTING, INVASIVE PLANT SPECIES, INCLUDING VEGETATIVE PARTS AND ROOT SYSTEMS, SHALL BE COMPLETELY REMOVED FROM THE PREMISES WHEN THE COMBINATION OF SPECIES, TYPE, LOCATION, AND SURROUNDING ENVIRONMENTAL CONDITIONS PROVIDES A MEANS FOR THE SPECIES TO INVADE OTHER AREAS OF NATIVE PLANT MATERIAL THAT ARE ON OR OFF OF THE PREMISES.

ROOT BARRIER:
NON-BIODEGRADEABLE ROOT BARRIERS SHALL BE INSTALLED AROUND ALL NEW STREET TREES WITHIN 5' OF HARDSCAPE SURFACES.

PLANTING NOTES:
A. FINAL LANDSCAPE PLANS SHALL ACCURATELY SHOW PLACEMENT OF TREES, SHRUBS, AND GROUNDCOVERS.
B. LANDSCAPE ARCHITECT SHALL BE AWARE OF UTILITY, SEWER, STORM DRAIN EASEMENT AND PLACE PLANTING LOCATIONS ACCORDINGLY TO MEET CITY OF OCEANSIDE REQUIREMENTS.
C. ALL REQUIRED LANDSCAPE AREA (INCLUDING THE R.O.W.) SHALL BE MAINTAINED BY OWNER OR AS STATED IN ANY LEGAL DOCUMENT SUCH AS, BUT NOT LIMITED TO A LEASE AGREEMENT. THE LANDSCAPE AREAS SHALL BE MAINTAINED PER CITY OF OCEANSIDE REQUIREMENTS.
D. AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED TO PROVIDE COVERAGE FOR ALL PLANTING AREAS SHOWN ON THE PLAN. LOW VOLUME EQUIPMENT SHALL PROVIDE SUFFICIENT WATER FOR PLANT GROWTH WITH A MINIMUM WATER LOSS DUE TO WATER RUN-OFF. IRRIGATION SYSTEMS SHALL USE HIGH QUALITY, AUTOMATIC CONTROL VALVES, CONTROLLERS AND OTHER NECESSARY IRRIGATION EQUIPMENT. ALL COMPONENTS SHALL BE OF NON-CORROSIVE MATERIAL. ALL DRIP SYSTEMS SHALL BE ADEQUATELY FILTERED AND REGULATED PER THE MANUFACTURER'S RECOMMENDED DESIGN PARAMETERS. ALL IRRIGATION IMPROVEMENTS SHALL FOLLOW THE CITY OF OCEANSIDE GUIDELINES AND WATER CONSERVATION ORDINANCE.
E. THE SELECTION OF PLANT MATERIAL IS BASED ON CULTURAL AESTHETIC, AND MAINTENANCE CONSIDERATIONS. ALL PLANTING AREAS SHALL BE PREPARED WITH APPROPRIATE SOIL AMENDMENTS, FERTILIZERS, AND APPROPRIATE SUPPLEMENTS BASED UPON A SOILS REPORT FROM AN AGRICULTURAL SUITABILITY SOIL SAMPLE TAKEN FROM THE SITE. GROUND COVERS OR BARK MULCH SHALL FILL IN BETWEEN THE SHRUBS TO SHIELD THE SOIL FROM THE SUN, EVAPOTRANSPORATION AND RUN-OFF. ALL THE FLOWER AND SHRUB BEDS SHALL BE MULCHED TO A 3" DEPTH TO HELP CONSERVE WATER, LOWER THE SOIL TEMPERATURE AND REDUCE WEED GROWTH. THE SHRUBS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORMS. ALL LANDSCAPE IMPROVEMENTS SHALL FOLLOW THE CITY OF OCEANSIDE GUIDELINES.

STREET TREE NOTES:
STREET TREES AND OTHER TREES SHALL BE SPACED:
A. 8 FEET (PREVIOUSLY 3 FEET) FROM TRANSFORMERS, CABLE, AND PULL BOXES.
B. 5 FEET FROM MAILBOXES
C. 5 FEET FROM FIRE HYDRANTS (ALL SIDES)
D. 10 FEET FROM CENTERLINE (PREVIOUSLY 7 FEET) OF ALL UTILITY LINES (WITHOUT EASEMENT) (SEWER, WATER, STORM DRAINS, DOUBLE CHECK DETECTORS, AIR RELIEF VALVES AND GAS)
E. 10 FEET FROM EASEMENT BOUNDARIES (SEWER, WATER, STORM DRAINS, ACCESS OR OTHER UTILITIES)
F. 10 FEET FROM DRIVEWAYS (UNLESS A LINE OF SIGHT IS DETERMINED BY THE TRAFFIC DIVISION TO BE OTHERWISE)
G. 10 FEET FROM TRAFFIC AND DIRECTIONAL SIGNS
H. 15 FEET (MINIMUM) FROM STREETLIGHTS, OTHER UTILITY POLES, (DETERMINED BY SPECIFICATIONS)
I. STREET TREES SHALL BE PLANTED 3' OUTSIDE RIGHT-OF-WAY IF THE RIGHT-OF-WAY DOES NOT ALLOW SPACE, SUBJECT TO THE CITY ENGINEER'S APPROVAL.
J. LINE OF SIGHT AT ARTERIALS, COLLECTOR AND LOCAL STREETS SHALL BE REVIEWED AND DETERMINED BY TRAFFIC ENGINEER. A MINIMUM OF TWENTY-FIVE FEET (25') FROM STREET INTERSECTION OR AS APPROVED BY THE TRAFFIC ENGINEER.
K. MINIMUM FIFTEEN FEET (15') STREETLIGHT AND STOP SIGN OR CLEARANCE DETERMINED BY SPECIFICATIONS.
L. SCREEN ALL UTILITIES ACCORDING TO SPECIFIC AGENCY REQUIREMENTS.

ROOT BARRIER NOTES:
ROOT BARRIERS SHALL BE INSTALLED ADJACENT TO ALL PAVING SURFACES WHERE A PAVING SURFACE IS LOCATED WITHIN 6 FEET OF A TREE TRUNK ON SITE (PRIVATE) AND WITHIN 10 FEET OF A TREE TRUNK IN THE RIGHT-OF-WAY (PUBLIC). ROOT BARRIERS SHALL EXTEND 5 FEET IN EACH DIRECTION FROM THE CENTERLINE OF THE TRUNK, FOR A TOTAL DISTANCE OF 10 FEET. ROOT BARRIERS SHALL BE A MINIMUM 24 INCHES IN DEPTH. INSTALLING A ROOT BARRIER AROUND THE TREE'S ROOT BALL IS UNACCEPTABLE.

FIRE NOTES:
A. LANDSCAPE IMPROVEMENT PLAN SET AND INSTALLATION ARE REQUIRED TO IMPLEMENT APPROVED FIRE DEPT. REGULATIONS, CODES, AND STANDARDS AT THE TIME OF PROJECT APPROVAL.
B. ALL FIRE HYDRANTS. DOUBLE CHECK DETECTORS, POST INDICATING VALVES. AND FIRE DEPARTMENT CONNECTIONS SHALL BE PROVIDED WITH A 3-FOOT CLEARANCE AROUND ALL FIRE APPARATUSES.
C. ALL TREES AT MATURITY SHALL MEET A HORIZONTAL CLEARANCE ALONG ALL ROADWAYS FROM CURB TO CURB. HORIZONTAL ROADWAY CLEARANCE FOR A ONE-STORY BUILDING IS 28-FEET WIDE.
D. ALL TREES AT MATURITY SHALL MEET A VERTICAL CLEARANCE OF 14-FEET FROM THE TOP OF THE ROADWAY TO THE LOWEST BRANCHES.

ARCADIS

OCEANSIDE TRANSIT CENTER

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

NO.	DATE	DESCRIPTION
1	08-29-2022	CP SUBMITTAL 1
2	07-13-2023	CP SUBMITTAL 2
3	12-01-2023	CP SUBMITTAL 3
4	04-19-2024	CP SUBMITTAL 4
5	08-23-2024	CP SUBMITTAL 5
6	09-19-2024	CP SUBMITTAL 6
7	10-14-2024	CP SUBMITTAL 7

Schematic Design

LEGEND & NOTES

L-002

Autodesk Docs://CRTKL-LA - Toll Brothers - OTC/A_CRTKL_OTC_Office.rvt

© 2023 Arcadis Inc.



OVERALL SITE LANDSCAPE PLAN

SCALE: 1" = 50'-0"

0 25 50 100
SCALE: 1"=50'-0"

STORM WATER SCHEDULE

IN GROUND BIO FILTRATION PLANTER

RAISED BIO FILTRATION PLANTER, ON GRADE

RAISED BIO FILTRATION PLANTER, OVER STRUCTURE

TREE WELL

PROPOSED GRASSCRETE OR PERMEABLE PAVERS

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY
02 PAVEMENTS, RAMPS, CURBS		
	CONCRETE SIDEWALK, NATURAL GREY	189,489 SF
	ENHANCED PAVING - PRIVATE PATIOS	2,012 SF
	BELGARD HARDSCAPES MODULINE N 31.4% 16X12 RECTANGLES 34.3% 12X12 SQUARES 11.4% 8X12 RECTANGLES 2.9% 6X6 SQUARES	12,809 SF
	PERMEABLE CONCRETE	113,489 SF
	TRUNCATED DOME TILES	1,197 SF
	TECHO-BLOC, INC. AQUASTORM 51 AQUASTORM PAVER WITH A SMOOTH FINISH, LINEAR PATTERN, (100%) FOR PEDESTRIAN, VEHICULAR AND PERMEABLE APPLICATIONS	2,855 SF
	ACCESSIBLE BIO PATHWAY	335 SF
01-20	SITE STEPS	
05 SITE FURNISHINGS		
05-02	LOUNGE CHAIR - TYPE II	16
05-04	SIDE TABLE - TYPE I	8
05-10	DINING TABLE - TYPE III	1
05-11	BISTRO TABLE	67
05-12	BENCH - TYPE I	129
05-13	FREE STANDING PLANTER	12
05-21	BIKE RACK	37
05-24	SITE FURNISHING, AS PROVIDED BY TENANT	
05-25	BUS STATION	5
05-26	BIKE CORRAL	1
05-27	CARGO BIKE RACK	27
05-28	FREE STANDING PLANTER - TYPE II	10
05-30	KIOSK/VENDING MACHINE	2
05-31	BIKE LOCKER	6
05-32	VENDING MACHINE	4
05-33	PARCEL LOCKER	2
05-34	BUS STOP SHADE CANOPY	5
05-35	WAYFINDING SIGNAGE/KIOSK	1
	PERFORMANCE DECK/PLATFORM	319 SF
09 RAILINGS, BARRIERS, FENCING		
09-01	SECURITY FENCE AND GATE - SIDE DETAIL	
09 PLANTING AND LANDSCAPE		
	PLANTING AREA	16,771 SF
	DECOMPOSED GRANITE	1,751 SF
	TURF GRASS	3,385 SF
13 WALLS		
13-01	MASONRY WALL	

PLEASE REFER TO L-002 FOR PLANT MATERIAL SCHEDULE

ARCADIS

OCEANSIDE TRANSIT CENTER

McCulloughLA.com

Toll Brothers Apartment Living

NOT FOR CONSTRUCTION

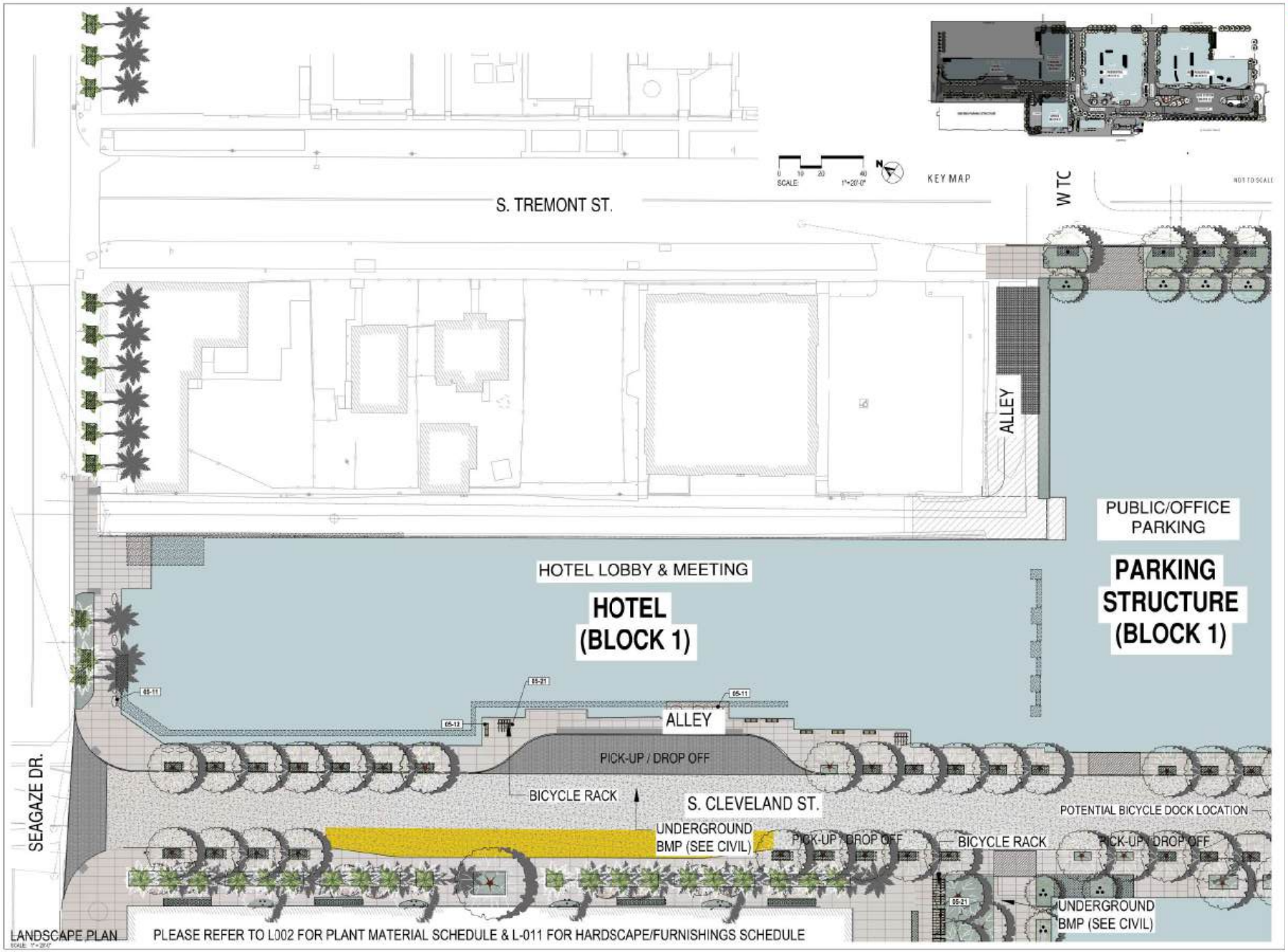
Issue Drawing Log

REV	DATE	DESCRIPTION
1	05-26-2023	DP SUBMITTAL 1
2	07-13-2023	DP SUBMITTAL 2
3	11-30-2023	DP SUBMITTAL 3
4	04-15-2024	DP SUBMITTAL 4
5	05-24-2024	DP SUBMITTAL 5
6	09-19-2024	DP SUBMITTAL 6
7	05-13-2025	DP SUBMITTAL 7

Schematic Design

OVERALL SITE LANDSCAPE PLAN

L-011



ARCADIS

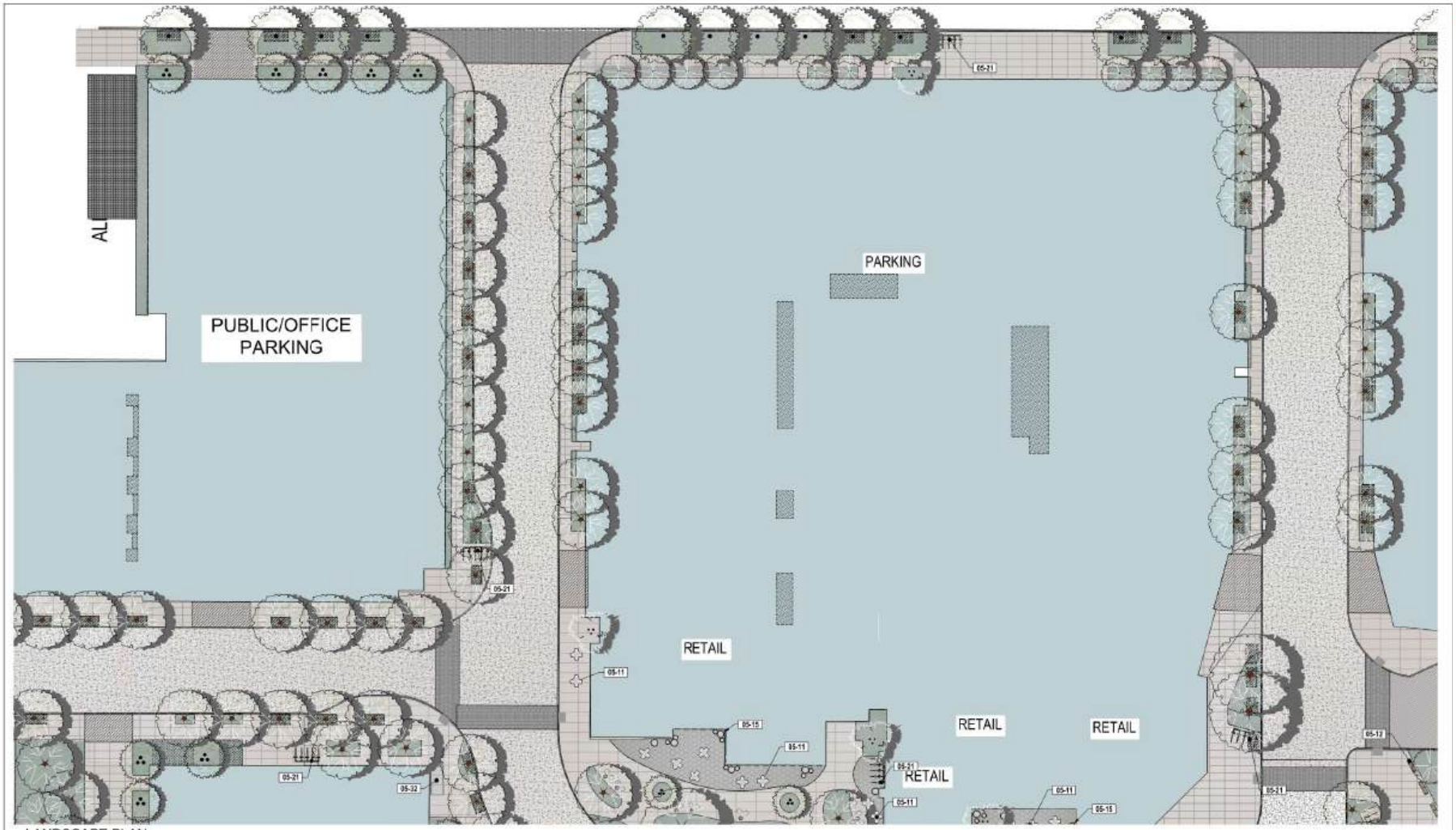
OCEANSIDE TRANSIT CENTER

NOT FOR CONSTRUCTION

Schematic Design

LANDSCAPE PLAN

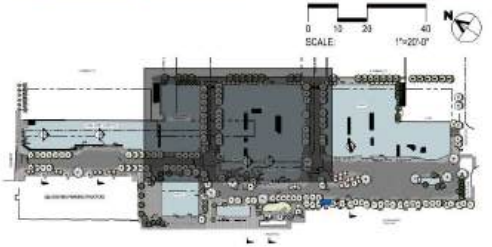
L-012



LANDSCAPE PLAN

SCALE: 1" = 20'-0"

PLEASE REFER TO L103 FOR HARDSCAPE/FURNISHINGS SCHEDULE



KEY MAP

NOT TO SCALE

ARCADIS

OCEANSIDE TRANSIT CENTER

McCulloughLA.com

Toll Brothers Apartment Living

NOT FOR CONSTRUCTION

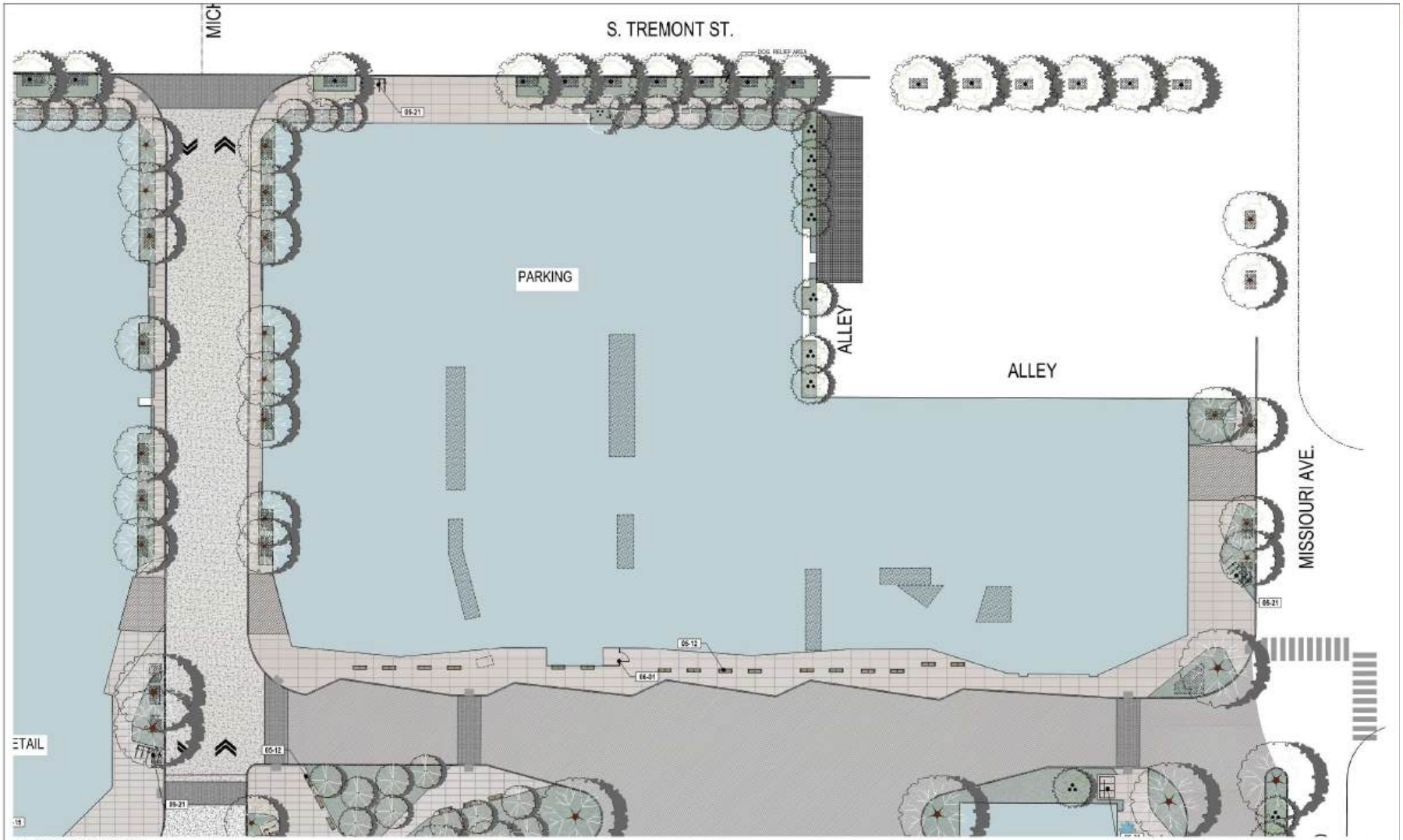
Issue Drawing Log

REV	DATE	DESCRIPTION
1	05-26-2023	DP SUBMITTAL 1
2	07-13-2023	DP SUBMITTAL 2
3	11-30-2023	DP SUBMITTAL 3
4	04-15-2024	DP SUBMITTAL 4
5	05-24-2024	DP SUBMITTAL 5
6	09-19-2024	DP SUBMITTAL 6
7	05-12-2025	DP SUBMITTAL 7

Schematic Design

LANDSCAPE PLAN

L-013



LANDSCAPE PLAN

SCALE: 1" = 20'-0"



KEY MAP

NOT TO SCALE

PLEASE REFER TO L002 FOR PLANT MATERIAL SCHEDULE & L-011 FOR HARDSCAPE/FURNISHINGS SCHEDULE

ARCADIS

OCEANSIDE TRANSIT CENTER

McCullough

McCulloughLA.com

Toll Brothers Apartment Living

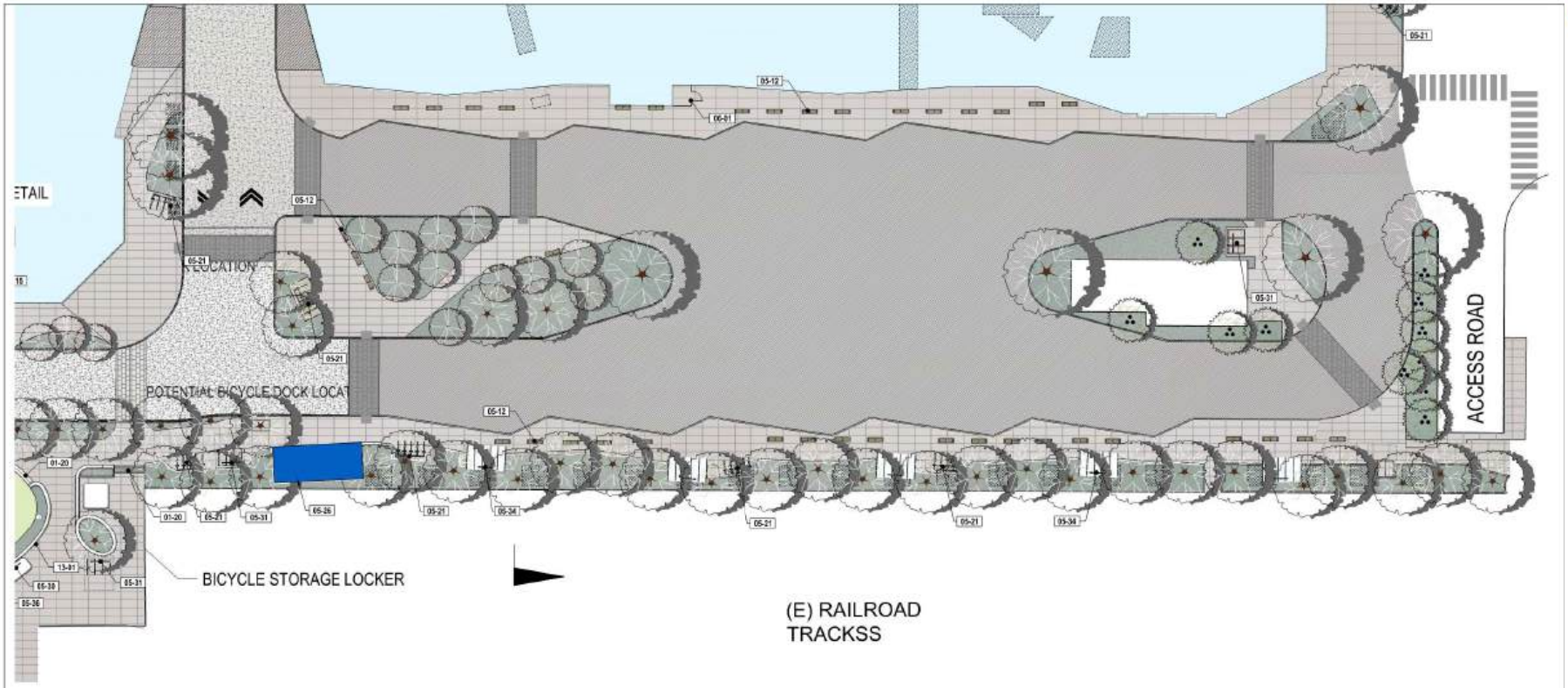
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
1	05-28-2024	DP SUBMITTAL 1
2	07-15-2024	DP SUBMITTAL 2
3	11-20-2024	DP SUBMITTAL 3
4	04-10-2025	DP SUBMITTAL 4
5	05-23-2025	DP SUBMITTAL 5
6	09-19-2025	DP SUBMITTAL 6
7	05-13-2026	DP SUBMITTAL 7

Schematic Design

LANDSCAPE PLAN

L-014



LANDSCAPE PLAN

SCALE: 1" = 20'-0"

SCALE: 0 10 20 40 1"=20'-0"



KEY MAP NOT TO SCALE

PLEASE REFER TO L002 FOR PLANT MATERIAL SCHEDULE & L-011 FOR HARDSCAPE/FURNISHINGS SCHEDULE

ARCADIS

OCEANSIDE TRANSIT CENTER

McCulloughLA.com

Toll Brothers Apartment Living

NOT FOR CONSTRUCTION

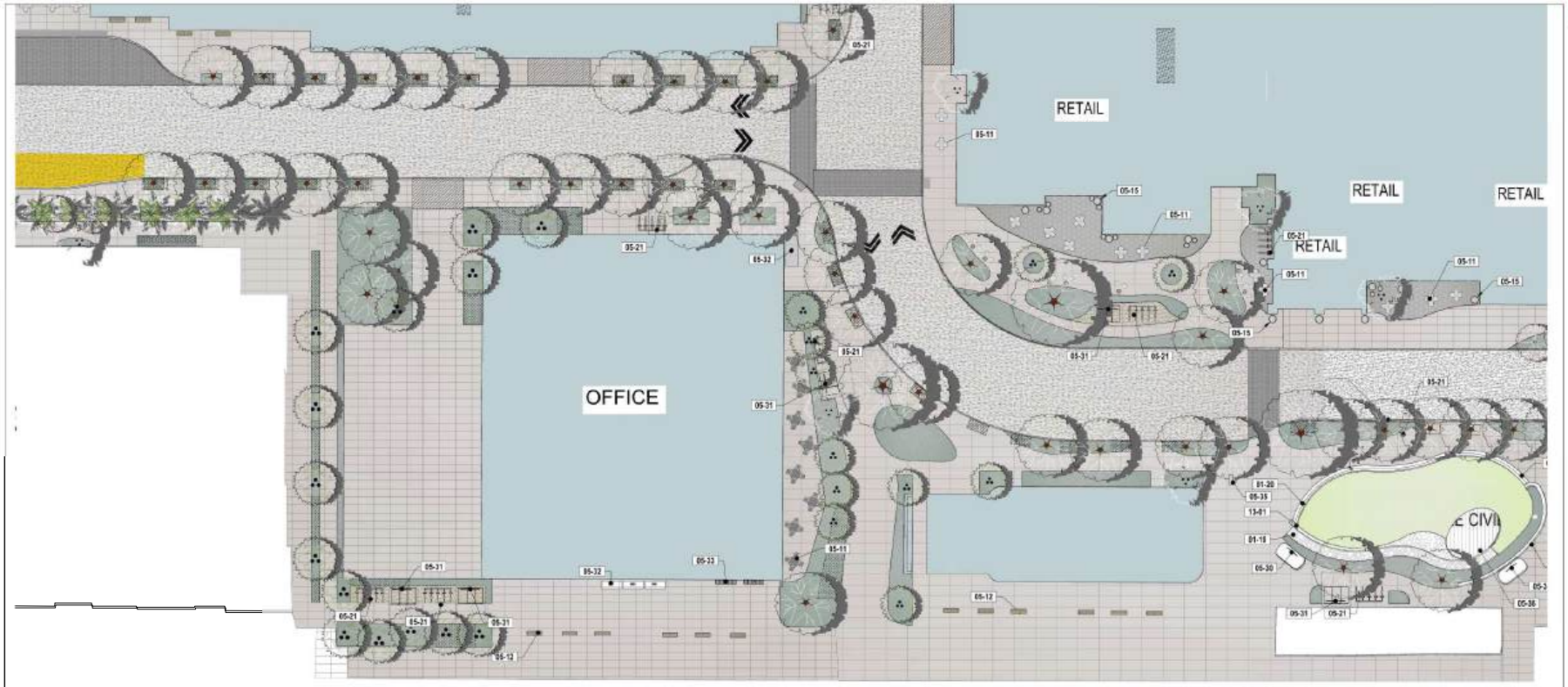
Issue Drawing Log

REV	DATE	DESCRIPTION
1	05-29-2024	DP SUBMITTAL 1
2	07-15-2024	DP SUBMITTAL 2
3	11-20-2024	DP SUBMITTAL 3
4	04-15-2025	DP SUBMITTAL 4
5	05-23-2025	DP SUBMITTAL 5
6	09-19-2025	DP SUBMITTAL 6
7	05-15-2026	DP SUBMITTAL 7

Schematic Design

LANDSCAPE PLAN

L-015



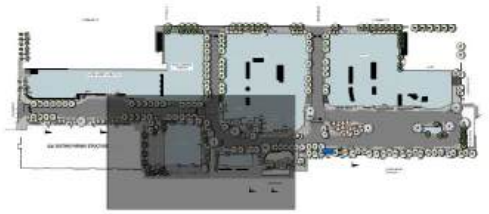
LANDSCAPE PLAN

SCALE: 1" = 20'-0"

0 10 20 40

SCALE: 1"=20'-0"

N



KEY MAP

NOT TO SCALE

PLEASE REFER TO L002 FOR PLANT MATERIAL SCHEDULE & L-011 FOR HARDSCAPE/FURNISHINGS SCHEDULE

ARCADIS

OCEANSIDE TRANSIT CENTER

McGillougLA.com

Toll Brothers Apartment Living

NOT FOR CONSTRUCTION

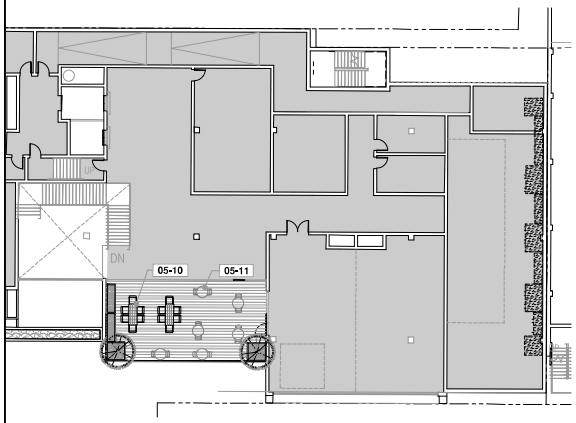
Issue/Drawing Log

REV	DATE	DESCRIPTION
	05-26-2022	DP SUBMITTAL 1
	02-13-2023	DP SUBMITTAL 2
	10-09-2023	DP SUBMITTAL 3
	04-16-2024	DP SUBMITTAL 4
	06-20-2024	DP SUBMITTAL 5
	08-19-2024	DP SUBMITTAL 6
	05-14-2025	DP SUBMITTAL 7

Schematic Design

LANDSCAPE PLAN

L-016



SCALE: 1" = 16'-0"

LEVEL 2 AMENITY

CONCEPT PLANT SCHEDULE

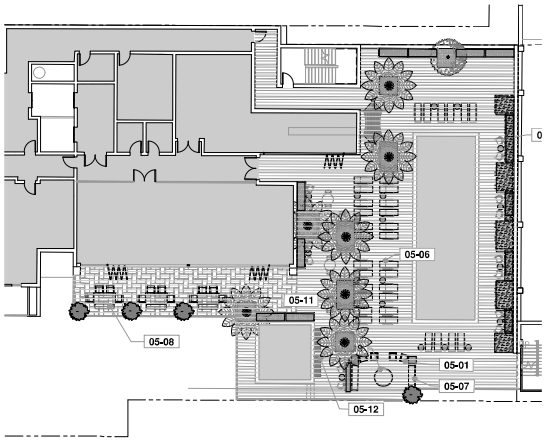
SMALL FEATURE TREE	9	
ALOE 'HERCULES' / HERCULES ALOE		15 GAL
ALOE BAINESII / TREE ALOE		15 GAL
CORDYLINE AUSTRALIS / GRASS PALM		15 GAL
DRACAENA DRACO / DRAGON TREE		15 GAL
DRACAENA MARGINATA / DRACAENA		15 GAL
FICUS ELASTICA / RUBBER TREE		15 GAL
FICUS LYRATA / FIDDLE LEAF FIG		15 GAL
JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER		15 GAL
YUCCA ALOIFOLIA / ALOE YUCCA		15 GAL
YUCCA AUSTRALIS / YUCCA		15 GAL
YUCCA RIGIDA / MEXICAN BLUE YUCCA		15 GAL
YUCCA ROSTRATA / BEAKED YUCCA		15 GAL

RAISED PLANTER MIX	74 SF	
2'-3" O.C.		
ACHILLEA MILLEFOLIUM / COMMON YARROW		1 GAL. - 5 GAL.
CAREX TESTACEA / ORANGE SEDGE		1 GAL. - 5 GAL.
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL.
ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE		1 GAL. - 5 GAL.
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIN GRASS		1 GAL. - 5 GAL.
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS		1 GAL. - 5 GAL.
PENSTEMON SPECTABILIS / SHOWY PENSTEMON		1 GAL. - 5 GAL.
PORTULACARIA AFRA / ELEPHANT BUSH		1 GAL.
SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE		1 GAL. - 5 GAL.
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS		1 GAL. - 5 GAL.
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO		1 GAL.
SENECIO VITALIS / BLUE CHALK FINGERS		1 GAL.
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS		1 GAL. - 5 GAL.
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA		1 GAL. - 5 GAL.

SKYDECK MIX	1,847 SF	
2'-3" O.C.		
ABUTILON PALMERI / INDIAN MALLOW		1 GAL. - 5 GAL.
ADENANTHOS SERICEUS / COASTAL WOOLLYBUSH		1 GAL. - 5 GAL.
AEONIUM ARBOREUM / TREE AEONIUM		1 GAL. - 5 GAL.
AEONIUM X 'CYCLOPS' / CYCLOPS AEONIUM		1 GAL. - 5 GAL.
AEONIUM X 'ZWARTKOP' / ZWARTKOP AEONIUM		1 GAL. - 5 GAL.
CALLISTEMON X 'CANE'S HYBRID' / CANE'S HYBRID BOTTLEBRUSH		1 GAL. - 5 GAL.
COTYLEDON ORBICULATA / COTYLEDON		1 GAL. - 5 GAL.
CRASSULA ARBORESCENS / SILVER DOLLAR JADE		1 GAL. - 5 GAL.
CRASSULA MULTICAVA / CAPE PROVENCE PYGMYWEED		1 GAL. - 5 GAL.
CRASSULA OVATA 'GOLLUM' / CORAL JADE PLANT		1 GAL. - 5 GAL.
DANIELLA REVOLUTA 'BIG REV' / BIG REV FLAX LILY		1 GAL. - 5 GAL.
DICHONDRA ARGENTEA 'SILVER FALLS' / SILVER FALLS DICHONDRA		1 GAL. - 5 GAL.
ECHEVERIA AGAVOIDES 'LIPSTICK' / LIPSTICK ECHEVERIA		1 GAL. - 5 GAL.
EUPHORBIA INGENS / CANDELABRA TREE		1 GAL. - 5 GAL.
FURCRAEA MACDOUGALII / MACDOUGALL'S CENTURY PLANT		1 GAL. - 5 GAL.
GAMBELIA SPECIOSA / SHOWY ISLAND SNAP DRAGON		1 GAL. - 5 GAL.
GREVILLEA X 'PEACHES AND CREAM' / PEACHES AND CREAM GREVILLEA		1 GAL. - 5 GAL.
HESPERALOE PARVIFLORA 'PERPA' / BRAKELIGHTS® RED YUCCA		1 GAL. - 5 GAL.
KALANCHOE BRACTEATA / SILVER TEASPOONS		1 GAL. - 5 GAL.
PENNISETUM X 'FAIRY TAILS' / FAIRY TAILS FOUNTAIN GRASS		1 GAL. - 5 GAL.
PORTULACARIA AFRA 'VARIEGATA' / VARIEGATED ELEPHANT BUSH		1 GAL. - 5 GAL.
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO		1 GAL. - 5 GAL.
TEUCRIUM CANADENSE / CANADA GERMANDER		1 GAL. - 5 GAL.

REFERENCE NOTES SCHEDULE

	01 PAVEMENTS, RAMPS, CURBS	
SYMBOL	DESCRIPTION	QTY
01-11	DECK	956 SF
	05 SITE FURNISHINGS	
SYMBOL	DESCRIPTION	QTY
05-10	DINING TABLE - TYPE III	2
05-11	BISTRO TABLE	6
	09 PLANTING AND LANDSCAPE	
SYMBOL	DESCRIPTION	QTY
09-01	PLANTING AREA	1,921 SF



SCALE: 1" = 16'-0"

POOL DECK

CONCEPT PLANT SCHEDULE

SMALL FLOWERING TREE	1	
ACACIA BAILEYANA / BAILEY ACACIA		24" BOX
ACACIA COVENYI / BLUE BUSH ACACIA		15 GAL
ACACIA CULTRIFORMIS / KNIFE ACACIA		15 GAL
ACACIA DEALBATA / SILVER WATTLE		15 GAL
ALBIZIA JULIBRISSIN / SILK TREE		24" BOX
CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK		24" BOX
LAGERSTROEMIA INDICA / CRAPE MYRTLE		15 GAL
LEPTOSPERMUM LAEVIGATUM / AUSTRALIAN TEA TREE		15 GAL
MELALEUCA NESOPHILA / PINK MELALEUCA MULTI-TRUNK		15 GAL
PLUMERIA RUBRA / RED FRANGIPANI		15 GAL
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE		24" BOX

POOL AREA TREE/PALM	7	
BRAHEA ARMATA / MEXICAN BLUE PALM		24" BOX
CARYOTA MITIS / CLUMPING FISHTAIL PALM		24" BOX
CHAMAEROPS HUMILIS / MEDITERRANEAN FAN PALM		24" BOX
DYPSIS LUTESCENS / ARECA PALM		15 GAL
HOWEA FORSTERIANA / KENTIA PALM		24" BOX
PANDANUS UTILIS / SCREW PINE		24" BOX
PHOENIX DACTYLIFERA 'MEDJOOL' / MEDJOOL DATE PALM		10' BTH

LARGE FLOWERING SHRUB	4	
BRUNFELSIA PAUCIFLORA / YESTERDAY, TODAY AND TOMORROW		15 GAL
CALLISTEMON CITRINUS / LEMON BOTTLEBRUSH SHRUB		15 GAL
ERIOGONUM GIGANTEUM / ST. CATHERINE'S LACE		15 GAL
HIBISCUS ROSA-SINENSIS 'CALIFORNIA GOLD' / CALIFORNIA GOLD CHINESE HIBISCUS		15 GAL
LEUCADENDRON X 'SAFARI SUNSET' / SAFARI SUNSET CONEBUSH		15 GAL
LEUCOPHYLLUM FRUTESCENS / TEXAS SAGE		15 GAL
RHAPHIOLEPIS INDICA / INDIAN HAWTHORN		15 GAL
ROMNEYA COULTERI / MATILIJA POPPY		15 GAL

POOLSIDE MIX	230 SF	
2'-3" O.C.		
AECHMEA BLANCHETIANA / ORANGE BROMELIAD		1 GAL. - 5 GAL.
ALOE FEROX / BITTER TREE ALOE		1 GAL. - 5 GAL.
ALOE RAMOSISSIMA / MAIDEN'S QUIVER TREE		1 GAL. - 5 GAL.
ALOE REITZII / REITZ'S ALOE		1 GAL. - 5 GAL.
ALOE RUDIKOPPE / LITTLE RED RIDING HOOD ALOE		1 GAL. - 5 GAL.
ALOE VERA / MEDICINAL ALOE		1 GAL. - 5 GAL.
ALOE X 'ALWAYS RED' / ALWAYS RED ALOE		1 GAL. - 5 GAL.
ALOE X 'BLUE ELF' / BLUE ELF ALOE		1 GAL. - 5 GAL.
ALPINIA ZERUMBET 'VARIEGATA' / VARIEGATED SHELL GINGER		1 GAL. - 5 GAL.
ARBUTUS UNEDO / STRAWBERRY TREE SHRUB		1 GAL. - 5 GAL.
ASPARAGUS RETROFRACTUS / MING ASPARAGUS FERN		1 GAL. - 5 GAL.
ASPARAGUS SETACEUS / ASPARAGUS FERN		1 GAL. - 5 GAL.
BESCHORNERIA YUCCOIDES / AMOLE		1 GAL. - 5 GAL.
CORDYLINE AUSTRALIS / GRASS PALM		1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'RED SISTER' / RED SISTER TI PLANT		1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'SOLEDAD PURPLE' / SOLEDAD PURPLE TI PLANT		1 GAL. - 5 GAL.
COTYLEDON ORBICULATA / COTYLEDON		1 GAL. - 5 GAL.
CUPHEA ISNEA / CIGAR PLANT		1 GAL. - 5 GAL.
DIETES VEGETA / AFRICAN IRIS		1 GAL. - 5 GAL.
DIETES VEGETA 'VARIEGATA' / VARIEGATED AFRICAN IRIS		1 GAL. - 5 GAL.
DIPLADENIA X 'DEEP RED' TM / MANDINIA DEEP RED MANDEVILLA		1 GAL. - 5 GAL.
DORYANTHES PALMERI / SPEAR LILY		1 GAL. - 5 GAL.
DRACAENA MARGINATA / DRACAENA		1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'ORANGE' / ORANGE REED STEM ORCHID		1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'PURPLE' / PURPLE REED STEM ORCHID		1 GAL. - 5 GAL.
MONSTERA DELICIOSA / SPLIT-LEAF PHILODENDRON		1 GAL. - 5 GAL.
MYRICA CALIFORNICA / PACIFIC WAX MYRTLE		1 GAL. - 5 GAL.
NEOREGELIA COMPACTA VARIEGATA / VARIEGATED COMPACT BROMELIAD		1 GAL. - 5 GAL.
PACHYPODIUM LAMEREI / MADAGASCAR PALM		1 GAL. - 5 GAL.
PHILODENDRON SELLOUM / TREE PHILODENDRON		1 GAL. - 5 GAL.
STRELITZIA NICOLAI / GIANT BIRD OF PARADISE		1 GAL. - 5 GAL.
STRELITZIA REGINAE / BIRD OF PARADISE		1 GAL. - 5 GAL.
WOODWARDIA FIMBRIATA / GIANT CHAIN FERN		1 GAL. - 5 GAL.
ZAMIA FURFURACEA / CARDBOARD PALM		1 GAL. - 5 GAL.

BIO FILTRATION PLANTER	19,758 SF	
2'-3" O.C.		
ACHILLEA MILLEFOLIUM / COMMON YARROW		4" POT
AGROSTIS PALLENS / THINGRASS		1 GAL.
ANEMOPSIS CALIFORNICA / YERBA MANSA		1 GAL.
CAREX SPISSA / SAN DIEGO SEDGE		1 GAL.
CAREX SUBFUSCA / BROWN SEDGE		1 GAL.
CAREX TUMULICOLA / FOOTHILL SEDGE		1 GAL.
DISTICHLIS SPICATA / SALTGRASS		1 GAL.
ELEOCHARIS MACROSTACHYA / COMMON SPIKERUSH		1 GAL.
FESTUCA CALIFORNICA / CALIFORNIA FESCUE		1 GAL.
FESTUCA RUBRA / RED FESCUE		1 GAL.
IVA HAYESIANA / SAN DIEGO POVERTY WEED		1 GAL.
JUNCUS PATENS / CALIFORNIA GRAY RUSH		1 GAL.
MAHONIA NEVINII / NEVIN MAHONIA		1 GAL.
MUHLENBERGIA RIGENS / DEER GRASS		1 GAL.
RIBES SPECIOSUM / FUCHSIA FLOWERING GOOSEBERRY		1 GAL.
ROSA CALIFORNICA / CALIFORNIA WILD ROSE		1 GAL.
SCIRPUS CERNUUS / LOW BULRUSH		1 GAL.

REFERENCE NOTES SCHEDULE

	01 PAVEMENTS, RAMPS, CURBS	
SYMBOL	DESCRIPTION	QTY
01-09	PEDESTAL PAVERS	754 SF
01-11	DECK	4,316 SF
	05 SITE FURNISHINGS	
SYMBOL	DESCRIPTION	QTY
05-01	LOUNGE CHAIR - TYPE I	4
05-02	LOUNGE CHAIR - TYPE II	14
05-06	CHAISE LOUNGE	34
05-07	OUTDOOR SOFA	2
05-08	DINING TABLE - TYPE I	3
05-11	BISTRO TABLE	4
05-12	BENCH - TYPE I	2
05-19	FIRE BOWL	1
05-20	HAMMOCK	1
	09 PLANTING AND LANDSCAPE	
SYMBOL	DESCRIPTION	QTY
09-01	PLANTING AREA	474 SF

ARCADIS
OCEANSIDE TRANSIT CENTER
335 South Tremont Avenue
Oceanside, CA 92054
McCullough
McCulloughLA.com
Toll Brothers Apartment Living
22422 Mill Creek Drive
Suite 100
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 373-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

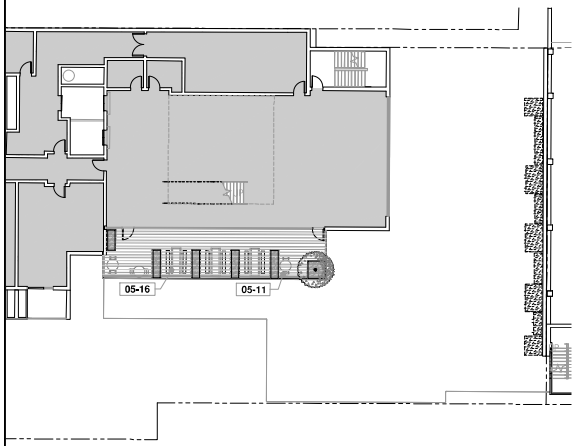
REV	DATE	DESCRIPTION
1	06-26-2022	DP SUBMITTAL 1
2	05-15-2023	DP SUBMITTAL 2
3	10-09-2023	DP SUBMITTAL 3
4	04-10-2024	DP SUBMITTAL 4
5	06-20-2024	DP SUBMITTAL 5
6	08-16-2024	DP SUBMITTAL 6
7	09-16-2024	DP SUBMITTAL 7

Schematic Design

HOTEL LANDSCAPE PLAN

L-021

© 2023 Arcadis Inc.



SCALE: 1" = 16'-0"

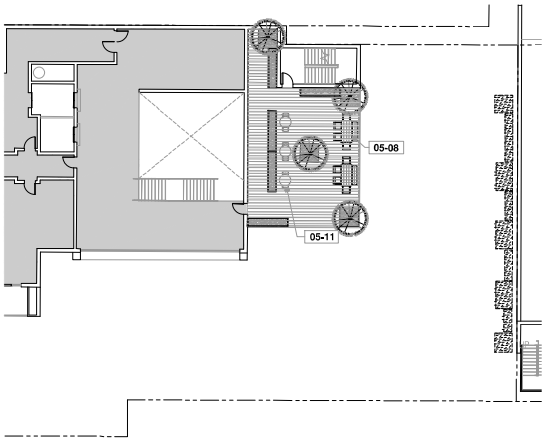
LEVEL 4 AMENITY

CONCEPT PLANT SCHEDULE

	SMALL FLOWERING TREE	1	
	ACACIA BAILEYANA / BAILEY ACACIA		24" BOX
	ACACIA COVENYI / BLUE BUSH ACACIA		15 GAL
	ACACIA CULTRIFORMIS / KNIFE ACACIA		15 GAL
	ACACIA DEALBATA / SILVER WATTLE		15 GAL
	ALBIZIA JULIBRISSIN / SILK TREE		24" BOX
	CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK		24" BOX
	LAGERSTROEMIA INDICA / CRAPE MYRTLE		15 GAL
	LEPTOSPERMUM LAEVIGATUM / AUSTRALIAN TEA TREE		15 GAL
	MELALEUCA NESOPHILA / PINK MELALEUCA MULTI-TRUNK		15 GAL
	PLUMERIA RUBRA / RED FRANGIPANI		15 GAL
	TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE		24" BOX
	RAISED PLANTER MIX	93 SF	
	2'-3" O.C.		
	ACHILLEA MILLEFOLIUM / COMMON YARROW		1 GAL. - 5 GAL.
	CAREX TESTACEA / ORANGE SEDGE		1 GAL. - 5 GAL.
	DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL.
	ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE		1 GAL. - 5 GAL.
	MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS		1 GAL. - 5 GAL.
	PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS		1 GAL. - 5 GAL.
	PENSTEMON SPECTABILIS / SHOWY PENSTEMON		1 GAL. - 5 GAL.
	PORTULACARIA AFRA / ELEPHANT BUSH		1 GAL.
	SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE		1 GAL. - 5 GAL.
	SENECIO ANTEUPHORBIUM / SWIZZLE STICKS		1 GAL. - 5 GAL.
	SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO		1 GAL.
	SENECIO VITALIS / BLUE CHALK FINGERS		1 GAL.
	SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS		1 GAL. - 5 GAL.
	VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA		1 GAL. - 5 GAL.

REFERENCE NOTES SCHEDULE

		01 PAVEMENTS, RAMPS, CURBS	
	SYMBOL	DESCRIPTION	QTY
	01-11	DECK	812 SF
		05 SITE FURNISHINGS	
	SYMBOL	DESCRIPTION	QTY
	05-11	BISTRO TABLE	3
	05-16	FIRE TABLE	3
		09 PLANTING AND LANDSCAPE	
	SYMBOL	DESCRIPTION	QTY
	09-01	PLANTING AREA	93 SF



SCALE: 1" = 16'-0"

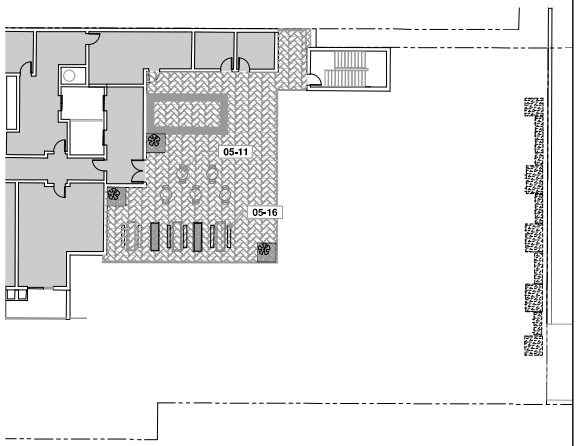
LEVEL 5 AMENITY

CONCEPT PLANT SCHEDULE

	SMALL FEATURE TREE	4	
	ALOE 'HERCULES' / HERCULES ALOE		15 GAL
	ALOE BAINESII / TREE ALOE		15 GAL
	CORDYLINE AUSTRALIS / GRASS PALM		15 GAL
	DRACAENA DRACO / DRAGON TREE		15 GAL
	DRACAENA MARGINATA / DRACAENA		15 GAL
	FICUS ELASTICA / RUBBER TREE		15 GAL
	FICUS LYRATA / FIDDLE LEAF FIG		15 GAL
	JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER		15 GAL
	YUCCA ALOIFOLIA / ALOE YUCCA		15 GAL
	YUCCA AUSTRALIS / YUCCA		15 GAL
	YUCCA RIGIDA / MEXICAN BLUE YUCCA		15 GAL
	YUCCA ROSTRATA / BEAKED YUCCA		15 GAL
	RAISED PLANTER MIX	106 SF	
	2'-3" O.C.		
	ACHILLEA MILLEFOLIUM / COMMON YARROW		1 GAL. - 5 GAL.
	CAREX TESTACEA / ORANGE SEDGE		1 GAL. - 5 GAL.
	DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL.
	ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE		1 GAL. - 5 GAL.
	MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS		1 GAL. - 5 GAL.
	PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS		1 GAL. - 5 GAL.
	PENSTEMON SPECTABILIS / SHOWY PENSTEMON		1 GAL. - 5 GAL.
	PORTULACARIA AFRA / ELEPHANT BUSH		1 GAL.
	SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE		1 GAL. - 5 GAL.
	SENECIO ANTEUPHORBIUM / SWIZZLE STICKS		1 GAL. - 5 GAL.
	SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO		1 GAL.
	SENECIO VITALIS / BLUE CHALK FINGERS		1 GAL.
	SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS		1 GAL. - 5 GAL.
	VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA		1 GAL. - 5 GAL.

REFERENCE NOTES SCHEDULE

		01 PAVEMENTS, RAMPS, CURBS	
	SYMBOL	DESCRIPTION	QTY
	01-11	DECK	1,266 SF
		05 SITE FURNISHINGS	
	SYMBOL	DESCRIPTION	QTY
	05-08	DINING TABLE - TYPE I	2
	05-11	BISTRO TABLE	3
		09 PLANTING AND LANDSCAPE	
	SYMBOL	DESCRIPTION	QTY
	09-01	PLANTING AREA	195 SF



SCALE: 1" = 16'-0"

LEVEL 6 AMENITY

CONCEPT PLANT SCHEDULE

	TALL SUCCULENT	3	
	ALOE BARBADENSIS / BARBADOS ALOE		15 GAL
	ALOE FEROX / BITTER TREE ALOE		15 GAL
	BEAUCARNEA RECURVATA / PONY TAIL PALM		15 GAL
	EUPHORBIA AMMAK / CANDELABRA SPURGE		15 GAL
	EUPHORBIA INGENS / CANDELABRA TREE		15 GAL
	EUPHORBIA TRIANGULARIS / TREE EUPHORBIA		15 GAL
	YUCCA ALOIFOLIA / ALOE YUCCA		15 GAL
	YUCCA ELEPHANTIPES / GIANT YUCCA		15 GAL
	DUNE MIX	30 SF	
	2'-3" O.C.		
	ABRONIA VILLOSA / DESERT SAND VERBENA		1 GAL.
	AGAVE SHAWII / COASTAL AGAVE		1 GAL. - 5 GAL.
	ARISTIDA PURPUREA / PURPLE THREEAWN		1 GAL. - 5 GAL.
	BOUTELOUA GRACILIS 'BLONDE AMBITION' / BLONDE AMBITION BLUE GRAMA		1 GAL. - 5 GAL.
	CAREX BUCHANANII / LEATHER LEAF SEDGE		1 GAL. - 5 GAL.
	DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL. - 5 GAL.
	LIMONIUM PEREZII / STATICE		1 GAL. - 5 GAL.
	MUHLENBERGIA DUBIA / PINE MUHLY		1 GAL. - 5 GAL.
	OPUNTIA SANTA-RITA 'TUBAC' TM / SANTA RITA PRICKLYPEAR		1 GAL. - 5 GAL.
	SALICORNIA PACIFICA / PICKLEWEED		1 GAL. - 5 GAL.
	SPHAERALCEA AMBIGUA / DESERT GLOBEMALLOW		1 GAL. - 5 GAL.
	XEROSICYOS DANGUYI / SILVER DOLLAR VINE		1 GAL.

REFERENCE NOTES SCHEDULE

		01 PAVEMENTS, RAMPS, CURBS	
	SYMBOL	DESCRIPTION	QTY
	01-09	PEDESTAL PAVERS	2,074 SF
		05 SITE FURNISHINGS	
	SYMBOL	DESCRIPTION	QTY
	05-11	BISTRO TABLE	5
	05-16	FIRE TABLE	3
		09 PLANTING AND LANDSCAPE	
	SYMBOL	DESCRIPTION	QTY
	09-01	PLANTING AREA	95 SF

ARCADIS
OCEANSIDE TRANSIT CENTER
335 South Tremont Avenue
Oceanside, CA 92054

McCullough
McCulloughLA.com

Toll Brothers Apartment Living
22422 Mill Creek Drive
Suite 100
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

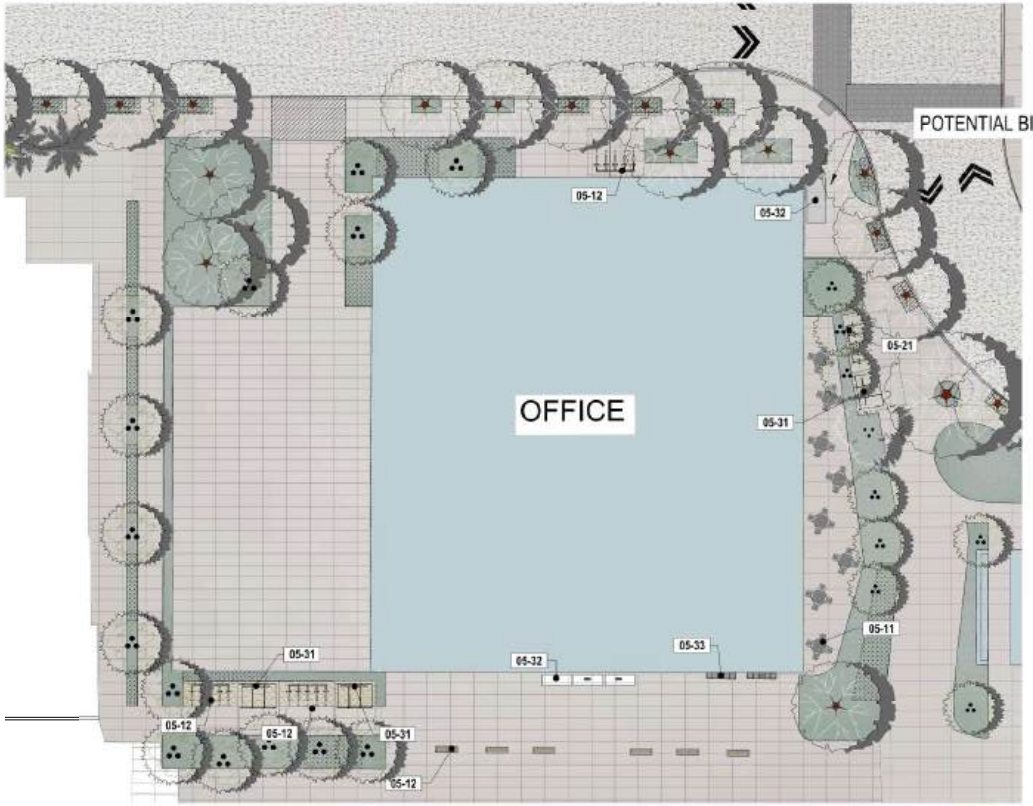
REV	DATE	DESCRIPTION
1	06-20-2022	DP SUBMITTAL 1
2	05-10-2023	DP SUBMITTAL 2
3	10-09-2023	DP SUBMITTAL 3
4	04-10-2024	DP SUBMITTAL 4
5	06-20-2024	DP SUBMITTAL 5
6	08-19-2024	DP SUBMITTAL 6
7	09-13-2024	DP SUBMITTAL 7

Schematic Design

HOTEL LANDSCAPE PLAN

L-022

© 2023 Arcadis Inc.



OFFICE (LEVEL 1) LANDSCAPE PLAN

SCALE: 1" = 16'-0"

FOR GROUND LEVEL SCHEDULES, SEPLEASE REFER TO L002 FOR PLANT MATERIAL SCHEDULE & L-011 FOR HARDSCAPE/FURNISHINGS SCHEDULEE L-011

ARCADIS
OCEANSIDE TRANSIT CENTER
235 South Tremont Avenue
Oceanside, CA 92054

landscape architecture
environmental planning
urban design

McCulloughLA.com
3605-B Fifth Avenue
San Diego, CA 92103

1111 Broadway, Suite 1320
Oakland, California 94607

PH. 619.296.3150

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

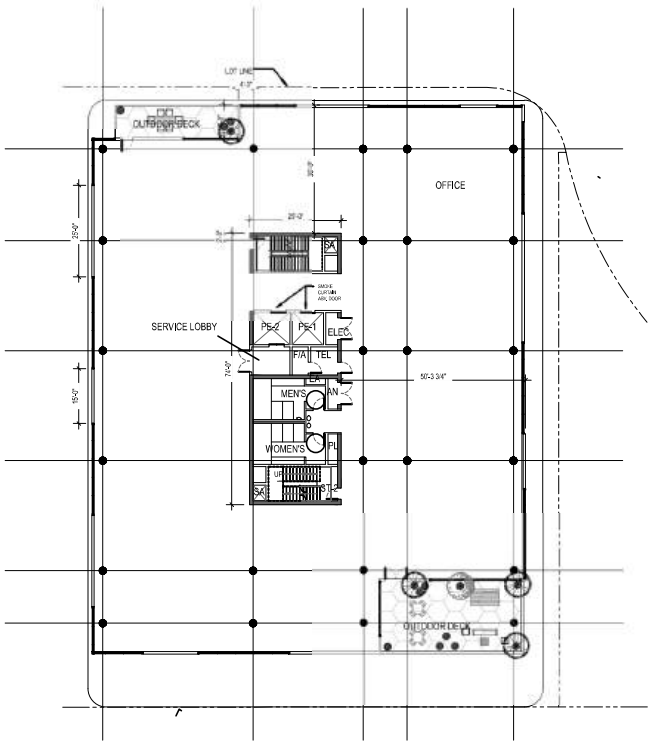
Issue Drawing Log

REV	DATE	DESCRIPTION
1	05-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-06-2023	DP SUBMITTAL 3
4	04-16-2024	DP SUBMITTAL 4
5	05-20-2024	DP SUBMITTAL 5
6	08-19-2024	DP SUBMITTAL 6
7	05-14-2025	DP SUBMITTAL 7

Schematic Design

OFFICE LANDSCAPE PLAN

L-023



OFFICE (LEVEL 2) LANDSCAPE PLAN

SCALE: 1" = 16'-0"

0 8 16 32

SCALE: 1/16"=1'-0"

CONCEPT PLANT SCHEDULE LEVEL 2

SMALL FLOWERING TREE — 1

ACACIA BAILEYANA / BAILEY ACACIA
ACACIA COVENYI / BLUE BUSH ACACIA
ACACIA CULTRIFORMIS / KNIFE ACACIA
ACACIA DEALBATA / SILVER WATTLE
ALBIZIA JULIBRISSIN / SILK TREE
CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK
LAGERSTROEMIA INDICA / CRAPE MYRTLE
LEPTOSPERMUM LAEVIGATUM / AUSTRALIAN TEA TREE
MELALEUCA NESOPHILA / PINK MELALEUCA MULTI-TRUNK
PLUMERIA RUBRA / RED FRANGIPANI
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE

SMALL FEATURE TREE — 4

ALOE 'HERCULES' / HERCULES ALOE
ALOE BAINESII / TREE ALOE
CORDYLINE AUSTRALIS / GRASS PALM
DRACAENA DRACO / DRAGON TREE
DRACAENA MARGINATA / DRACAENA
FICUS ELASTICA / RUBBER TREE
FICUS LYRATA / FIDDLE LEAF FIG
JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER
YUCCA ALOIFOLIA / ALOE YUCCA
YUCCA AUSTRALIS / YUCCA
YUCCA RIGIDA / MEXICAN BLUE YUCCA
YUCCA ROSTRATA / BEAKED YUCCA

RAISED PLANTER MIX — 28 SF

2'-3' O.C.
ACHILLEA MILLEFOLIUM / COMMON YARROW
CAREX TESTACEA / ORANGE SEDGE
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA
ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS
PENSTEMON SPECTABILIS / SHOWY PENSTEMON
PORTULACARIA AFRA / ELEPHANT BUSH
SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO
SENECIO VITALIS / BLUE CHALK FINGERS
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA

REFERENCE NOTES SCHEDULE LEVEL 2

SYMBOL	DESCRIPTION	QTY
01 PAVEMENTS, RAMPS, CURBS		
	ENHANCED PAVING - PRIVATE PATIOS	1,024 SF
05 SITE FURNISHINGS		
05-01	LOUNGE CHAIR - TYPE I	2
05-07	OUTDOOR SOFA	1
05-09	DINING TABLE - TYPE II	1
05-10	DINING TABLE - TYPE III	1
05-11	BISTRO TABLE	2
05-18	COFFEE TABLE	1
05-28	FREE STANDING PLANTER - TYPE II	14

ARCADIS
OCEANSIDE TRANSIT CENTER
235 South Tremont Avenue
Oceanside, CA 92054

landscape architecture
environmental planning
urban design

McCulloughLA.com
3505-B Fifth Avenue
San Diego, CA 92103

1111 Broadway, Suite 1320
Oakland, California 94607

PH. 619.296.3150

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

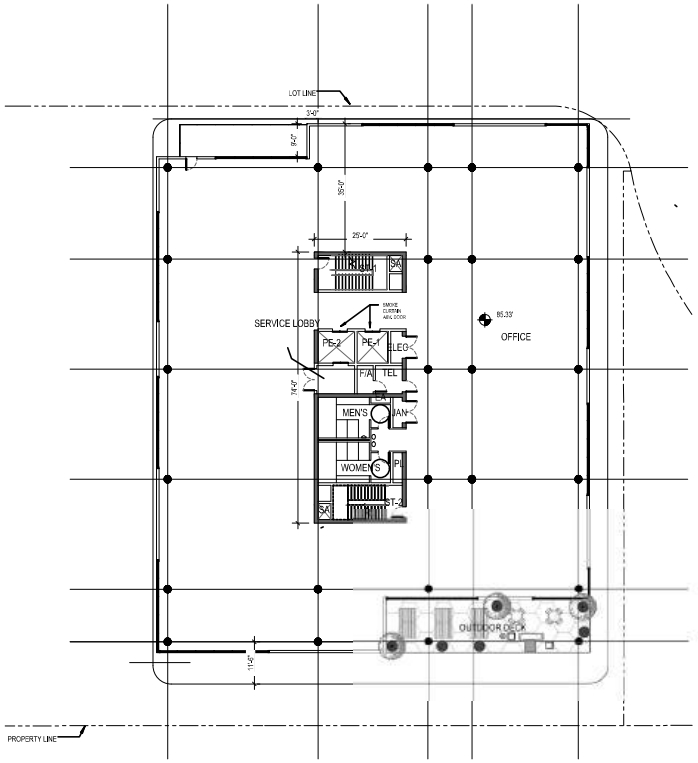
Issue Drawing Log

REV	DATE	DESCRIPTION
1	05-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-06-2023	DP SUBMITTAL 3
4	04-16-2024	DP SUBMITTAL 4
5	05-20-2024	DP SUBMITTAL 5
6	08-19-2024	DP SUBMITTAL 6
7	05-14-2025	DP SUBMITTAL 7

Schematic Design

OFFICE (LEVEL 2) LANDSCAPE PLAN

L-024



OFFICE (LEVEL 3) LANDSCAPE PLAN

SCALE: 1" = 16'-0"

0 8 16 32

SCALE: 1/16"=1'-0"

CONCEPT PLANT SCHEDULE LEVEL 3

SMALL FLOWERING TREE — 3

ACACIA BAILEYANA / BAILEY ACACIA
ACACIA COVENYI / BLUE BUSH ACACIA
ACACIA CULTRIFORMIS / KNIFE ACACIA
ACACIA DEALBATA / SILVER WATTLE
ALBIZIA JULIBRISSIN / SILK TREE
CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK
LAGERSTROEMIA INDICA / CRAPE MYRTLE
LEPTOSPERMUM LAEVIGATUM / AUSTRALIAN TEA TREE
MELALEUCA NESOPHILA / PINK MELALEUCA MULTI-TRUNK
PLUMERIA RUBRA / RED FRANGIPANI
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE

RAISED PLANTER MIX — 36 SF

2-3' O.C.
ACHILLEA MILLEFOLIUM / COMMON YARROW
CAREX TESTACEA / ORANGE SEDGE
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA
ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS
PENSTEMON SPECTABILIS / SHOWY PENSTEMON
PORTULACARIA AFRA / ELEPHANT BUSH
SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO
SENECIO VITALIS / BLUE CHALK FINGERS
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA

REFERENCE NOTES SCHEDULE LEVEL 3

SYMBOL	DESCRIPTION	QTY
01 PAVEMENTS, RAMPS, CURBS		
	ENHANCED PAVING - PRIVATE PATIOS	813 SF
05 SITE FURNISHINGS		
05-01	LOUNGE CHAIR - TYPE I	2
05-04	SIDE TABLE - TYPE I	1
05-05	SIDE TABLE - TYPE II	1
05-07	OUTDOOR SOFA	1
05-09	DINING TABLE - TYPE II	3
05-11	BISTRO TABLE	2
05-15	FREE STANDING PLANTER	6

ARCADIS
OCEANSIDE TRANSIT CENTER
235 South Tremont Avenue
Oceanside, CA 92054

landscape architecture
environmental planning
urban design

McCulloughLA.com
3605-B Fifth Avenue
San Diego, CA 92103

1111 Broadway, Suite 1320
Oakland, California 94607

PH. 619.296.3150

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

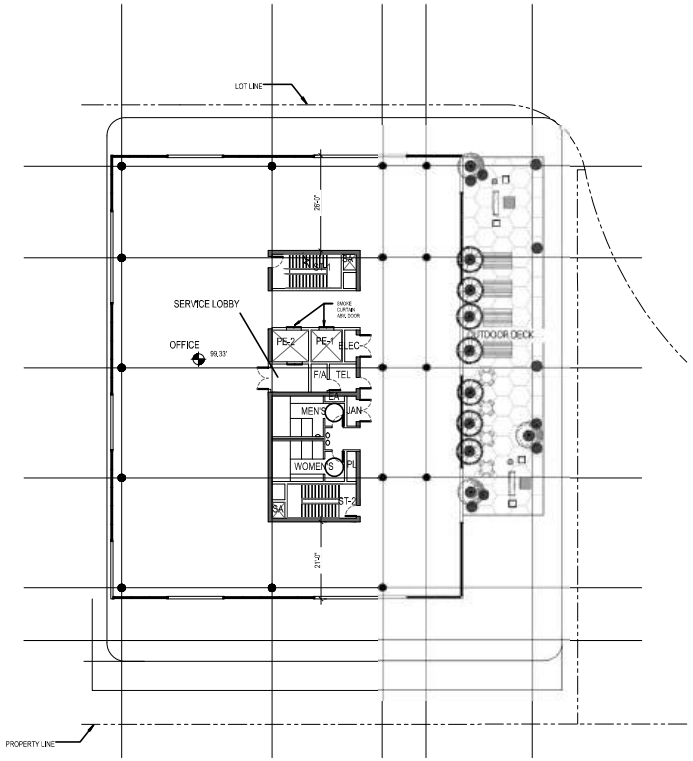
Issue Drawing Log

REV	DATE	DESCRIPTION
1	05-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-09-2023	DP SUBMITTAL 3
4	04-16-2024	DP SUBMITTAL 4
5	05-20-2024	DP SUBMITTAL 5
6	08-19-2024	DP SUBMITTAL 6
7	05-14-2025	DP SUBMITTAL 7

Schematic Design

OFFICE (LEVEL 3) LANDSCAPE PLAN

L-025



OFFICE (LEVEL 4) LANDSCAPE PLAN

SCALE: 1" = 16'-0"

0 8 16 32

SCALE: 1/16"=1'-0"

CONCEPT PLANT SCHEDULE LEVEL 4

SMALL FLOWERING TREE — 3

ACACIA BAILEYANA / BAILEY ACACIA
ACACIA COVENYI / BLUE BUSH ACACIA
ACACIA CULTRIFORMIS / KNIFE ACACIA
ACACIA DEALBATA / SILVER WATTLE
ALBIZIA JULIBRISSIN / SILK TREE
CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK
LAGERSTROEMIA INDICA / CRAPE MYRTLE
LEPTOSPERMUM LAEVIGATUM / AUSTRALIAN TEA TREE
MELALEUCA NESOPHILA / PINK MELALEUCA MULTI-TRUNK
PLUMERIA RUBRA / RED FRANGIPANI
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE

SMALL FEATURE TREE — 7

ALOE 'HERCULES' / HERCULES ALOE
ALOE BAINESII / TREE ALOE
CORDYLINE AUSTRALIS / GRASS PALM
DRACAENA DRACO / DRAGON TREE
DRACAENA MARGINATA / DRACAENA
FICUS ELASTICA / RUBBER TREE
FICUS LYRATA / FIDDLE LEAF FIG
JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER
YUCCA ALOIFOLIA / ALOE YUCCA
YUCCA AUSTRALIS / YUCCA
YUCCA RIGIDA / MEXICAN BLUE YUCCA
YUCCA ROSTRATA / BEAKED YUCCA

RAISED PLANTER MIX — 114 SF

2'-3' O.C.
ACHILLEA MILLEFOLIUM / COMMON YARROW
CAREX TESTACEA / ORANGE SEDGE
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA
ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS
PENSTEMON SPECTABILIS / SHOWY PENSTEMON
PORTULACARIA AFRA / ELEPHANT BUSH
SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO
SENECIO VITALIS / BLUE CHALK FINGERS
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA

REFERENCE NOTES SCHEDULE LEVEL 4

SYMBOL	DESCRIPTION	QTY
01 PAVEMENTS, RAMPS, CURBS		
	ENHANCED PAVING - PRIVATE PATIOS	2,147 SF
05 SITE FURNISHINGS		
05-01	LOUNGE CHAIR - TYPE I	4
05-04	SIDE TABLE - TYPE I	2
05-05	SIDE TABLE - TYPE II	2
05-07	OUTDOOR SOFA	2
05-09	DINING TABLE - TYPE II	4
05-11	BISTRO TABLE	4
05-15	FREE STANDING PLANTER	19

ARCADIS
OCEANSIDE TRANSIT CENTER
235 South Tremont Avenue
Oceanside, CA 92054

McCulloughLA.com
landscape architecture
environmental planning
urban design
3605-B Fifth Avenue
San Diego, CA 92103
1111 Broadway, Suite 1320
Oakland, California 94607
PH. 619.296.3150

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

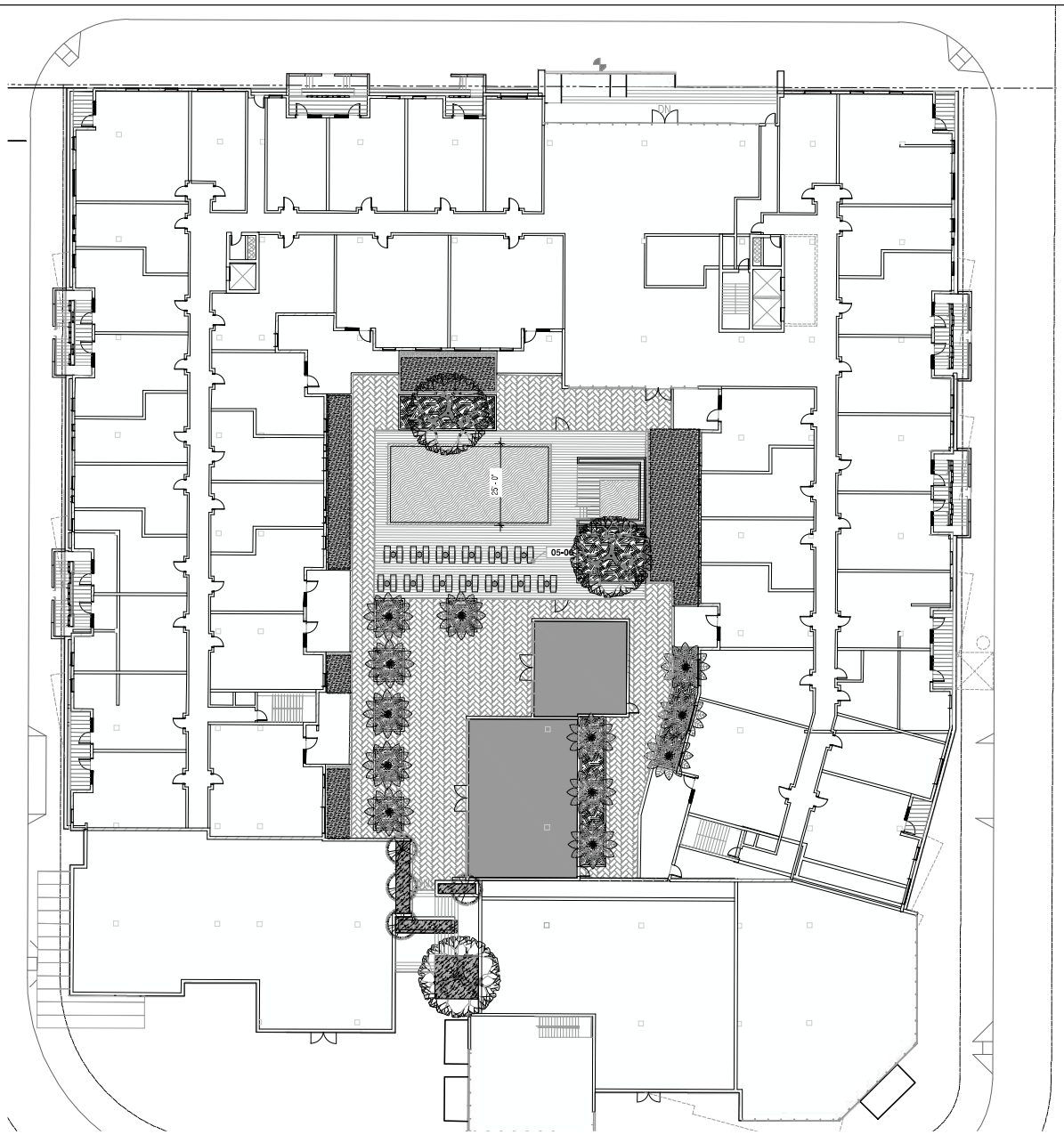
Issue Drawing Log

REV	DATE	DESCRIPTION
1	05-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-06-2023	DP SUBMITTAL 3
4	04-16-2024	DP SUBMITTAL 4
5	06-20-2024	DP SUBMITTAL 5
6	08-19-2024	DP SUBMITTAL 6
7	05-14-2025	DP SUBMITTAL 7

Schematic Design

OFFICE (LEVEL 4) LANDSCAPE PLAN

L-026



R1 - RESIDENTIAL (BLOCK 2) LEVEL 2 AMENITY PLAN

SCALE: 1" = 16'-0"

0 8 16 32

SCALE: 1/16"=1'-0"

REFERENCE NOTES SCHEDULE

	SYMBOL	DESCRIPTION	QTY	DETAIL
		01 PAVEMENTS, RAMPS, CURBS		
	01-09	PEDESTAL PAVERS	6,894 SF	
	01-11	DECK	2,877 SF	
		05 SITE FURNISHINGS		
	05-06	CHAISE LOUNGE	26	
		09 PLANTING AND LANDSCAPE		
	09-01	PLANTING AREA	2,356 SF	
		12 WATER FEATURES		
	12-01	POOL/SPA	1,384 SF	

CONCEPT PLANT SCHEDULE

FEATURE TREE 3

AGONIS FLEXUOSA / PEPPERMINT TREE	24" BOX
CINNAMOMUM CAMPHORA / CAMPHOR TREE MULTI-TRUNK	24" BOX
QUERCUS AGRIFOLIA / COAST LIVE OAK MULTI-TRUNK	24" BOX
QUERCUS ENGELMANNII / ENGELMANN OAK	24" BOX
QUERCUS SUBER / CORK OAK	24" BOX
SCHINUS MOLLE / CALIFORNIA PEPPER	24" BOX
TIPUANA TIPU / TIPU TREE	24" BOX

SMALL FEATURE TREE 4

ALOE HERCULES / HERCULES ALOE	15 GAL
ALOE BAINESII / TREE ALOE	15 GAL
CORDYLINE AUSTRALIS / GRASS PALM	15 GAL
DRACAENA DRACO / DRAGON TREE	15 GAL
DRACAENA MARGINATA / DRACAENA	15 GAL
FICUS ELASTICA / RUBBER TREE	15 GAL
FICUS LYRATA / FIDDLE LEAF FIG	15 GAL
JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER	15 GAL
YUCCA ALOIFOLIA / ALOE YUCCA	15 GAL
YUCCA AUSTRALIS / YUCCA	15 GAL
YUCCA RIGIDA / MEXICAN BLUE YUCCA	15 GAL
YUCCA ROSTRATA / BEAKED YUCCA	15 GAL

POOL AREA TREE/PALM 12

BRAHEA ARMATA / MEXICAN BLUE PALM	24" BOX
CARYOTA MITIS / CLUMPING FISHTAIL PALM	24" BOX
CHAMAEROPS HUMILIS / MEDITERRANEAN FAN PALM	24" BOX
DYPSIS LUTESCENS / ARECA PALM	15 GAL
HOWEA FORSTERIANA / KENTIA PALM	24" BOX
PANDANUS UTILIS / SCREW PINE	24" BOX
PHOENIX DACTYLIFERA 'MEDJOOL' / MEDJOOL DATE PALM	10' BTH

RAISED PLANTER MIX 383 SF

2-3' O.C.

ACHILLEA MILLEFOLIUM / COMMON YARROW	1 GAL. - 5 GAL.
CAREX TESTACEA / ORANGE SEDGE	1 GAL. - 5 GAL.
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA	1 GAL.
ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE	1 GAL. - 5 GAL.
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS	1 GAL. - 5 GAL.
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS	1 GAL. - 5 GAL.
PENSTEMON SPECTABILIS / SHOWY PENSTEMON	1 GAL. - 5 GAL.
PORTULACARIA AFRA / ELEPHANT BUSH	1 GAL.
SALVIA X 'BEES BLISS' / BEES BLISS SAGE	1 GAL. - 5 GAL.
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS	1 GAL. - 5 GAL.
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO	1 GAL.
SENECIO VITALIS / BLUE CHALK FINGERS	1 GAL.
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS	1 GAL. - 5 GAL.
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA	1 GAL. - 5 GAL.

POOLSIDE MIX 1,969 SF

2-3' O.C.

AECHMEA BLANCHETIANA / ORANGE BROMELIAD	1 GAL. - 5 GAL.
ALOE FEROX / BITTER TREE ALOE	1 GAL. - 5 GAL.
ALOE KOMOSIBENSIS / MAIDEN'S QUIVER TREE	1 GAL. - 5 GAL.
ALOE REITZII / REITZ'S ALOE	1 GAL. - 5 GAL.
ALOE RUDKOPPIE / LITTLE RED RIDING HOOD ALOE	1 GAL. - 5 GAL.
ALOE VERA / MEDICINAL ALOE	1 GAL. - 5 GAL.
ALOE X 'ALWAYS RED' / ALWAYS RED ALOE	1 GAL. - 5 GAL.
ALOE X 'BLUE ELF' / BLUE ELF ALOE	1 GAL. - 5 GAL.
ALPINIA ZERUMBET 'VARIEGATA' / VARIEGATED SHELL GINGER	1 GAL. - 5 GAL.
ARBUTUS UNEDO / STRAWBERRY TREE SHRUB	1 GAL. - 5 GAL.
ASPARAGUS RETROFRACTUS / MINS ASPARAGUS FERN	1 GAL. - 5 GAL.
ASPARAGUS SETACEUS / ASPARAGUS FERN	1 GAL. - 5 GAL.
BESCHORNERIA YUCCOIDES / AMOLE	1 GAL. - 5 GAL.
CORDYLINE AUSTRALIS / GRASS PALM	1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'RED SISTER' / RED SISTER TI PLANT	1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'SOLIDAD PURPLE' / SOLEDAD PURPLE TI PLANT	1 GAL. - 5 GAL.
COTYLEDON ORBICULATA / COTYLEDON	1 GAL. - 5 GAL.
CUPHEA IGNEA / CIGAR PLANT	1 GAL. - 5 GAL.
DIETES VEGETA / AFRICAN IRIS	1 GAL. - 5 GAL.
DIETES VEGETA 'VARIEGATA' / VARIEGATED AFRICAN IRIS	1 GAL. - 5 GAL.
DIPLADENIA X 'DEEP RED' TM / MANDINIA DEEP RED MANDEVILLA	1 GAL. - 5 GAL.
DORYANTHES PALMERI / SPEAR LILY	1 GAL. - 5 GAL.
DRACAENA MARGINATA / DRACAENA	1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'ORANGE' / ORANGE REED STEM ORCHID	1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'PURPLE' / PURPLE REED STEM ORCHID	1 GAL. - 5 GAL.
MONSTERA DELICIOSA / SPLIT-LEAF PHILODENDRON	1 GAL. - 5 GAL.
MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	1 GAL. - 5 GAL.
NEOREGELIA COMPACTA 'VARIEGATA' / VARIEGATED COMPACT BROMELIAD	1 GAL. - 5 GAL.
PACHYPODIUM LAMEREI / MADAGASCAR PALM	1 GAL. - 5 GAL.
PHILODENDRON SELLOUM / TREE PHILODENDRON	1 GAL. - 5 GAL.
STRELITZIA NICOLAI / GIANT BIRD OF PARADISE	1 GAL. - 5 GAL.
STRELITZIA REGINAE / BIRD OF PARADISE	1 GAL. - 5 GAL.
WOODWARDIA FIMBRIATA / GIANT CHAIN FERN	1 GAL. - 5 GAL.
ZAMIA FURFURACEA / CARDBOARD PALM	1 GAL. - 5 GAL.

BIO FILTRATION PLANTER 19,758 SF

2-3' O.C.

ACHILLEA MILLEFOLIUM / COMMON YARROW	4" POT
AGROSTIS PALLENS / THINGRASS	1 GAL.
ANEMOPSIS CALIFORNICA / YERBA MANSA	1 GAL.
CAREX SPISSA / SAN DIEGO SEDGE	1 GAL.
CAREX SUBFUSCA / BROWN SEDGE	1 GAL.
CAREX TUMULICOLA / FOOTHILL SEDGE	1 GAL.
DISTICHLIS SPICATA / SALTGRASS	1 GAL.
ELEOCHARIS MACROSTACHYA / COMMON SPIKERUSH	1 GAL.
FESTUCA CALIFORNICA / CALIFORNIA FESCUE	1 GAL.
FESTUCA RUBRA / RED FESCUE	1 GAL.
IVA HAYESIANA / SAN DIEGO POVERTY WEED	1 GAL.
JUNCUS PATENS / CALIFORNIA GRAY RUSH	1 GAL.
MAHONIA NEVINII / NEVIN MAHONIA	1 GAL.
MUHLENBERGIA RIGENS / DEER GRASS	1 GAL.
RIBES SPECIOSUM / FUCHSIA FLOWERING GOOSEBERRY	1 GAL.
ROSA CALIFORNICA / CALIFORNIA WILD ROSE	1 GAL.
SCIRPUS CERNUUS / LOW BULRUSH	1 GAL.

ARCADIS
OCEANSIDE TRANSIT CENTER
235 South Tremont Avenue
Oceanside, CA 92054

McCullough
McCulloughLA.com

Toll Brothers Apartment Living
22422 Mill Creek Drive
Suite 100
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 373-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	06-26-2022	DP SUBMITTAL 1
2	05-15-2023	DP SUBMITTAL 2
3	10-09-2023	DP SUBMITTAL 3
4	04-10-2024	DP SUBMITTAL 4
5	06-20-2024	DP SUBMITTAL 5
6	08-19-2024	DP SUBMITTAL 6
7	09-14-2026	DP SUBMITTAL 7

Schematic Design

R1 - RESIDENTIAL (BLOCK 2) LEVEL 2 AMENITY PLAN

L-027

© 2023 Arcadis Inc.

CONCEPT PLANT SCHEDULE POOL DECK

FEATURE TREE	2	
AGONIS FLEXUOSA / PEPPERMINT TREE		24" BOX
CINNAMOMUM CAMPHORA / CAMPHOR TREE MULTI-TRUNK		24" BOX
QUERCUS AGRIFOLIA / COAST LIVE OAK MULTI-TRUNK		24" BOX
QUERCUS ENGELMANNII / ENGELMANN OAK		24" BOX
QUERCUS SUBER / CORK OAK		24" BOX
SCHINUS MOLLE / CALIFORNIA PEPPER		24" BOX
TIPUANA TIPU / TIPU TREE		24" BOX

SMALL FLOWERING TREE	11	
ACACIA BAILEYANA / BAILEY ACACIA		24" BOX
ACACIA COVENYI / BLUE BUSH ACACIA		15 GAL
ACACIA CULTRIFORMIS / KNIFE ACACIA		15 GAL
ACACIA DEALBATA / SILVER WATTLE		15 GAL
ALBIZIA JULIBRISSIN / SILK TREE		24" BOX
CERCIS OCCIDENTALIS / WESTERN REDBUD MULTI-TRUNK		24" BOX
LAGERSTROEMIA INDICA / CRAPE MYRTLE		15 GAL
LEPTOSPERMUM LAEVIGATUM / AUSTRALIAN TEA TREE		15 GAL
MELALEUCA NESOPHILA / PINK MELALEUCA MULTI-TRUNK		15 GAL
PLUMERIA RUBRA / RED FRANGIPANI		15 GAL
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE		24" BOX

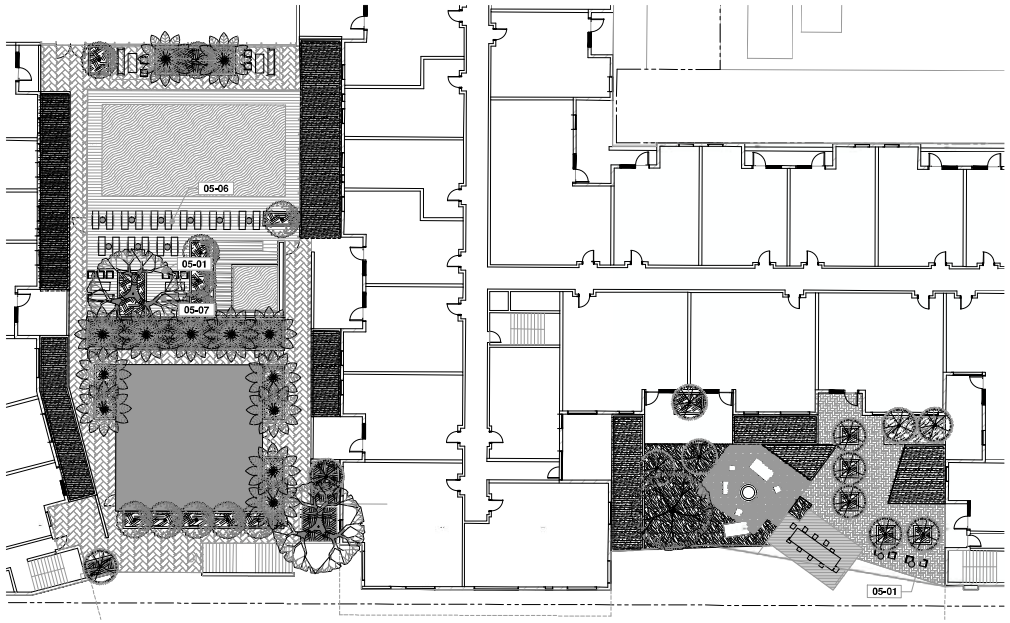
SMALL FEATURE TREE	1	
ALOE 'HERCULES' / HERCULES ALOE		15 GAL
ALOE BAINESII / TREE ALOE		15 GAL
CORDYLINE AUSTRALIS / GRASS PALM		15 GAL
DRACAENA DRACO / DRAGON TREE		15 GAL
DRACAENA MARGINATA / DRACAENA		15 GAL
FICUS ELASTICA / RUBBER TREE		15 GAL
FICUS LYRATA / FIDDLE LEAF FIG		15 GAL
JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER		15 GAL
YUCCA ALOIFOLIA / ALOE YUCCA		15 GAL
YUCCA AUSTRALIS / YUCCA		15 GAL
YUCCA RIGIDA / MEXICAN BLUE YUCCA		15 GAL
YUCCA ROSTRATA / BEAKED YUCCA		15 GAL

POOLSIDE MIX	2,151 SF	
2'-3' O.C.		
AECHMEA BLANCHETIANA / ORANGE BROMELIAD		1 GAL. - 5 GAL.
ALOE FEROX / BITTER TREE ALOE		1 GAL. - 5 GAL.
ALOE RAMOSISSIMA / MAIDEN'S QUIVER TREE		1 GAL. - 5 GAL.
ALOE REITZII / REITZ'S ALOE		1 GAL. - 5 GAL.
ALOE RUDKOPPE / 'LITTLE RED RIDING HOOD ALOE		1 GAL. - 5 GAL.
ALOE VERA / MEDICINAL ALOE		1 GAL. - 5 GAL.
ALOE X 'ALWAYS RED' / ALWAYS RED ALOE		1 GAL. - 5 GAL.
ALOE X 'BLUE ELF' / BLUE ELF ALOE		1 GAL. - 5 GAL.
ALPINIA ZERUMBET 'VARIEGATA' / VARIEGATED SHELL GINGER		1 GAL. - 5 GAL.
ARBUTUS UNEDO / STRAWBERRY TREE SHRUB		1 GAL. - 5 GAL.
ASPARAGUS RETROFRACTUS / MING ASPARAGUS FERN		1 GAL. - 5 GAL.
ASPARAGUS SETACEUS / ASPARAGUS FERN		1 GAL. - 5 GAL.
BESCHORNERIA YUCCOIDES / AMOLE		1 GAL. - 5 GAL.
CORDYLINE AUSTRALIS / GRASS PALM		1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'RED SISTER' / RED SISTER TI PLANT		1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'SOLEDAD PURPLE' / SOLEDAD PURPLE TI PLANT		1 GAL. - 5 GAL.
COTYLEDON ORBICULATA / COTYLEDON		1 GAL. - 5 GAL.
CUPHEA IGNEA / CIGAR PLANT		1 GAL. - 5 GAL.
DIETES VEGETA / AFRICAN IRIS		1 GAL. - 5 GAL.
DIETES VEGETA 'VARIEGATA' / VARIEGATED AFRICAN IRIS		1 GAL. - 5 GAL.
DIPLADENIA X 'DEEP RED' TM / MANDINIA DEEP RED MANDEVILLA		1 GAL. - 5 GAL.
DORYANTHES PALMERI / SPEAR LILY		1 GAL. - 5 GAL.
DRACAENA MARGINATA / DRACAENA		1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'ORANGE' / ORANGE REED STEM ORCHID		1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'PURPLE' / PURPLE REED STEM ORCHID		1 GAL. - 5 GAL.
MONSTERA DELICIOSA / SPLIT-LEAF PHILODENDRON		1 GAL. - 5 GAL.
MYRICA CALIFORNICA / PACIFIC WAX MYRTLE		1 GAL. - 5 GAL.
NEOREGELIA COMPACTA VARIEGATA / VARIEGATED COMPACT BROMELIAD		1 GAL. - 5 GAL.
PACHYPODIUM LAMEREI / MADAGASCAR PALM		1 GAL. - 5 GAL.
PHILODENDRON SELLOUM / TREE PHILODENDRON		1 GAL. - 5 GAL.
STRELITZIA NICOLAI / GIANT BIRD OF PARADISE		1 GAL. - 5 GAL.
STRELITZIA REGINAE / BIRD OF PARADISE		1 GAL. - 5 GAL.
WOODWARDIA FIMBRIATA / GIANT CHAIN FERN		1 GAL. - 5 GAL.
ZAMIA FURFURACEA / CARDBOARD PALM		1 GAL. - 5 GAL.

POOL AREA TREE/PALM	13	
BRAHEA ARMATA / MEXICAN BLUE PALM		24" BOX
CARYOTA MITIS / CLUMPING FISHTAIL PALM		24" BOX
CHAMAEROPS HUMILIS / MEDITERRANEAN FAN PALM		24" BOX
DYPSIS LUTESCENS / ARECA PALM		15 GAL
HOWEA FORSTERIANA / KENTIA PALM		24" BOX
PANDANUS UTILIS / SCREW PINE		24" BOX
PHOENIX DACTYLIFERA 'MEDJOOL' / MEDJOOL DATE PALM		10' BTH

REFERENCE NOTES SCHEDULE POOL DECK

	01 PAVEMENTS, RAMPS, CURBS	
SYMBOL	DESCRIPTION	QTY
01-09	PEDESTAL PAVERS	3,229 SF
01-11	DECK	1,973 SF
	05 SITE FURNISHINGS	
SYMBOL	DESCRIPTION	QTY
05-01	LOUNGE CHAIR - TYPE I	10
05-06	CHAISE LOUNGE	18
05-07	OUTDOOR SOFA	4
	09 PLANTING AND LANDSCAPE	
SYMBOL	DESCRIPTION	QTY
09-01	PLANTING AREA	2,151 SF
	12 WATER FEATURES	
SYMBOL	DESCRIPTION	QTY
12-01	POOL/SPA	1,394 SF



CONCEPT PLANT SCHEDULE AMENITY SPACE

DUNE TREE	1	
AGONIS FLEXUOSA / PEPPERMINT TREE		24" BOX
GEIJERA PARVIFLORA / AUSTRALIAN WILLOW		24" BOX
MELALEUCA QUINQUENERVIA / CAJEPUT TREE MULTI-TRUNK		24" BOX
PROSOPIS CHILENSIS 'THORNLESS' / THORNLESS CHILEAN MESQUITE		24" BOX
TABEBUIA IMPETIGINOSA / PINK TRUMPET TREE		24" BOX

SMALL FEATURE TREE	11	
ALOE 'HERCULES' / HERCULES ALOE		15 GAL
ALOE BAINESII / TREE ALOE		15 GAL
CORDYLINE AUSTRALIS / GRASS PALM		15 GAL
DRACAENA DRACO / DRAGON TREE		15 GAL
DRACAENA MARGINATA / DRACAENA		15 GAL
FICUS ELASTICA / RUBBER TREE		15 GAL
FICUS LYRATA / FIDDLE LEAF FIG		15 GAL
JUNIPERUS CHINENSIS 'TORULOSA' / HOLLYWOOD JUNIPER		15 GAL
YUCCA ALOIFOLIA / ALOE YUCCA		15 GAL
YUCCA AUSTRALIS / YUCCA		15 GAL
YUCCA RIGIDA / MEXICAN BLUE YUCCA		15 GAL
YUCCA ROSTRATA / BEAKED YUCCA		15 GAL

RAISED PLANTER MIX	669 SF	
2'-3' O.C.		
ACHILLEA MILLEFOLIUM / COMMON YARROW		1 GAL. - 5 GAL.
CAREX TESTACEA / ORANGE SEDGE		1 GAL. - 5 GAL.
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL.
ERIOGONUM GISANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE		1 GAL. - 5 GAL.
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS		1 GAL. - 5 GAL.
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS		1 GAL. - 5 GAL.
PENSTEMON SPECTABILIS / SHOWY PENSTEMON		1 GAL. - 5 GAL.
PORTULACARIA AFRA / ELEPHANT BUSH		1 GAL.
SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE		1 GAL. - 5 GAL.
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS		1 GAL. - 5 GAL.
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO		1 GAL.
SENECIO VITALIS / BLUE CHALK FINGERS		1 GAL.
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS		1 GAL. - 5 GAL.
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA		1 GAL. - 5 GAL.

DUNE MIX	749 SF	
2'-3' O.C.		
ABRONIA VILLOSA / DESERT SAND VERBENA		1 GAL.
AGAVE SHAWII / COASTAL AGAVE		1 GAL. - 5 GAL.
ARISTIDA PURPUREA / PURPLE THREEAWN		1 GAL. - 5 GAL.
BOUTELOUA GRACILIS 'BLONDE AMBITION' / BLONDE AMBITION BLUE GRAMA		1 GAL. - 5 GAL.
CAREX BUCHANANII / LEATHER LEAF SEDGE		1 GAL. - 5 GAL.
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA		1 GAL. - 5 GAL.
LINONIUM PEREZII / STATICE		1 GAL. - 5 GAL.
MUHLENBERGIA DUBIA / PINE MUHLY		1 GAL. - 5 GAL.
OPUNTIA SANTA-RITA 'TUBAC' TM / SANTA RITA PRICKLYPEAR		1 GAL. - 5 GAL.
SALICORNIA PACIFICA / PICKLEWEED		1 GAL. - 5 GAL.
SPHAERALCEA AMBIGUA / DESERT GLOBEMALLOW		1 GAL. - 5 GAL.
XEROSICYOS DANGUYI / SILVER DOLLAR VINE		1 GAL.

BIO FILTRATION PLANTER	19,758 SF	
2'-3' O.C.		
ACHILLEA MILLEFOLIUM / COMMON YARROW		4" POT
AGROSTIS PALLENS / THINGRASS		1 GAL.
ANEMOPSIS CALIFORNICA / YERBA MANSA		1 GAL.
CAREX SPISSA / SAN DIEGO SEDGE		1 GAL.
CAREX SUBFUSCA / BROWN SEDGE		1 GAL.
CAREX TUMULICOLA / FOOTHILL SEDGE		1 GAL.
DISTICHLIS SPICATA / SALTGRASS		1 GAL.
ELEOCHARIS MACROSTACHYA / COMMON SPIKERUSH		1 GAL.
FESTUCA CALIFORNICA / CALIFORNIA FESCUE		1 GAL.
FESTUCA RUBRA / RED FESCUE		1 GAL.
IVA HAYESIANA / SAN DIEGO POVERTY WEED		1 GAL.
JUNCUS PATENS / CALIFORNIA GRAY RUSH		1 GAL.
MAHONIA NEVINII / NEVIN MAHONIA		1 GAL.
MUHLENBERGIA RIGENS / DEER GRASS		1 GAL.
RIBES SPECIOSUM / FUCHSIA FLOWERING GOOSEBERRY		1 GAL.
ROSA CALIFORNICA / CALIFORNIA WILD ROSE		1 GAL.
SCIRPUS CERNUUS / LOW BULRUSH		1 GAL.

REFERENCE NOTES SCHEDULE AMENITY SPACE

	01 PAVEMENTS, RAMPS, CURBS	
SYMBOL	DESCRIPTION	QTY
01-09	PEDESTAL PAVERS	1,064 SF
01-10	DECOMPOSED GRANITE: SOUTHWEST BOULDER 'DESERT GOLD' W/ STABILIZER	380 SF
01-11	DECK	266 SF
	05 SITE FURNISHINGS	
SYMBOL	DESCRIPTION	QTY
05-01	LOUNGE CHAIR - TYPE I	4
	09 PLANTING AND LANDSCAPE	
SYMBOL	DESCRIPTION	QTY
09-01	PLANTING AREA	1,548 SF

R2 - RESIDENTIAL (BLOCK 3) LEVEL 2 AMENITY PLAN

SCALE: 1" = 16'-0"

0 8 16 32

SCALE: 1/16"=1'-0"

ARCADIS
OCEANSIDE TRANSIT CENTER
235 South Tremont Avenue
Oceanside, CA 92054

McCullough
McCullough.com

Toll Brothers Apartment Living
22422 Mill Creek Drive
Suite 150
Laguna Hills, CA 92653
CONTACT - Michael McComn
PHONE - (949) 379-9155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

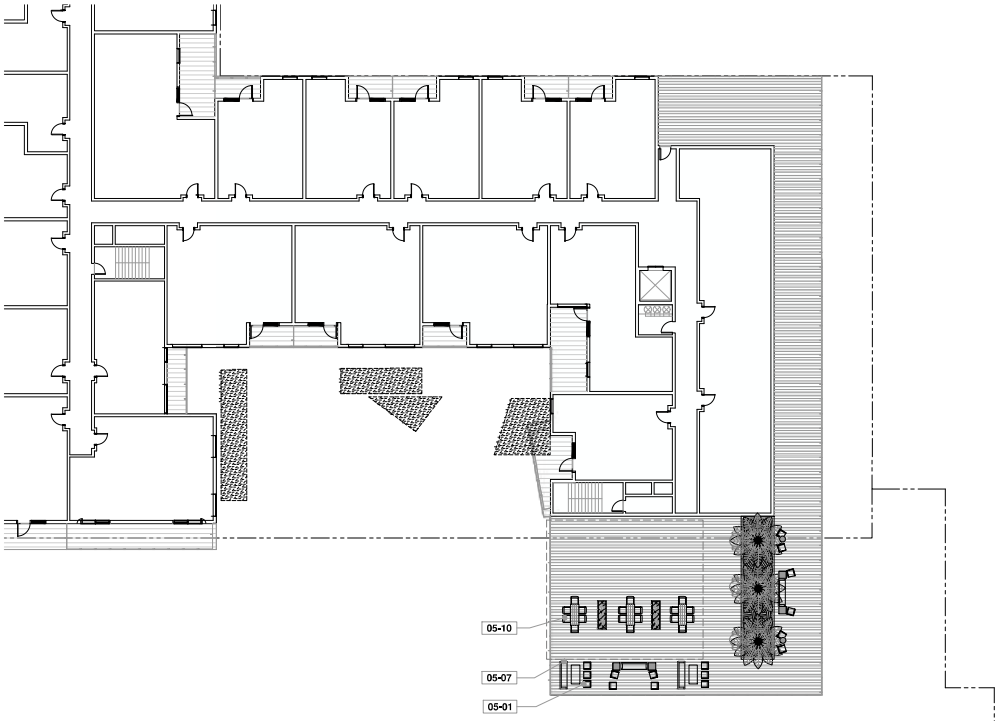
REV	DATE	DESCRIPTION
1	06-26-2022	DP SUBMITTAL 1
2	05-15-2023	DP SUBMITTAL 2
3	10-09-2023	DP SUBMITTAL 3
4	04-10-2024	DP SUBMITTAL 4
5	09-20-2024	DP SUBMITTAL 5
6	05-19-2024	DP SUBMITTAL 6
7	[illegible]	DP SUBMITTAL 7

Schematic Design

R2 - RESIDENTIAL (BLOCK 3) LEVEL 2 AMENITY PLAN

L-028

© 2023 Arcadis Inc.



R2 - RESIDENTIAL (BLOCK 3) LEVEL 5 AMENITY PLAN

SCALE: 1" = 16'-0"

0 8 16 32

SCALE: 1/16"=1'-0"

CONCEPT PLANT SCHEDULE

POOL AREA TREE/PALM 3

BRAHEA ARMATA / MEXICAN BLUE PALM	24" BOX
CARYOTA MITIS / CLUMPING FISHTAIL PALM	24" BOX
CHAMAEROPS HUMILIS / MEDITERRANEAN FAN PALM	24" BOX
DYPSIS LUTESCENS / ARECA PALM	15 GAL
HOWEA FORSTERIANA / KENTIA PALM	24" BOX
PANDANUS UTILIS / SCREW PINE	24" BOX
PHOENIX DACTYLIFERA 'MEDJOOL' / MEDJOOL DATE PALM	10' BTH

RAISED PLANTER MIX 30 SF

2'-3' O.C.

ACHILLEA MILLEFOLIUM / COMMON YARROW	1 GAL. - 5 GAL.
CAREX TESTACEA / ORANGE SEDGE	1 GAL. - 5 GAL.
DUDLEYA BRITTONII / GIANT CHALK DUDLEYA	1 GAL.
ERIOGONUM GIGANTEUM COMPACTUM / COMPACT SAINT CATHERINE'S LACE	1 GAL. - 5 GAL.
MISCANTHUS SINENSIS 'ADAGIO' / ADAGIO EULALIA GRASS	1 GAL. - 5 GAL.
PENNISETUM ALOPECUROIDES / FOUNTAIN GRASS	1 GAL. - 5 GAL.
PENSTEMON SPECTABILIS / SHOWY PENSTEMON	1 GAL. - 5 GAL.
PORTULACARIA AFRA / ELEPHANT BUSH	1 GAL.
SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE	1 GAL. - 5 GAL.
SENECIO ANTEUPHORBIUM / SWIZZLE STICKS	1 GAL. - 5 GAL.
SENECIO CRASSISSIMUS / VERTICAL LEAF SENECIO	1 GAL.
SENECIO VITALIS / BLUE CHALK FINGERS	1 GAL.
SESLERIA AUTUMNALIS / AUTUMN MOOR GRASS	1 GAL. - 5 GAL.
VERBENA LILACINA 'DE LA MINA' / DE LA MINA LILAC VERBENA	1 GAL. - 5 GAL.

POOLSIDE MIX 302 SF

2'-3' O.C.

AECHMEA BLANCHETIANA / ORANGE BROMELIAD	1 GAL. - 5 GAL.
ALOE FEROX / BITTER TREE ALOE	1 GAL. - 5 GAL.
ALOE RAMOSISSIMA / MAIDEN'S QUIVER TREE	1 GAL. - 5 GAL.
ALOE REITZII / REITZ'S ALOE	1 GAL. - 5 GAL.
ALOE RUDKOPPE / LITTLE RED RIDING HOOD ALOE	1 GAL. - 5 GAL.
ALOE VERA / MEDICINAL ALOE	1 GAL. - 5 GAL.
ALOE X 'ALWAYS RED' / ALWAYS RED ALOE	1 GAL. - 5 GAL.
ALOE X 'BLUE ELF' / BLUE ELF ALOE	1 GAL. - 5 GAL.
ALPINIA ZERUMBET 'VARIEGATA' / VARIEGATED SHELL GINGER	1 GAL. - 5 GAL.
ARBUTUS UNEDO / STRAWBERRY TREE SHRUB	1 GAL. - 5 GAL.
ASPARAGUS RETROFRACTUS / MING ASPARAGUS FERN	1 GAL. - 5 GAL.
ASPARAGUS SETACEUS / ASPARAGUS FERN	1 GAL. - 5 GAL.
BESCHORNERIA YUCCOIDES / AMOLE	1 GAL. - 5 GAL.
CORDYLINE AUSTRALIS / GRASS PALM	1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'RED SISTER' / RED SISTER TI PLANT	1 GAL. - 5 GAL.
CORDYLINE FRUTICOSA 'SOLEDAD PURPLE' / SOLEDAD PURPLE TI PLANT	1 GAL. - 5 GAL.
COTYLEDON ORBICULATA / COTYLEDON	1 GAL. - 5 GAL.
CUPHEA IGNEA / CIGAR PLANT	1 GAL. - 5 GAL.
DIETES VEGETA / AFRICAN IRIS	1 GAL. - 5 GAL.
DIETES VEGETA 'VARIEGATA' / VARIEGATED AFRICAN IRIS	1 GAL. - 5 GAL.
DIPLADENIA X 'DEEP RED' TM / MANDINIA DEEP RED MANDEVILLA	1 GAL. - 5 GAL.
DORYANTHES PALMERI / SPEAR LILY	1 GAL. - 5 GAL.
DRACAENA MARGINATA / DRACAENA	1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'ORANGE' / ORANGE REED STEM ORCHID	1 GAL. - 5 GAL.
EPIDENDRUM RADICANS 'PURPLE' / PURPLE REED STEM ORCHID	1 GAL. - 5 GAL.
MONSTERA DELICIOSA / SPLIT-LEAF PHILODENDRON	1 GAL. - 5 GAL.
MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	1 GAL. - 5 GAL.
NEOREGELIA COMPACTA 'VARIEGATA' / VARIEGATED COMPACT BROMELIAD	1 GAL. - 5 GAL.
PACHYPODIUM LAMEREI / MADAGASCAR PALM	1 GAL. - 5 GAL.
PHILODENDRON SELLOUM / TREE PHILODENDRON	1 GAL. - 5 GAL.
STRELITZIA NICOLAI / GIANT BIRD OF PARADISE	1 GAL. - 5 GAL.
STRELITZIA REGINAE / BIRD OF PARADISE	1 GAL. - 5 GAL.
WOODWARDIA FIMBRIATA / GIANT CHAIN FERN	1 GAL. - 5 GAL.
ZAMIA FURFURACEA / CARDBOARD PALM	1 GAL. - 5 GAL.

REFERENCE NOTES SCHEDULE

	01 PAVEMENTS, RAMPS, CURBS	
SYMBOL	DESCRIPTION	QTY
01-11	DECK	5,747 SF
	05 SITE FURNISHINGS	
SYMBOL	DESCRIPTION	QTY
05-01	LOUNGE CHAIR - TYPE I	16
05-07	OUTDOOR SOFA	4
05-10	DINING TABLE - TYPE III	3
05-11	BISTRO TABLE	3
	09 PLANTING AND LANDSCAPE	
SYMBOL	DESCRIPTION	QTY
09-01	PLANTING AREA	332 SF

ARCADIS
OCEANSIDE TRANSIT CENTER
235 South Tremont Avenue
Oceanside, CA 92054

McCullough
McCulloughLA.com

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

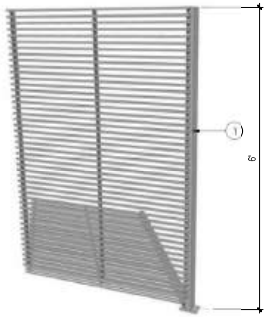
REV	DATE	DESCRIPTION
1	06-26-2022	DP SUBMITTAL 1
2	05-10-2023	DP SUBMITTAL 2
3	10-09-2023	DP SUBMITTAL 3
4	04-10-2024	DP SUBMITTAL 4
5	06-20-2024	DP SUBMITTAL 5
6	09-19-2024	DP SUBMITTAL 6
7	09-19-2025	DP SUBMITTAL 7

Schematic Design

R2 - RESIDENTIAL (BLOCK 3) LEVEL 5 AMENITY PLAN

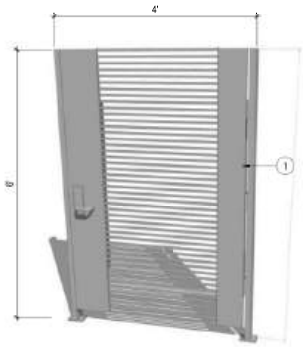
L-029

© 2023 Arcadis Inc.



1 POWDER COATED TUBE STEEL GATE

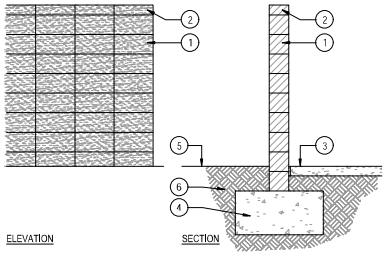
FENCE



1 POWDER COATED TUBE STEEL GATE
2 STAINLESS STEEL GATE LATCH AND HARDWARE

GATE

1 8x8x16 CMU WALL IN STACKED BOND PATTERN. SOLID GROUT FILL.
2 8x4x16 CMU WALL CAP. FLUSH WITH WALL.
3 ADJACENT FINISH PER PLAN.
4 CONCRETE FOOTING AND REINFORCEMENT PER STRUCTURAL ENGINEER.
5 FINISH GRADE.
6 COMPACTED SUBGRADE PER SOILS REPORT.



ELEVATION SECTION

CMU FREE STANDING WALL

ARCADIS

OCEANSIDE TRANSIT CENTER

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	06-26-2022	DP SUBMITTAL 1
2	05-15-2023	DP SUBMITTAL 2
3	10-09-2023	DP SUBMITTAL 3
4	04-10-2024	DP SUBMITTAL 4
5	06-20-2024	DP SUBMITTAL 5
6	08-19-2024	DP SUBMITTAL 6

Schematic Design

WALL & FENCE DETAILS

L-031

© 2023 Arcadis Inc.

4.03 ATTACHMENT 3d



CODE	DESCRIPTION	COLOR	LOCATION	NOTES
CONCRETE				
CONC-01			Customer Service Center Exterior Wall Finish	
CONC-02			Customer Service Center and public restrooms Exterior Wall Finish	
CONC-03		Semi-translucent colored sealer	Customer Service Center Integrated platform seating	
GLASS				
GL-01		Clear	Typical Storefront Customer Service Center Skylight	Insulated glass unit with Low-E coating and #2 surface See www.vistar.com for more information
GL-02	LAMINATED GLASS, TEMPERED MFR: VISTAR MFR: Clear	Clear	Typical Glass Railing CANOPY SKYLIGHT at Ticketing window	Laminated glass consisting of 2 layers of clear heat-treated glass, laminated with a 90 mil thick polyvinyl butyral interlayer See www.vistar.com for more information
GL-03	INSULATED VISION UNIT MFR: VISTAR MFR: Clear	Clear	Typical Storefront Glazing Customer Service Center Clerestory	Insulating glass unit with Low-E coating (pos. 2), surface clean primary and secondary seals See www.vistar.com for more information
GL-04	LAMINATED GLASS, TEMPERED MFR: VISTAR MFR: Clear	Clear	Customer Service Center Ticketing window Security bullet proof glass	Laminated glass consisting of 2 layers of clear heat-treated glass, laminated with a 90 mil thick polyvinyl butyral interlayer See www.vistar.com for more information
STUCCO				
STU-01	STUCCO MFR: Omega Products MFR: Color 12 - Coastal	White	Entire Exterior Wall Finish	Stucco exterior system https://omegaproducts.com/collections/color-21
STU-02	STUCCO MFR: Omega Products MFR: Color 100 - Ash Grey	Dark Grey	Entire Exterior Wall Finish	Stucco exterior system https://omegaproducts.com/collections/color-21
STU-03	STUCCO MFR: MFR: Color	Sheet Match color to FTD 01	Accessible Entire Wall Finish	Stucco exterior system Integrated waterproof system
STU-04	STUCCO MFR: MFR: Color	Match color to FTD 02	Residential Entire Wall Finish	Stucco exterior system Integrated waterproof system
FIBER CEMENT SIDING				
FCS-01	COMPOSITE FIBER CEMENT PANEL MFR: Nichiha MFR: Color Taupe	Taupe	Residential Exterior Wall Finish	Ventilated Rainscreen https://assets.nichiha.com/pdf/brochure/20210304_Fiber_Cement_Line_Product_Collection_Brochure_Web.pdf https://www.nichiha.com/products/collection-series/architectural-collection
FCS-02	COMPOSITE FIBER CEMENT PANEL MFR:	Wood Texture Natural	Residential Exterior Wall Finish	
FCS-03	COMPOSITE FIBER CEMENT PANEL MFR: Nichiha MFR: Color Gray	White	Residential Entire Wall Finish Accent Wall Surfaces	Ventilated Rainscreen https://shop.nichiha.com/products/traditional-series-vertical-grain-0001?variant=32610304
METAL COATING				
MTL-01	METAL COATING MFR: PPG MFR: Color: DESIGNER PORTFOLIO	Dark Navy	Entire Metal Canopy, Soffit, Louvers, Railings	Aluminum panel finish as per Section 09900
MTL-02	METAL COATING MFR: PPG MFR: VERSEFF ENERGY PORTFOLIO	Dark Bronze	Roof Center Louvers Customer Service Building Restroom	Aluminum panel finish as per Section 09900

CODE	DESCRIPTION	COLOR	LOCATION	NOTES
MTL-03	METAL COPING MFR: PPG MFR: Color: Night White PCT070243	White	Roof Edge, Parapet, Fascia, Canopy, Overhang, Railing,	Aluminum panel finish as per Section 09900
MTL-04	METAL COPING MFR: PPG MFR: Color: Pebble Gray PCT070247	Light Grey	Garage Exterior Metal Panel	Aluminum panel finish as per Section 09900
MTL-05	METAL COPING MFR: PPG MFR: Color: Night Sky PCT070233	Medium Grey	Garage Exterior Metal Panel	Aluminum panel finish as per Section 09900
MTL-06	METAL COPING MFR: MFR: Color	Orange	Garage Exterior Metal Panel	Aluminum panel finish as per Section 09900
MTL-07	METAL PANEL MFR: MFR: Color	Silver	Customer Service Center Roof	
MTL-08		Match color of 2 coat PC, upon Engineer's selection	Customer Service Center Exterior Decorative Trim	
MTL-09	METAL WOOD GRAIN MFR: MFR: Color	Medium	Customer Service Center Exterior Ceiling	
STONE - LIMESTONE				
ST-01	STONE VENEER MFR: Eldorado MFR: Color: Summit 1007	Medium Brown	Feature Wall Accent Entry Walls	Cascade Ledge - Summit Stone
BRICK VENEER				
BR-01	BRICK MFR: Cordova Kolbe MFR: Color: Mangrove Iridescent	Dark Grey/ Black	Feature Wall Typical Exterior Vertical Face	Mangrove Iridescent – Endicor Thin Brick – Smooth https://thinbrickbydelticotile.com/product/mangrove-iridescent-endicott-thin-brick/
WATER				
WE-01	SUSPENDED WOOD WALL MFR: Woodtile MFR: Color: 004 Oriental Cane	WW2	Feature Wall Pool Exterior Accent Walls	
PAINT				
PT-01	PAINT MFR: Benjamin Moore MFR: Color: Whisper Taupe 2111-70	White	Garage Painted Exterior Concrete	Whisper Taupe https://www.benjaminmoore.com/en-us/paint-color/color/2110-70/whisper-taupe
PT-02	PAINT MFR: Benjamin Moore MFR: Color: Electric Orange 2015-10	Orange	Garage Painted Exterior Concrete	Electric Orange https://www.benjaminmoore.com/en-us/paint-color/color/2015-10/electric-orange
PT-03	PAINT MFR: Benjamin Moore MFR: Color: Hot Jazz 2067-30	Pink	Garage Painted Exterior Concrete	Hot Jazz https://www.benjaminmoore.com/en-us/paint-color/color/2067-30/hot-jazz
PT-04	PAINT MFR: MFR:	Dark Grey	Customer Service Center Exterior Soffit	
PT-05	PAINT MFR: MFR:	Match color of CONC-01	Customer Service Center Exterior Soffit Door	
PT-06	PAINT MFR: MFR:	Silver grey	Public Restroom Soffit door Trim	

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

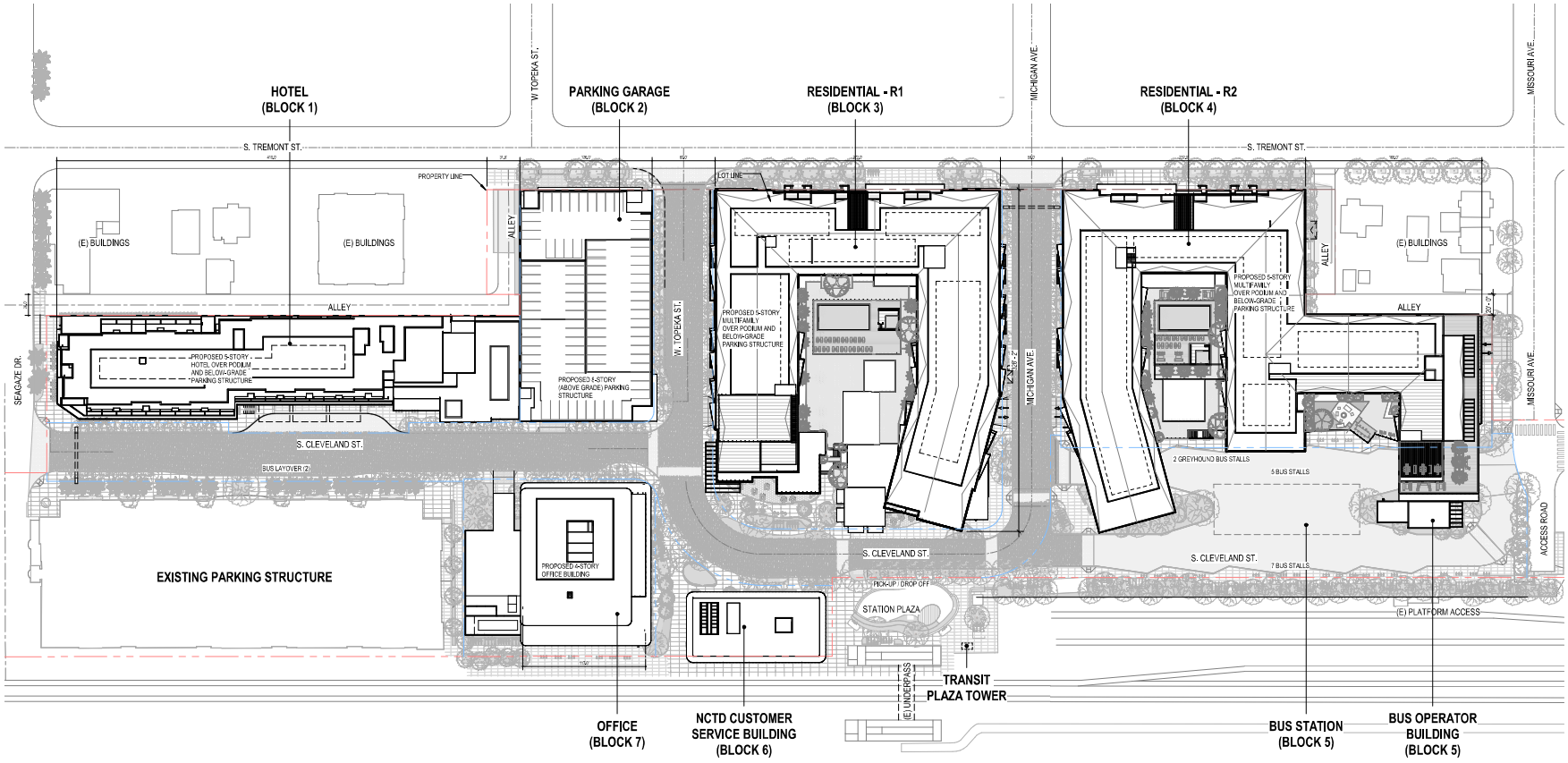
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-12-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

MATERIAL SCHEDULE

A-001

© 2023 Arcadis Inc.



1 OVERALL SITE PLAN
SCALE: 1" = 50'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

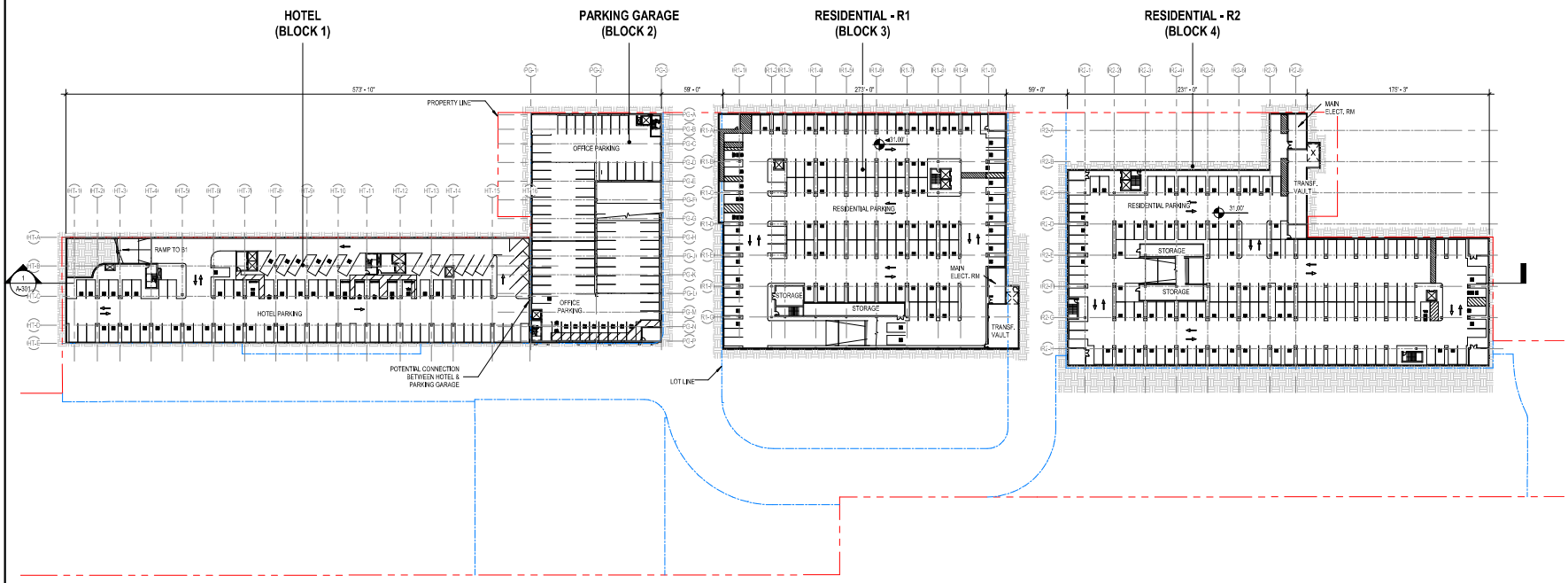
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL SITE PLAN

A-100

© 2023 Arcadis Inc.



1 OVERALL BASEMENT 2 FLOOR PLAN

SCALE: 1" = 50'-0"

N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

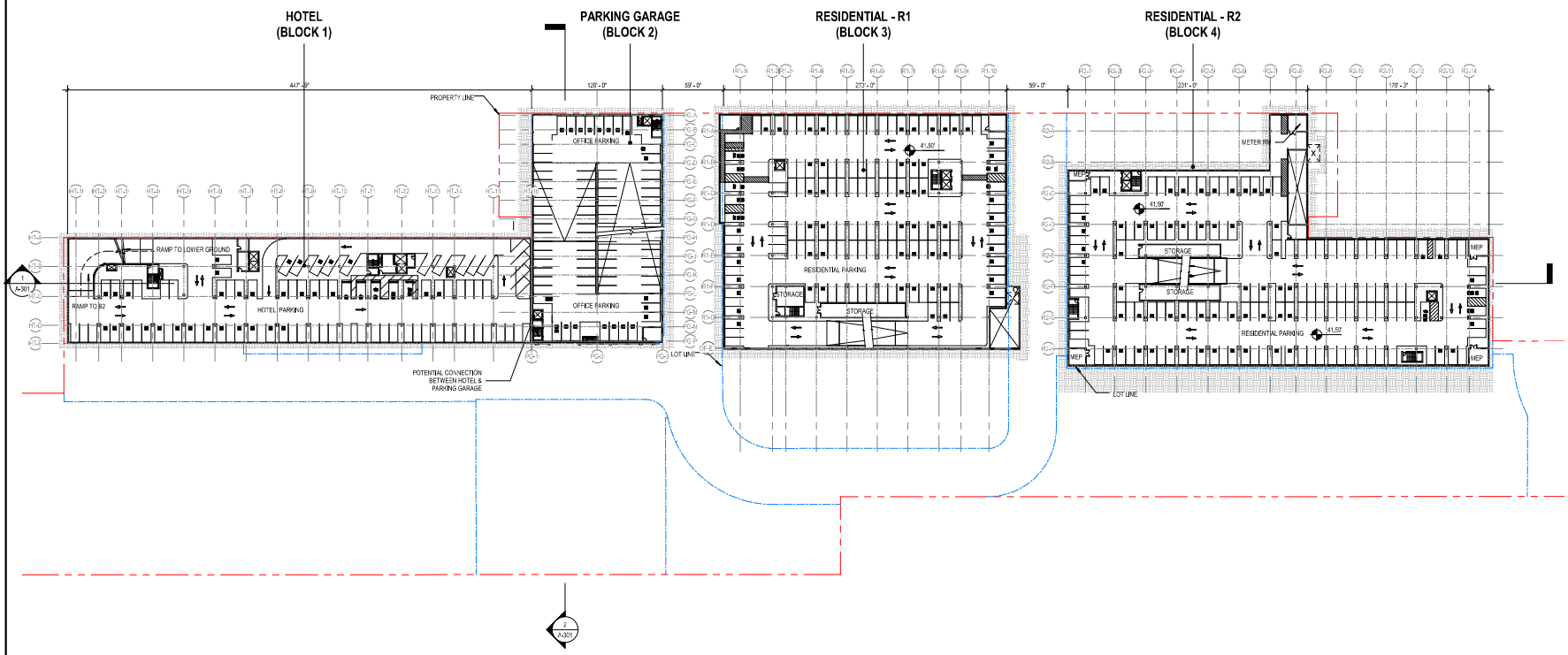
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL B2 FLOOR PLAN

A-101

© 2023 Arcadis Inc.



1 OVERALL BASEMENT 1 FLOOR PLAN

SCALE: 1" = 50'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

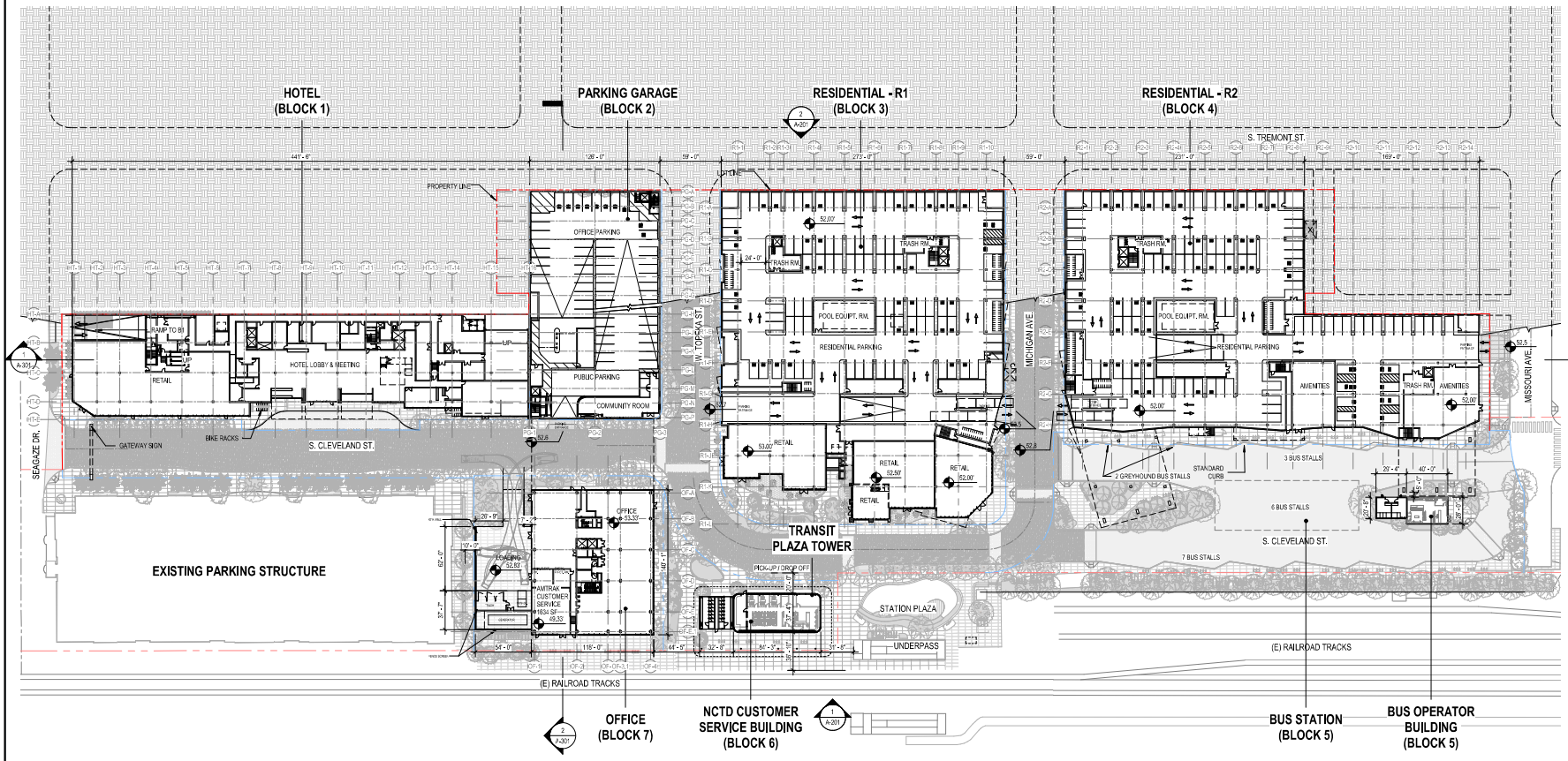
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL B1 FLOOR PLAN

A-102

© 2023 Arcadis Inc.



1 OVERALL LOWER GROUND FLOOR PLAN

SCALE: 1" = 50'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

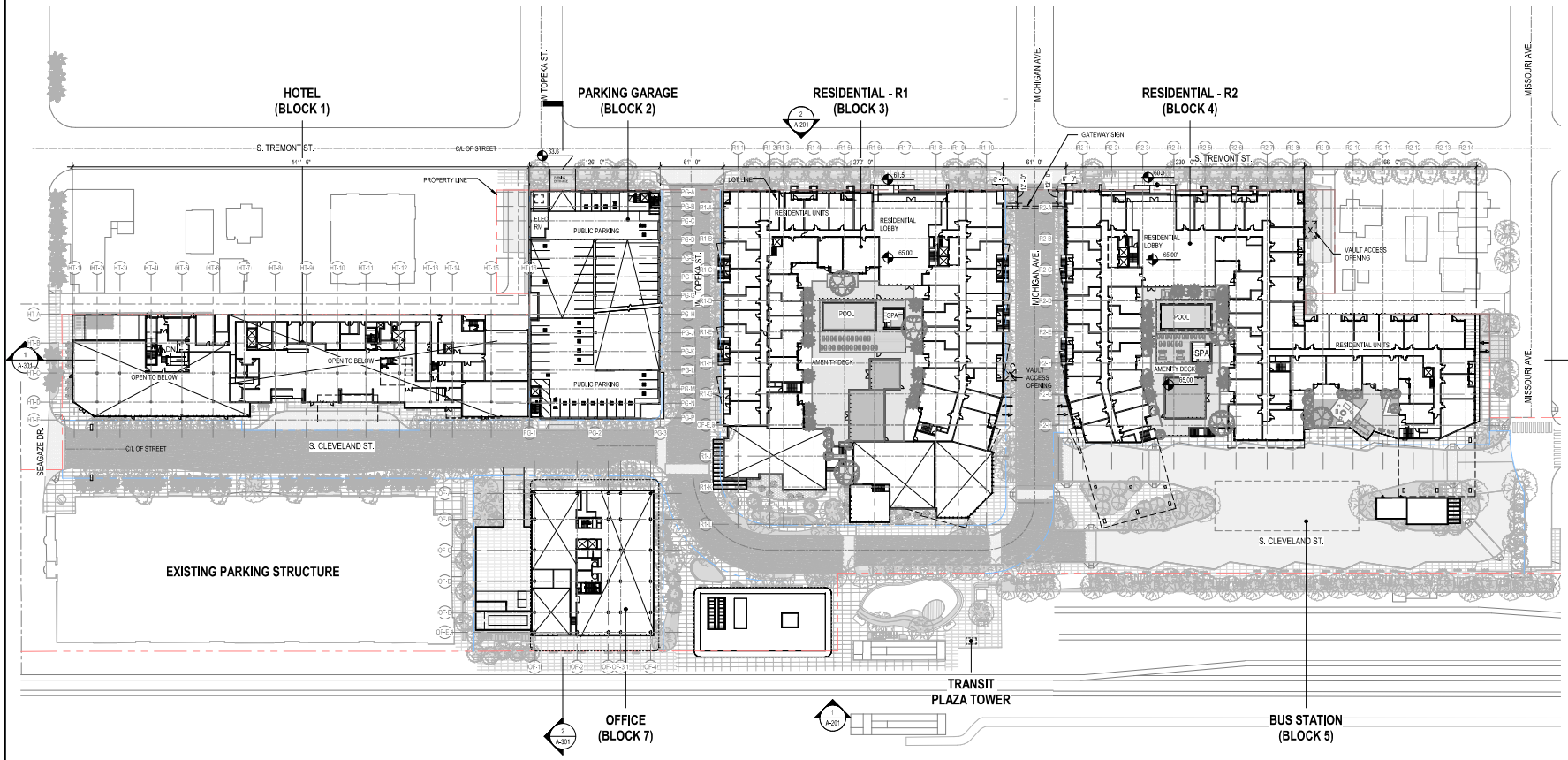
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL LOWER GROUND FLOOR PLAN

A-103

© 2023 Arcadis Inc.



1 OVERALL UPPER GROUND FLOOR PLAN

SCALE: 1" = 60'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

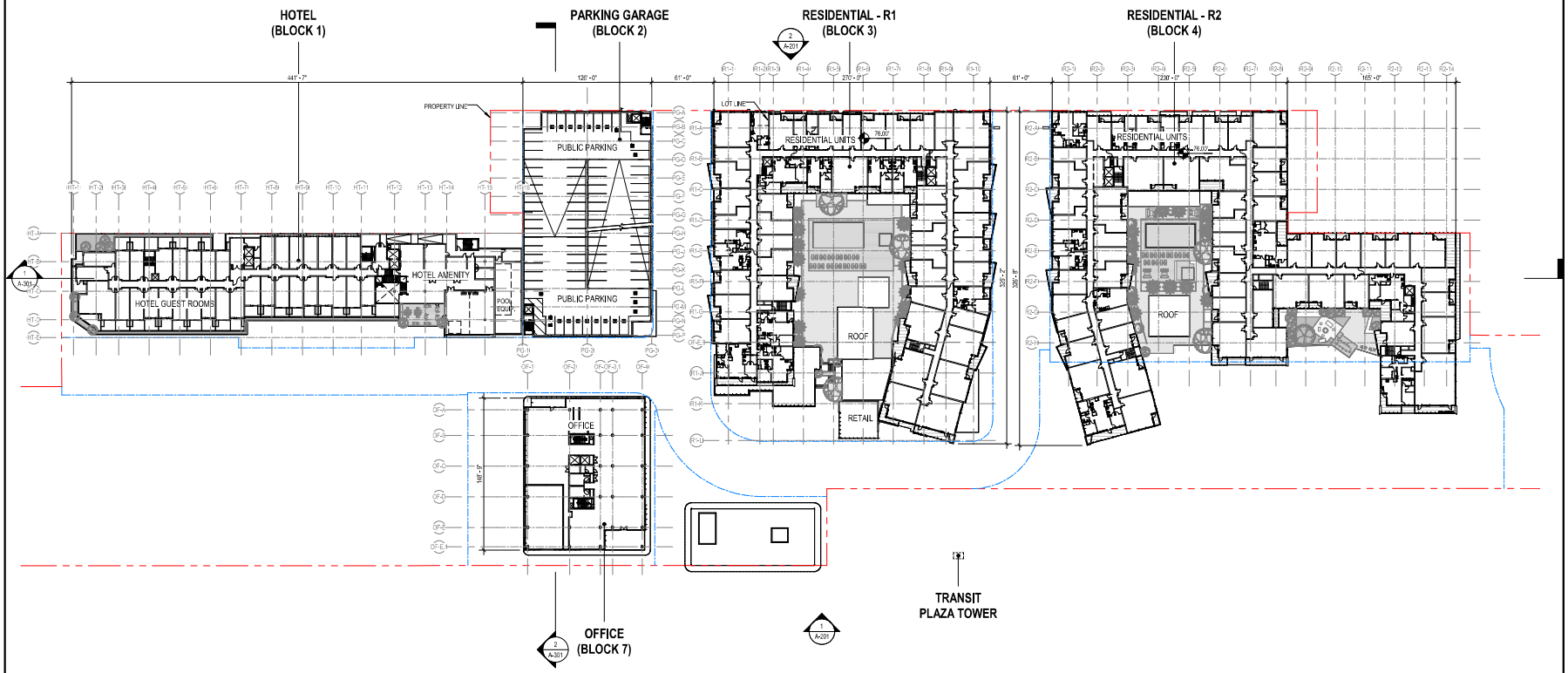
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL UPPER GROUND FLOOR PLAN

A-104

© 2023 Arcadis Inc.



1 OVERALL LEVEL 2 FLOOR PLAN
SCALE: 1" = 60'-0"

N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

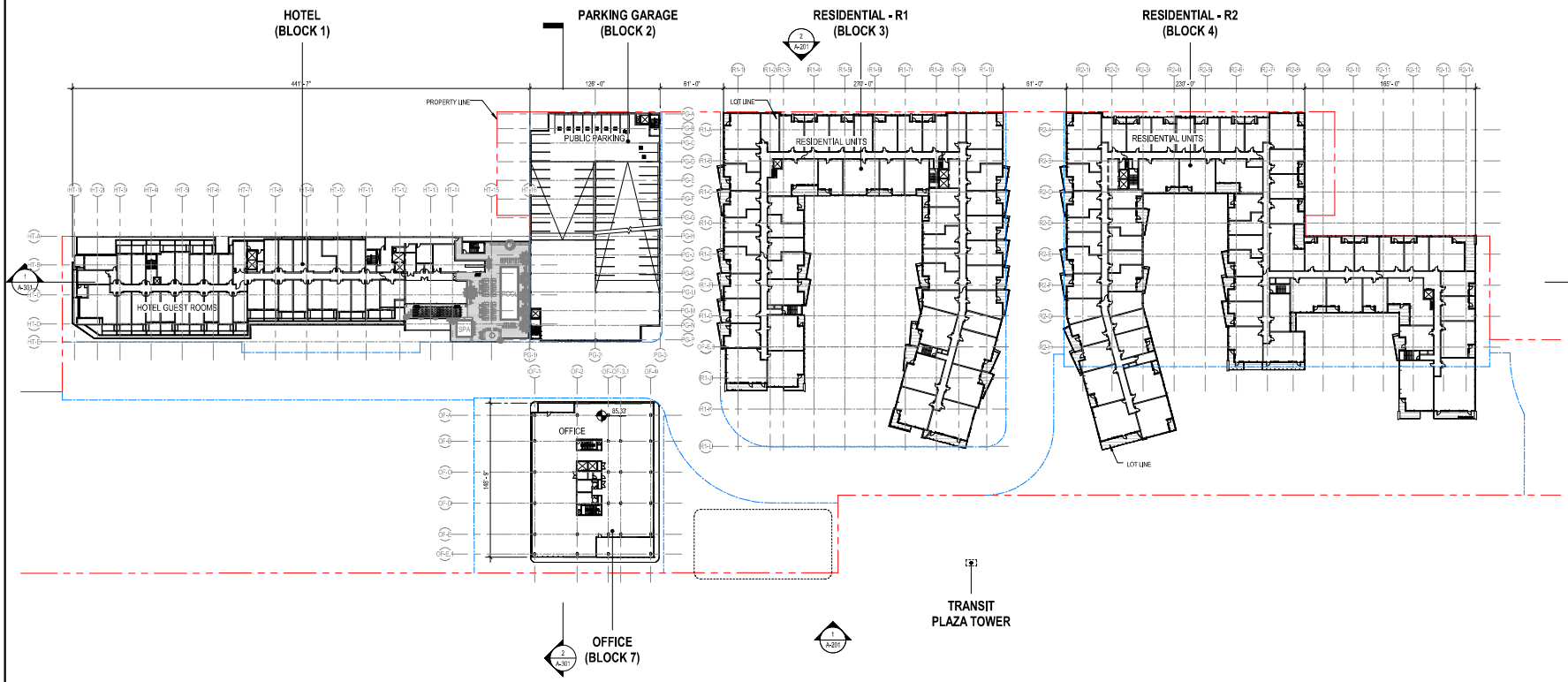
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL L2 FLOOR PLAN

A-105

© 2023 Arcadis Inc.



1 OVERALL LEVEL 3 FLOOR PLAN
SCALE: 1" = 50'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

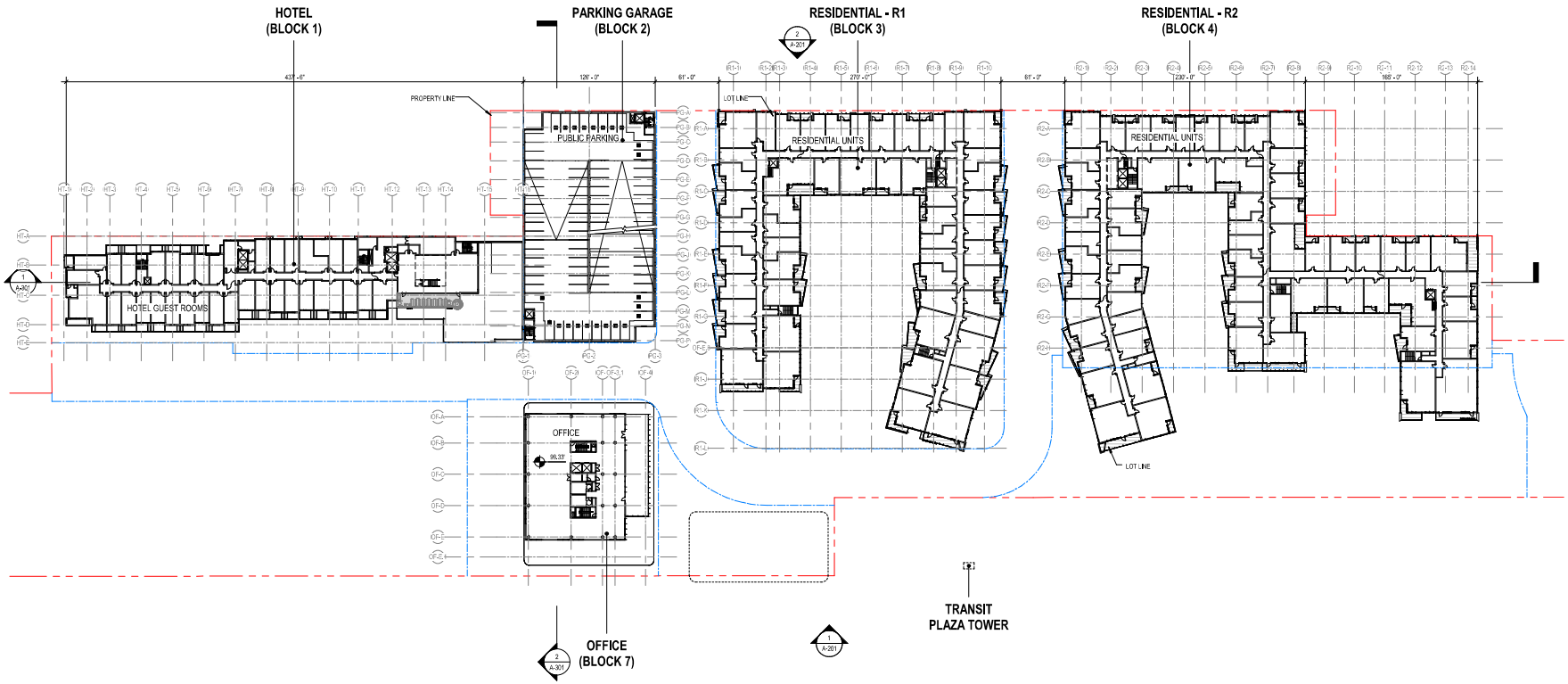
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL L3 FLOOR PLAN

A-106

© 2023 Arcadis Inc.



1 OVERALL LEVEL 4 FLOOR PLAN

SCALE: 1" = 50'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

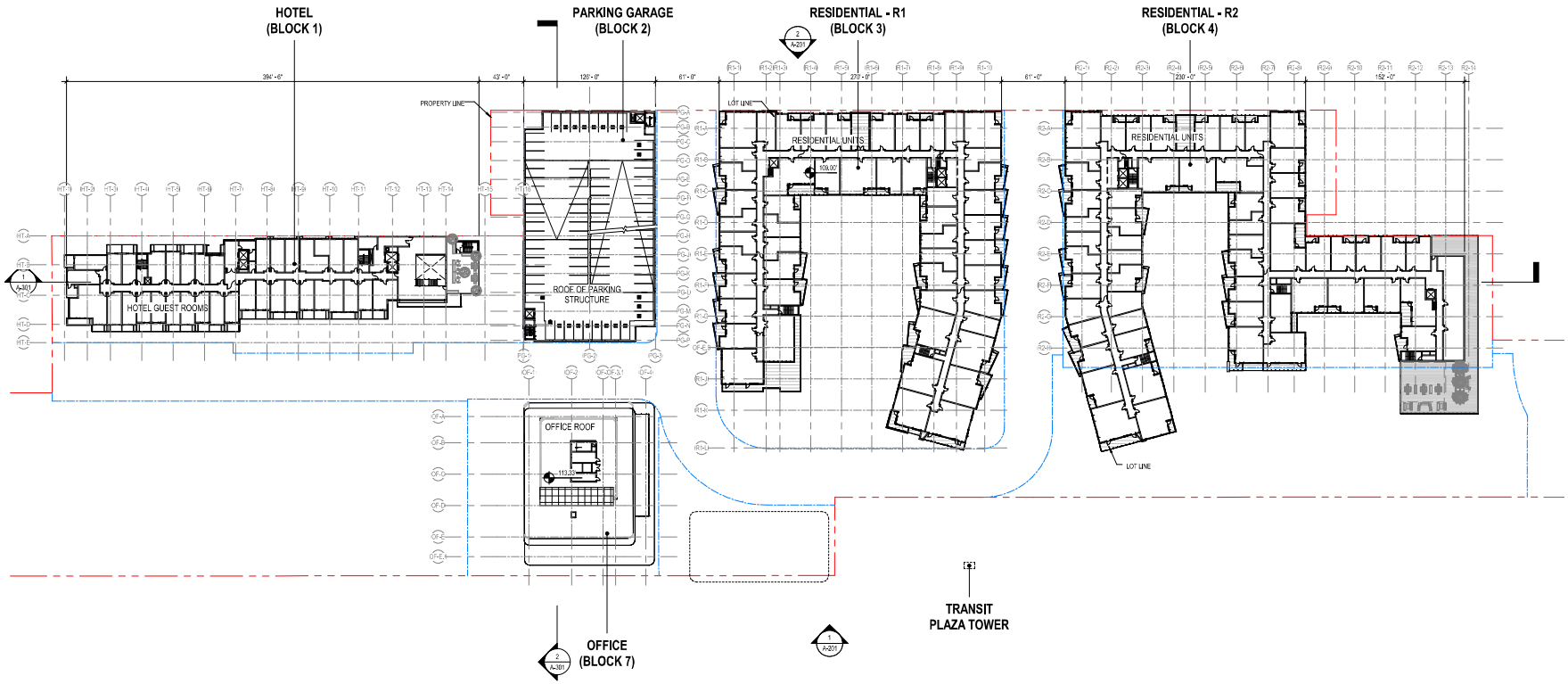
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL L4 FLOOR PLAN

A-107

© 2023 Arcadis Inc.



1 OVERALL LEVEL 5 FLOOR PLAN
SCALE: 1" = 50'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

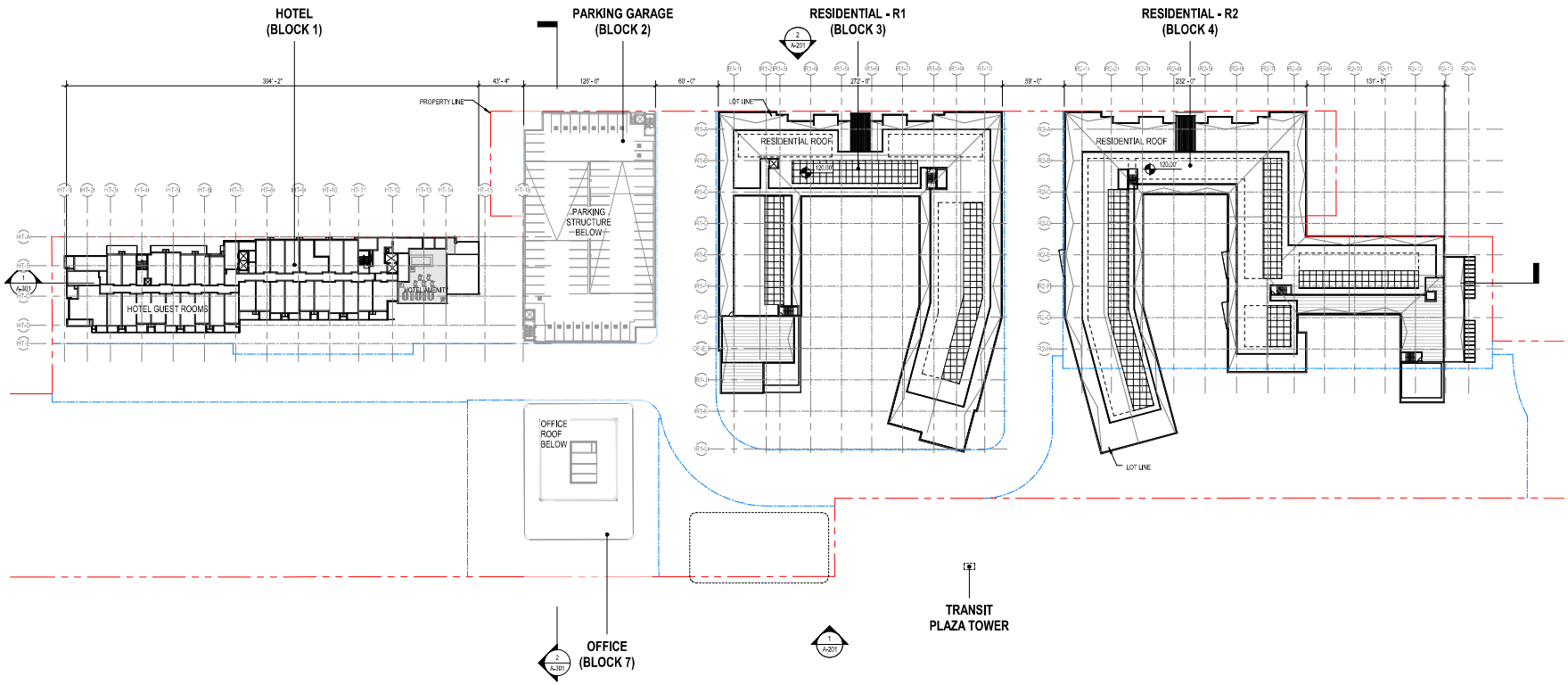
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL L5 FLOOR PLAN

A-108

© 2023 Arcadis Inc.



1 OVERALL LEVEL 6 FLOOR PLAN

SCALE: 1" = 50'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL L6 FLOOR PLAN

A-109

© 2023 Arcadis Inc.

HOTEL

WASTE/ RECYCLE REQUIREMENTS:

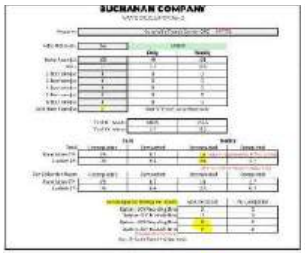
HOTEL (165 KEYS) :
REQUIRED PER WASTE MANAGEMENT CALCULATIONS:
2X WEEKLY - PER TRASH RM.
(1) 3 CY BIN - RECYCLE
(3) 3 CY BIN - TRASH = 9 CY
(2) 2 CY BIN - ORGANICS = 4 CY

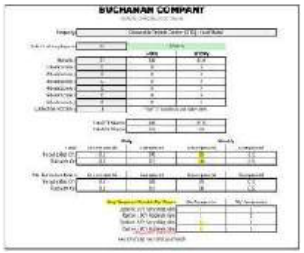
PROVIDED:
(1) 3 CY BIN - RECYCLE
(3) 3 CY BIN - TRASH
(2) 2 CY BIN - ORGANICS

RETAIL (10,951 SF):
REQUIRED PER WASTE MANAGEMENT CALCULATIONS:
WEEKLY PER TRASH RM.
(1) 3 CY BIN - RECYCLE
(1) 3 CY BIN - TRASH
(1) 2 CY BIN - ORGANICS

PROVIDED:
(1) 3 CY BIN - RECYCLE
(1) 3 CY BIN - TRASH
(1) 2 CY BIN - ORGANICS

ASSUMED ORGANICS TO TRASH RATIO IS 30% - 40% MIN.





BLOCK 3 (R1)

WASTE/ RECYCLE REQUIREMENTS:

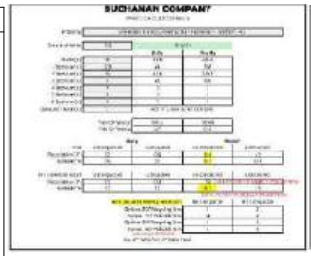
RESIDENTIAL 1:
REQUIRED PER WASTE MANAGEMENT CALCULATIONS:
2X WEEKLY - PER TRASH RM.
(2) 2 CY BIN - RECYCLE
(4) 3 CY BIN - TRASH = 12 CY
(2) 2 CY BIN - ORGANICS = 4 CY

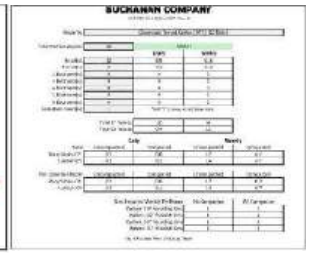
PROVIDED:
(2) 3 CY BIN - RECYCLE
(4) 3 CY BIN - TRASH
(2) 2 CY BIN - ORGANICS

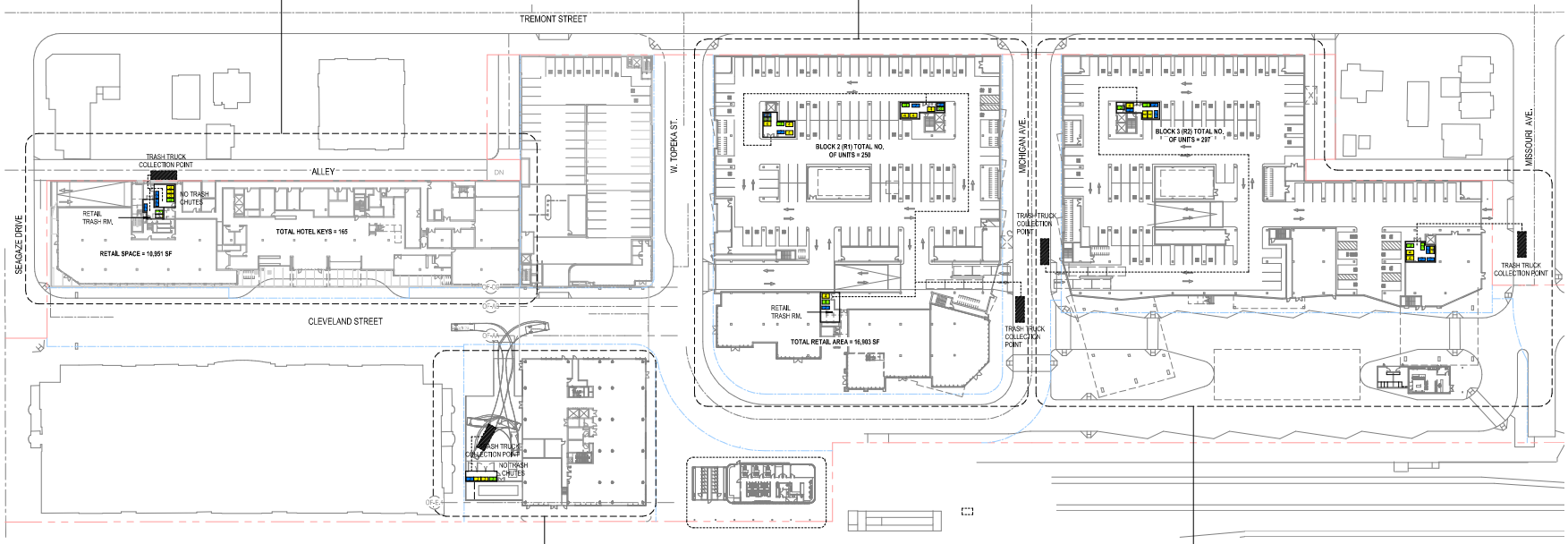
RETAIL:
REQUIRED PER WASTE MANAGEMENT CALCULATIONS:
WEEKLY PER TRASH RM.
(1) 3 CY BIN - RECYCLE
(1) 3 CY BIN - TRASH
(1) 2 CY BIN - ORGANICS

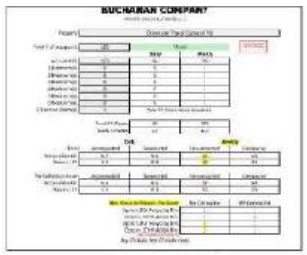
PROVIDED:
(1) 4 CY BIN - RECYCLE
(1) 4 CY BIN - TRASH
(1) 2 CY BIN - ORGANICS

ASSUMED ORGANICS TO TRASH RATIO IS 30% - 40% MIN.









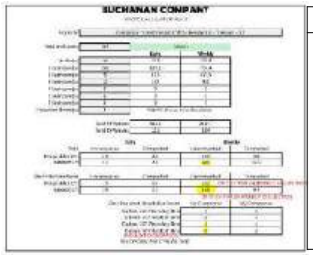
OFFICE

WASTE/ RECYCLE REQUIREMENTS:

OFFICE:
REQUIRED PER WASTE MANAGEMENT CALCULATIONS:
WEEKLY - PER TRASH RM.
(1) 3 CY BIN - RECYCLE
(2) 3 CY BIN - TRASH = 6 CY
(1) 3 CY - ORGANICS = 3 CY

PROVIDED:
(1) 3 CY BIN - RECYCLE
(2) 3 CY BIN - TRASH
(1) 3 CY - ORGANICS

ASSUMED ORGANICS TO TRASH RATIO IS 30% - 40% MIN.



BLOCK 4 (R2)

REQUIRED PER WASTE MANAGEMENT CALCULATIONS:
2X WEEKLY - PER RM.
(2) 3 CY BIN - RECYCLE
(3) 4 CY BIN - TRASH = 12 CY
(3) 2 CY BIN - ORGANICS = 6 CY

PROVIDED:
(2) 3 CY BIN - RECYCLE
(3) 4 CY BIN - TRASH = 12 CY
(3) 2 CY BIN - ORGANICS = 6 CY

ASSUMED ORGANICS TO TRASH RATIO IS 30% - 40% MIN.

LEGEND:

- 2 CU. YARD - ORGANICS
- 3 CU. YARD - ORGANICS
- 3 CU. YARD - RECYCLE
- 4 CU. YARD - RECYCLE
- 3 CU. YARD - TRASH
- 4 CU. YARD - TRASH

N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

TRASH MANAGEMENT OVERALL PLAN

A-110

© 2023 Arcadis Inc.

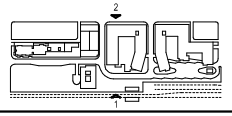


1 OVERALL WEST ELEVATION
SCALE: 1" = 50'-0"



2 OVERALL EAST ELEVATION
SCALE: 1" = 50'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

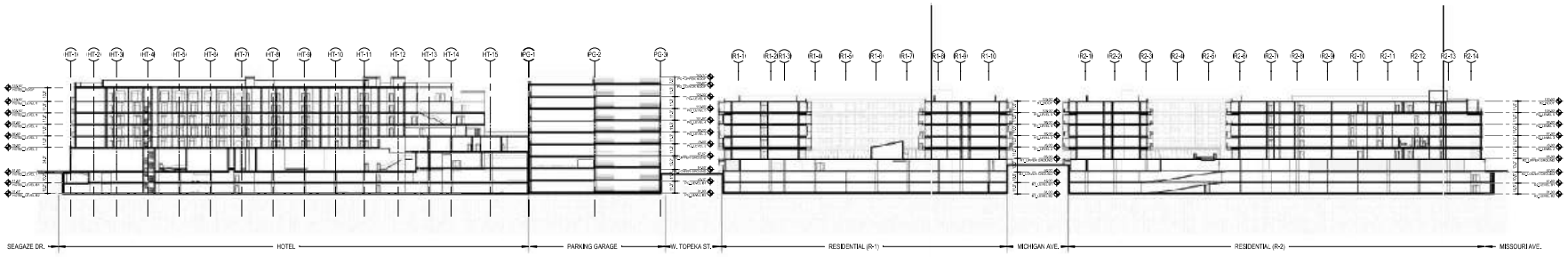
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL SITE ELEVATION

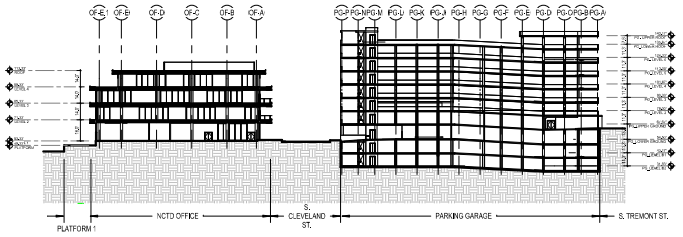
A-201

© 2023 Arcadis Inc.



1 OVERALL N/S SECTION

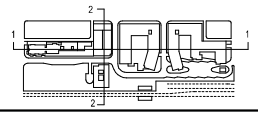
SCALE: 1" = 50'-0"



2 OVERALL E/W SECTION

SCALE: 1" = 50'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

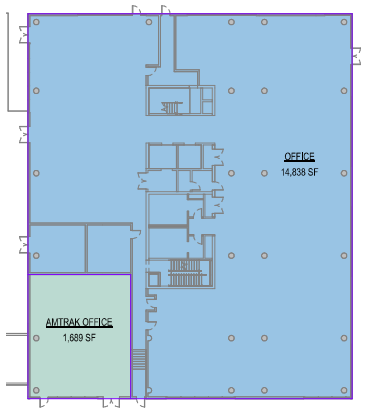
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OVERALL SITE SECTION

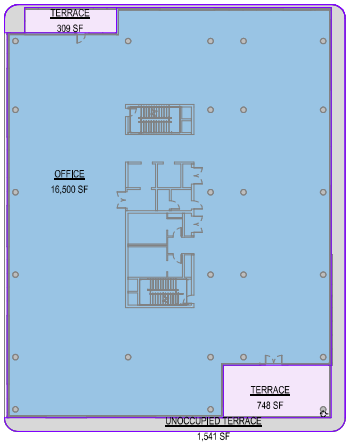
A-301

© 2023 Arcadis Inc.



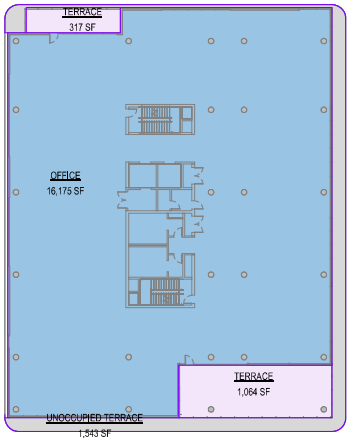
AREA LEGEND
- GFA
- OFFICE

1 LEVEL 1
SCALE: 3/64" = 1'-0"



AREA LEGEND
- GFA
- PRIVATE OPEN SPACE
- UNOCCUPIED TERRACE OPEN SPACE

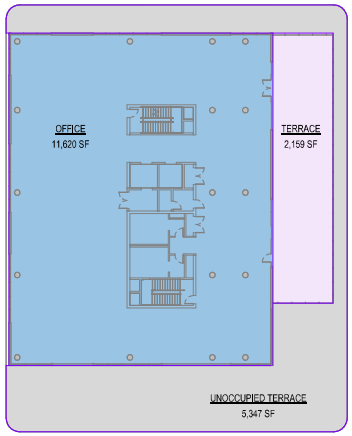
2 LEVEL 2
SCALE: 3/64" = 1'-0"



AREA LEGEND
- GFA
- PRIVATE OPEN SPACE
- UNOCCUPIED TERRACE OPEN SPACE

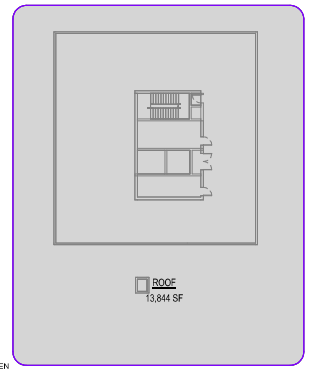
3 LEVEL 3
SCALE: 3/64" = 1'-0"

OFFICE GROSS FLOOR AREA			
BUILDING	LEVEL	PROGRAM	AREA
NCTD OFFICE BUILDING			
AMTRAK	LEVEL 1	AMTRAK OFFICE	1,689 SF
			1,689 SF
OFFICE	LEVEL 4	OFFICE	11,620 SF
OFFICE	LEVEL 3	OFFICE	16,175 SF
OFFICE	LEVEL 2	OFFICE	16,500 SF
OFFICE	LEVEL 1	OFFICE	14,838 SF
			59,133 SF
ROOF	ROOF	ROOF	13,844 SF
			13,844 SF
TERRACE	LEVEL 4	TERRACE	2,159 SF
TERRACE	LEVEL 3	TERRACE	1,380 SF
TERRACE	LEVEL 2	TERRACE	1,057 SF
			4,596 SF
UNOCCUPIED TERRACE	LEVEL 4	UNOCCUPIED TERRACE	5,347 SF
UNOCCUPIED TERRACE	LEVEL 3	UNOCCUPIED TERRACE	1,543 SF
UNOCCUPIED TERRACE	LEVEL 2	UNOCCUPIED TERRACE	1,541 SF
			8,431 SF
			87,694 SF



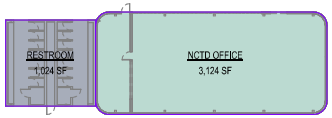
AREA LEGEND
- GFA
- PRIVATE OPEN SPACE
- UNOCCUPIED TERRACE OPEN SPACE

4 LEVEL 4
SCALE: 3/64" = 1'-0"



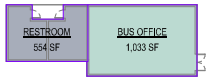
AREA LEGEND
- ROOF

5 ROOF
SCALE: 3/64" = 1'-0"



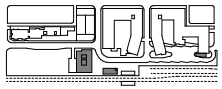
AREA LEGEND
- OFFICE
- RESTROOM

8 NCTD CUSTOMER OFFICE BUILDING
SCALE: 3/64" = 1'-0"



AREA LEGEND
- OFFICE
- RESTROOM

9 BUS OPERATOR BUILDING
SCALE: 3/64" = 1'-0"



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

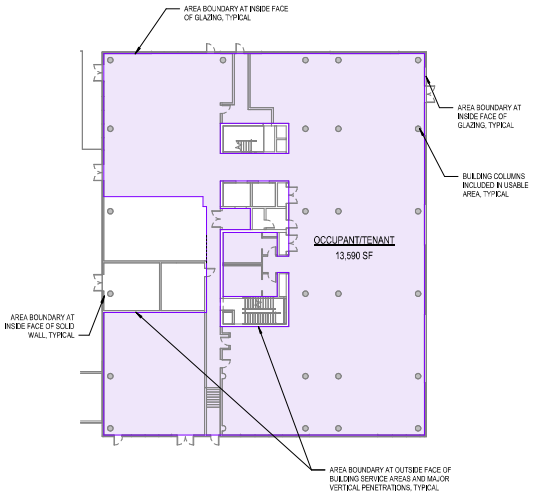
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

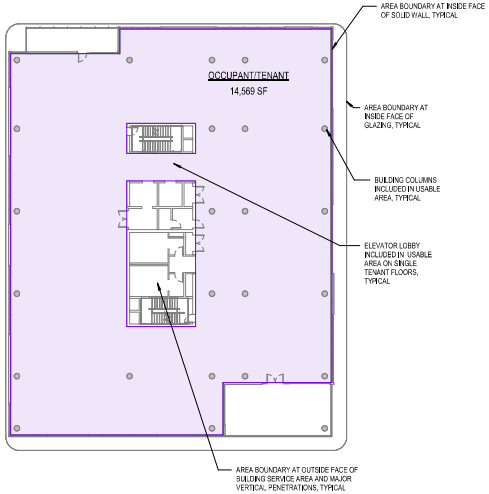
OFFICE AREA PLANS

A-OF-001

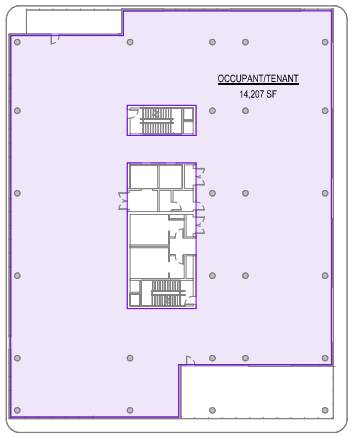
© 2023 Arcadis Inc.



1 LEVEL 1
SCALE: 3/64" = 1'-0"



2 LEVEL 2
SCALE: 3/64" = 1'-0"

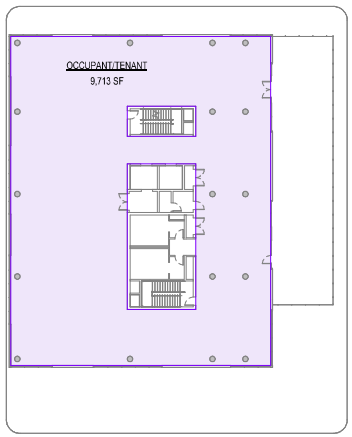


3 LEVEL 3
SCALE: 3/64" = 1'-0"

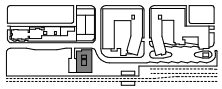
FLOOR USABLE AREA		
LEVEL	ROOM NAME	AREA
OCCUPANT/TENANT		
LEVEL 4	OCCUPANT/TENANT	9,713 SF
LEVEL 3	OCCUPANT/TENANT	14,207 SF
LEVEL 2	OCCUPANT/TENANT	14,569 SF
LEVEL 1	OCCUPANT/TENANT	13,590 SF
		52,080 SF
Grand total		52,080 SF

Rentable Area Legend

OCCUPANT/TENANT



4 LEVEL 4
SCALE: 3/64" = 1'-0"



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

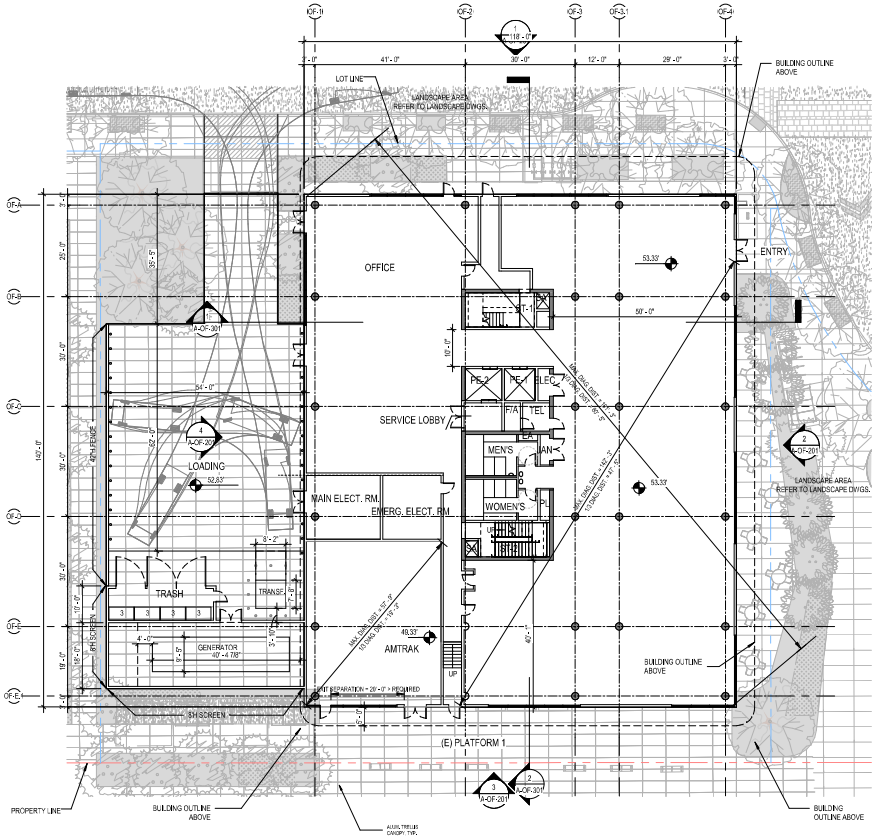
Schematic Design

OFFICE FLOOR USABLE AREA

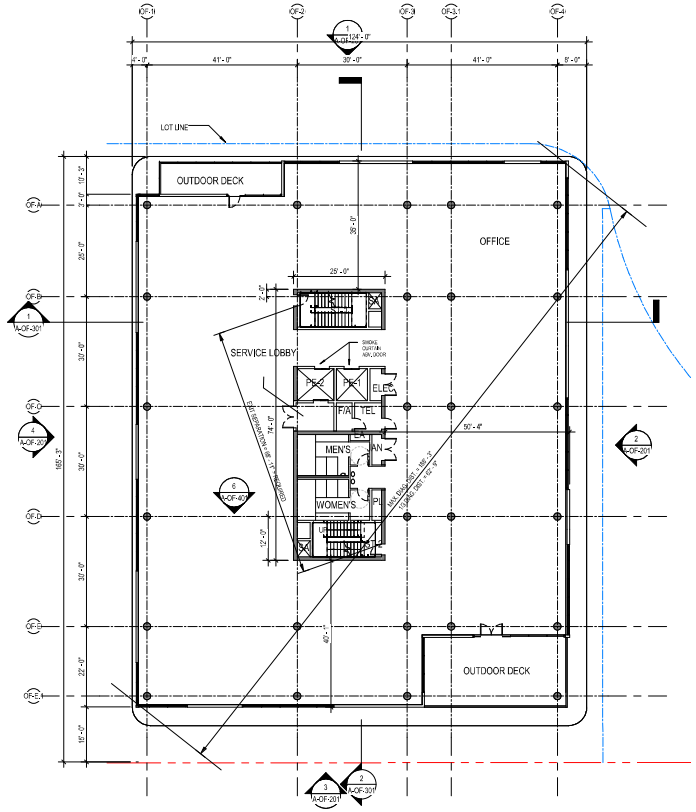
A-OF-002

© 2023 Arcadis Inc.

SYMBOL & ABBREVIATIONS	
EA	EXHAUST AIR
SA	SUPPLY AIR
FA	FIRE ALARM ROOM
JAN	JANITOR ROOM
TEL	TELECOMMUNICATION
PL	PLUMBING

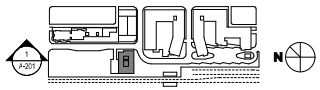


1 OFFICE LEVEL 1 FLOOR PLAN
SCALE: 1/16" = 1'-0"



2 OFFICE LEVEL 2 FLOOR PLAN
SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

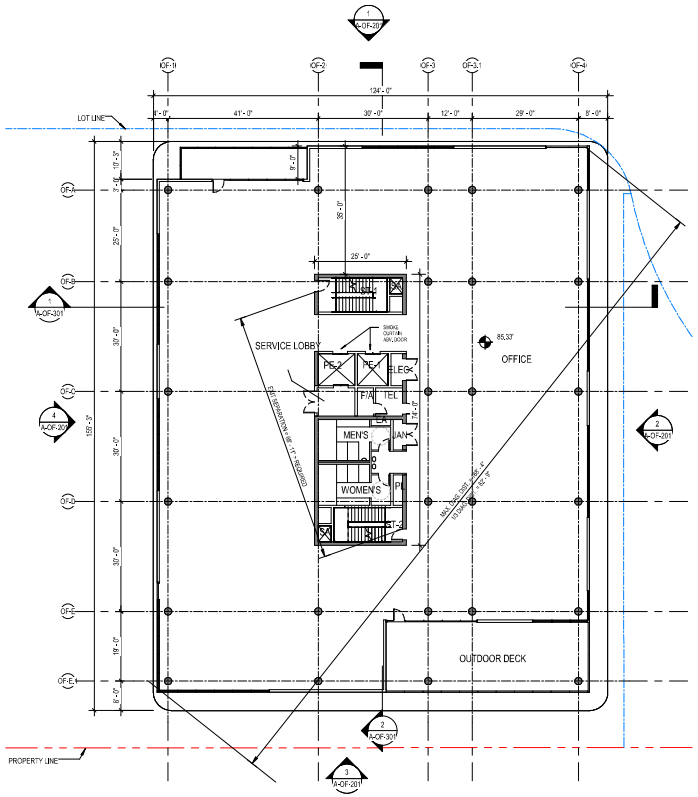
Schematic Design

OFFICE FLOOR PLANS

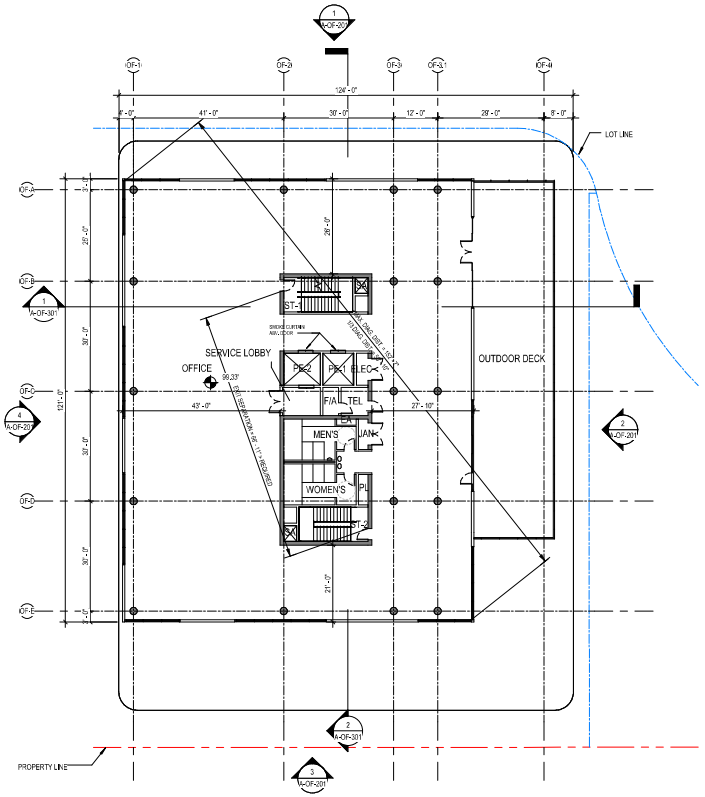
A-OF-101

© 2023 Arcadis Inc.

SYMBOL & ABBREVIATIONS	
EA	EXHAUST AIR
SA	SUPPLY AIR
FIA	FIRE ALARM ROOM
JAN	JANITOR ROOM
TEL	TELECOMMUNICATION
PL	PLUMBING

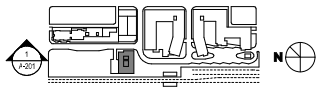


1 OFFICE LEVEL 3 FLOOR PLAN
SCALE: 1/16" = 1'-0"



2 OFFICE LEVEL 4 FLOOR PLAN
SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

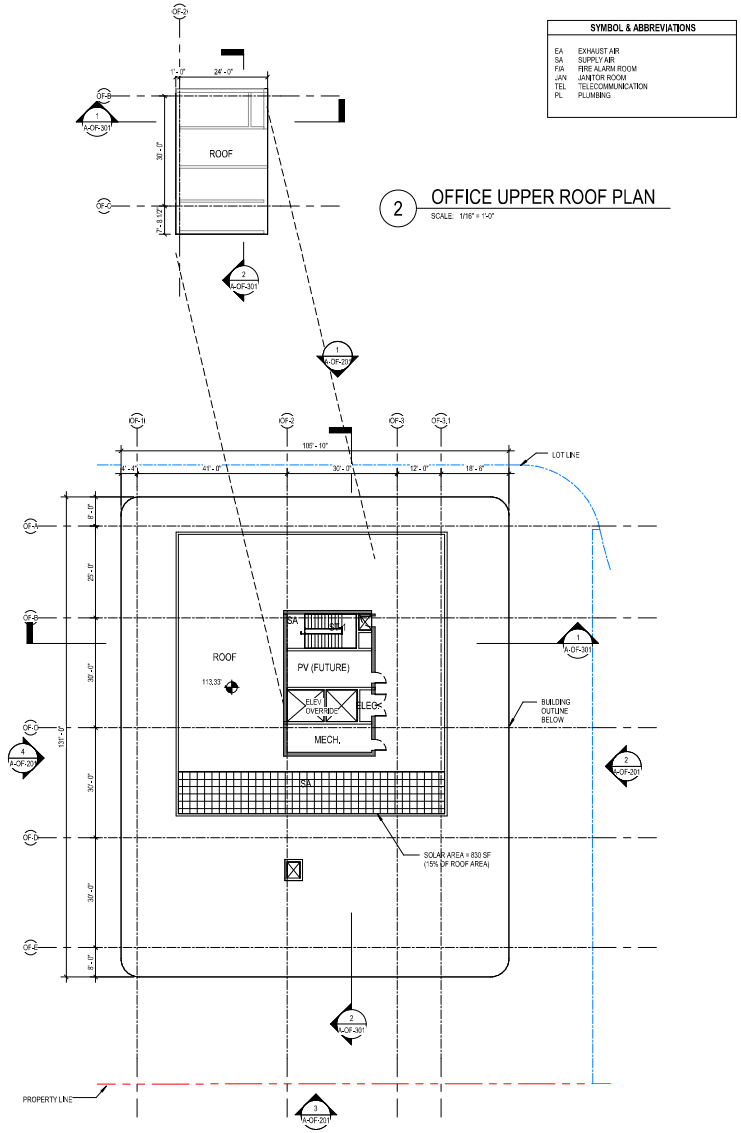
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-12-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OFFICE FLOOR PLANS

A-OF-102

© 2023 Arcadis Inc.



SYMBOL & ABBREVIATIONS	
EA	EXHAUST AIR
SA	SUPPLY AIR
FIA	FIRE ALARM ROOM
JAN	JANITOR ROOM
TEL	TELECOMMUNICATION
PL	PLUMBING

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OFFICE FLOOR PLANS

A-OF-103

© 2023 Arcadis Inc.



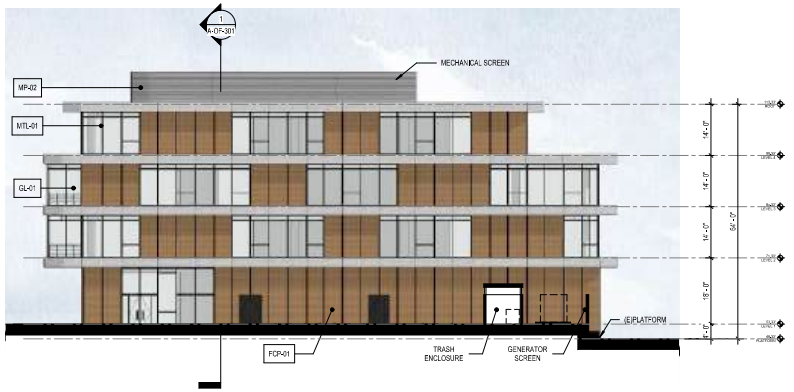
1 EAST ELEVATION
SCALE: 1/16" = 1'-0"



2 SOUTH ELEVATION
SCALE: 1/16" = 1'-0"

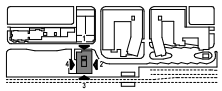


3 WEST ELEVATION
SCALE: 1/16" = 1'-0"



4 NORTH ELEVATION
SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

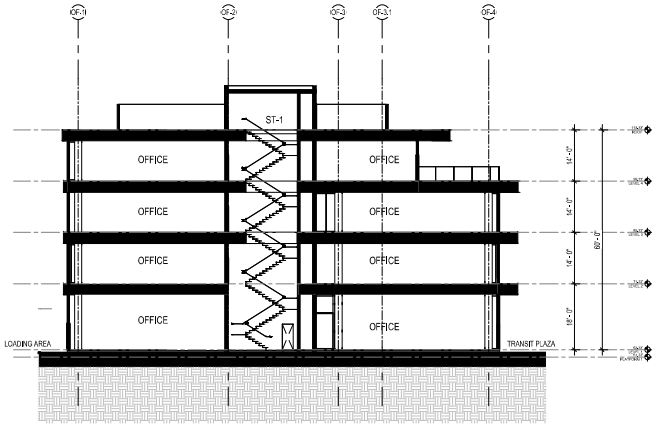
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

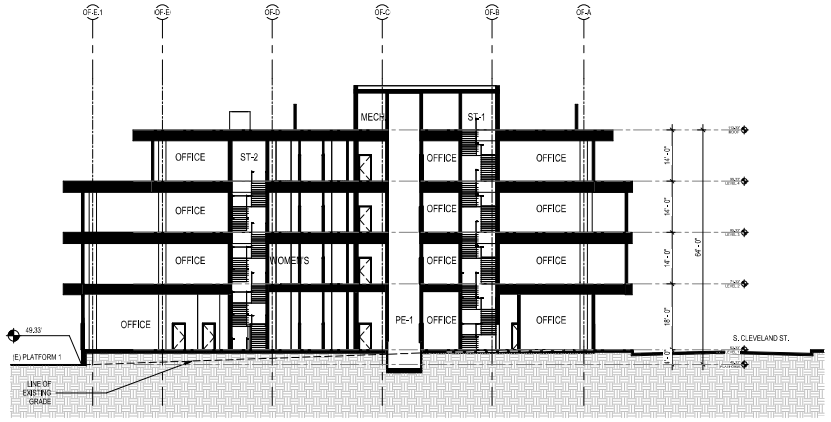
OFFICE ELEVATIONS

A-OF-201

© 2023 Arcadis Inc.

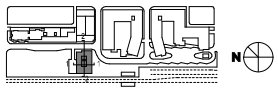


1 OFFICE N/S SECTION
SCALE: 1/16" = 1'-0"



2 OFFICE E/W SECTION
SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

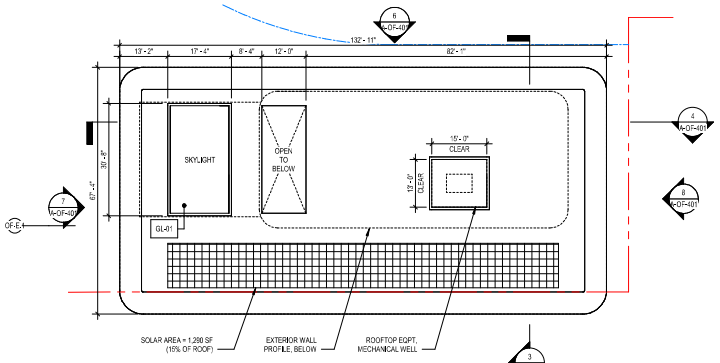
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

OFFICE BUILDING SECTIONS

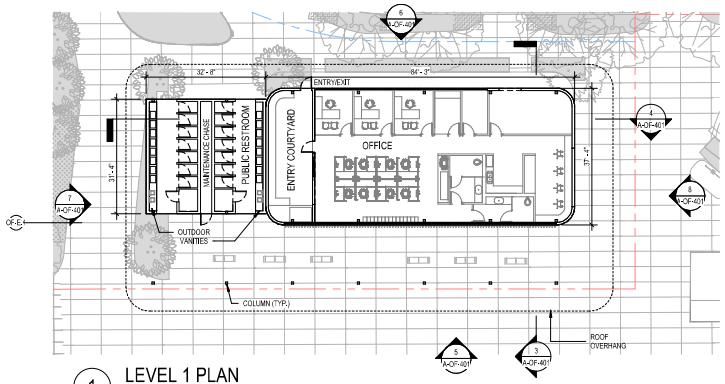
A-OF-301

© 2023 Arcadis Inc.



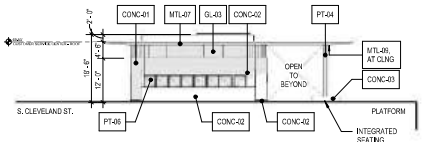
2 ROOF PLAN

SCALE: 1/16" = 1'-0"



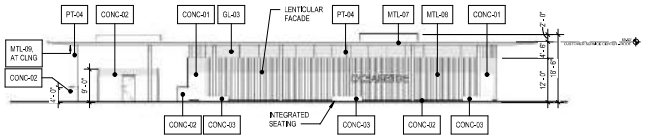
1 LEVEL 1 PLAN

SCALE: 1/16" = 1'-0"



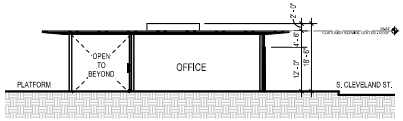
7 EXTERIOR ELEVATION

SCALE: 1/16" = 1'-0"



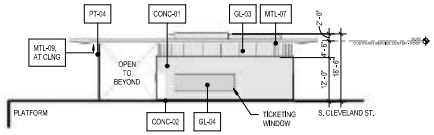
5 EXTERIOR ELEVATION

SCALE: 1/16" = 1'-0"



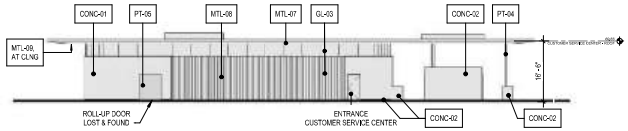
3 BUILDING SECTION

SCALE: 1/16" = 1'-0"



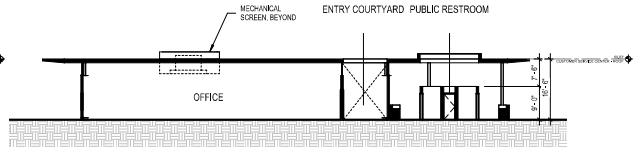
8 EXTERIOR ELEVATION

SCALE: 1/16" = 1'-0"



6 EXTERIOR ELEVATION

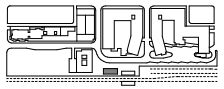
SCALE: 1/16" = 1'-0"



4 BUILDING SECTION

SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

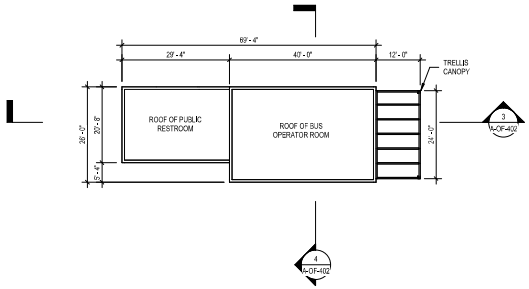
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

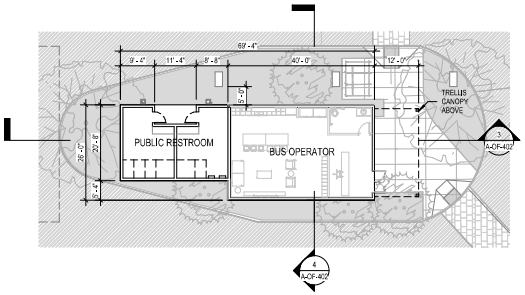
CUSTOMER SERVICE CENTER_NCTD

A-OF-401

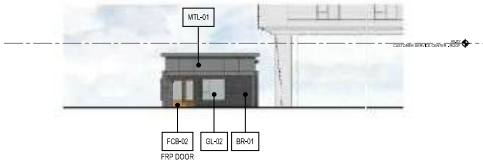
© 2023 Arcadis Inc.



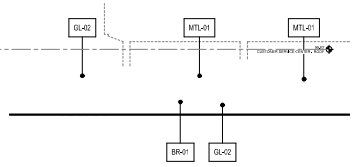
2 TRANSIT-BUS_ROOF
SCALE: 1/16" = 1'-0"



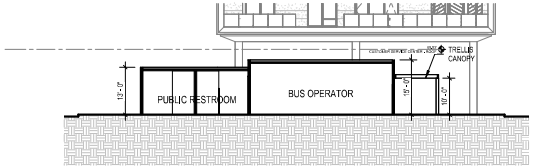
1 OFFICE LEVEL 1 FLOOR PLAN
SCALE: 1/16" = 1'-0"



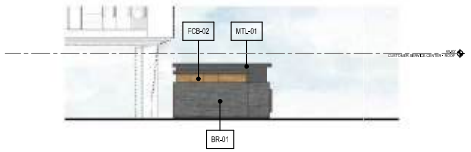
7 TRANSIT-BUS_ELEVATION 2
SCALE: 1/16" = 1'-0"



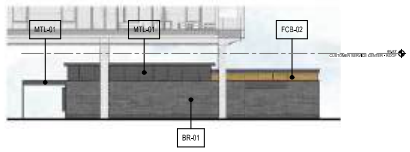
5 TRANSIT-BUS_ELEVATION 1
SCALE: 1/16" = 1'-0"



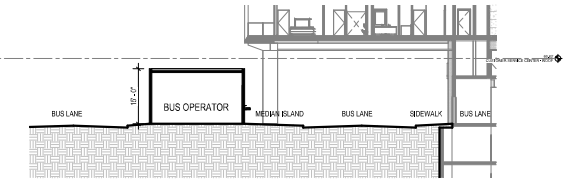
3 TRANSIT-BUS_SECTION 2
SCALE: 1/16" = 1'-0"



8 TRANSIT-BUS_ELEVATION 4
SCALE: 1/16" = 1'-0"

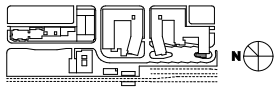


6 TRANSIT-BUS_ELEVATION 3
SCALE: 1/16" = 1'-0"



4 TRANSIT-BUS_SECTION 1
SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

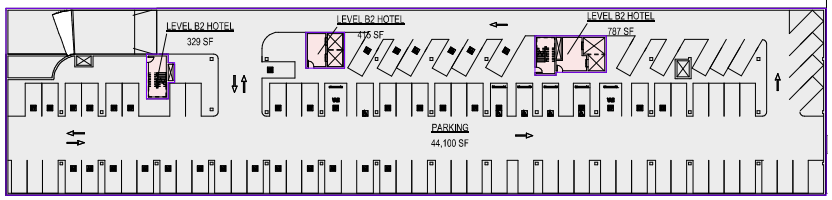
REV	DATE	DESCRIPTION
1	08-26-2022	DP SUBMITTAL 1
2	02-13-2023	DP SUBMITTAL 2
3	10-26-2023	DP SUBMITTAL 3
4	01-10-2024	DP SUBMITTAL 4
5	05-14-2025	DP SUBMITTAL 7

Schematic Design

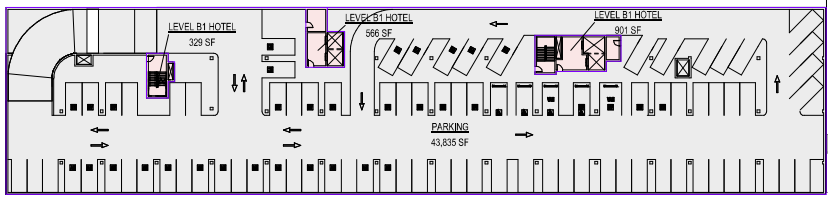
TRANSIT BUILDINGS_BUS

A-OF-402

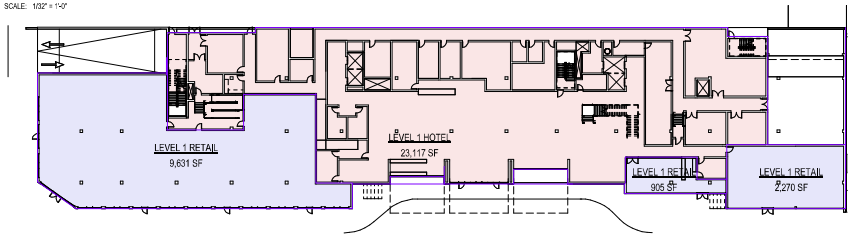
© 2023 Arcadis Inc.



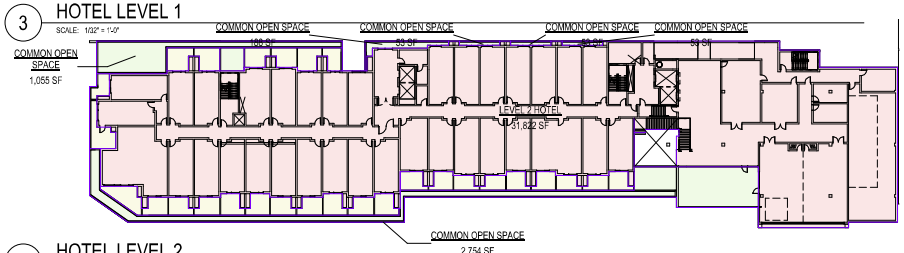
1 HOTEL LEVEL B2
SCALE: 1/32" = 1'-0"



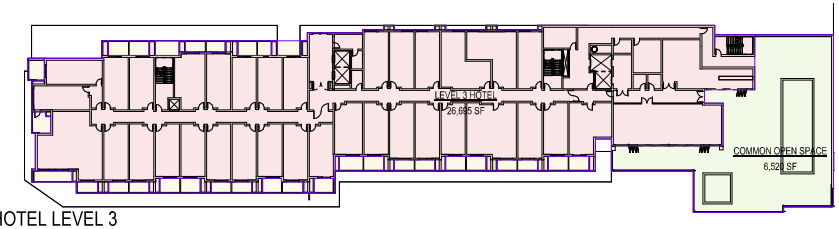
2 HOTEL LEVEL B1
SCALE: 1/32" = 1'-0"



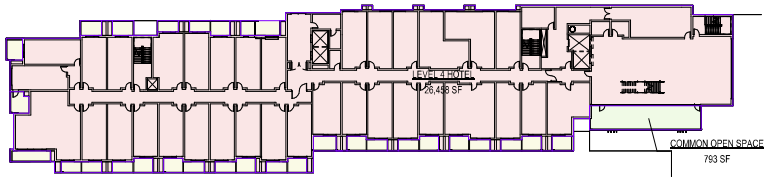
3 HOTEL LEVEL 1
SCALE: 1/32" = 1'-0"



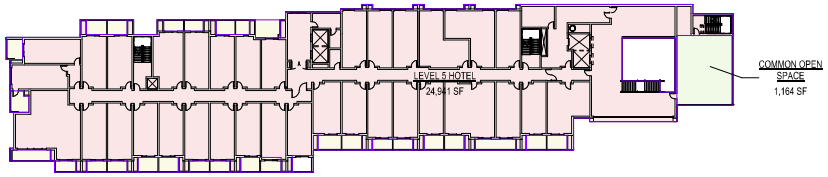
4 HOTEL LEVEL 2
SCALE: 1/32" = 1'-0"



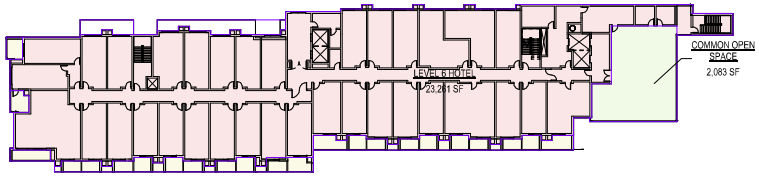
5 HOTEL LEVEL 3
SCALE: 1/32" = 1'-0"



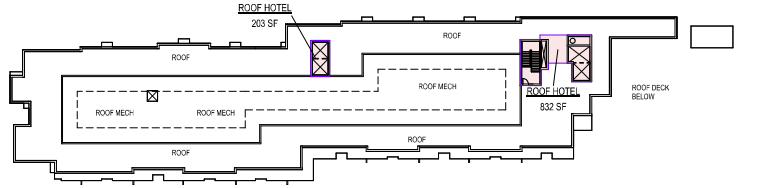
6 HOTEL LEVEL 4
SCALE: 1/32" = 1'-0"



7 HOTEL LEVEL 5
SCALE: 1/32" = 1'-0"



8 HOTEL LEVEL 6
SCALE: 1/32" = 1'-0"



9 HOTEL ROOF
SCALE: 1/32" = 1'-0"

HOTEL PARKING COUNTS BY TYPE	
Type	COUNT
ACC 9'-0" x 18'-0"	5
ACC VAN_9'-0" x 18'-0"	1
EV 9'-0" x 18'-0"	65
EV ADA_9'-0" x 18'-0"	3
EV AMB_10'-0" x 18'-0"	1
EV VAN_12'-0" x 18'-0"	3
STANDARD_8'-6" x 18'-0"	99
	177

HOTEL GROSS FLOOR AREA		
LEVEL	PROGRAM	AREA
HOTEL		
HOTEL_LEVEL B2	HOTEL	1,531 SF
HOTEL_LEVEL B1	HOTEL	1,796 SF
HOTEL_LEVEL 1	HOTEL	23,117 SF
HOTEL_LEVEL 2	HOTEL	31,822 SF
HOTEL_LEVEL 3	HOTEL	26,695 SF
HOTEL_LEVEL 4	HOTEL	26,458 SF
HOTEL_LEVEL 5	HOTEL	24,941 SF
HOTEL_LEVEL 6	HOTEL	23,261 SF
HOTEL_ROOF	HOTEL	1,035 SF
		160,656 SF
RETAIL		
HOTEL_LEVEL 1	RETAIL	12,806 SF
		12,806 SF
TOTAL		173,463 SF

HOTEL PARKING AREA	
LEVEL	AREA
HOTEL_LEVEL B2	44,100 SF
HOTEL_LEVEL B1	43,835 SF
TOTAL	87,935 SF

HOTEL PARKING COUNTS	
LEVEL	COUNT
HOTEL_LEVEL B1	87
HOTEL_LEVEL B2	90
TOTAL	177

HOTEL BIKE PARKING COUNT	
LEVEL	COUNT
HOTEL_LEVEL 1	14
TOTAL	14

LEGEND
- HOTEL
- RETAIL
- OPEN SPACE (COMMON)
- OPEN SPACE (PRIVATE)

N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

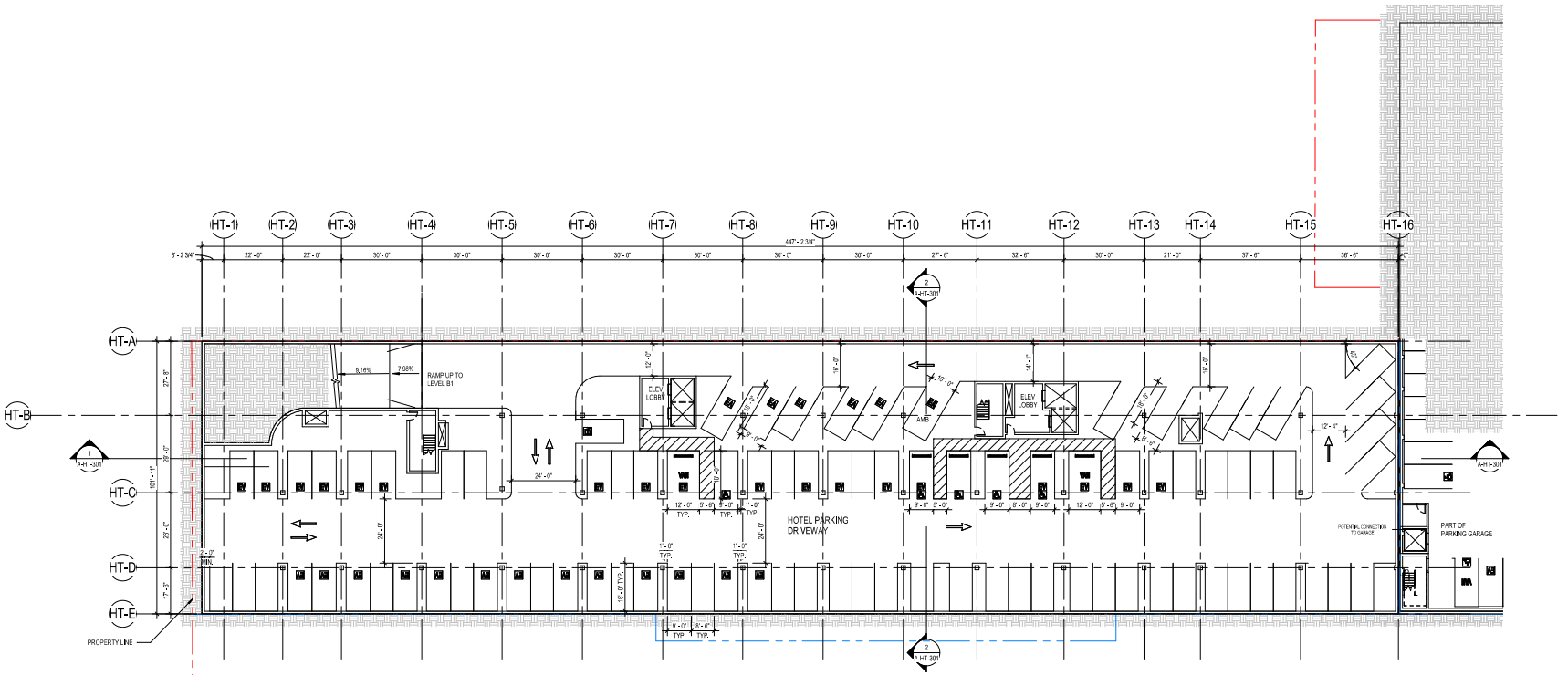
Issue Drawing Log

REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason
HOTEL AREA PLANS

A-HT-001

© 2025 Arcadis Inc.

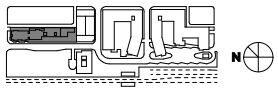


1 HOTEL LEVEL B2 FLOOR PLAN

SCALE: 1" = 20'-0"

HOTEL PARKING COUNTS BY TYPE	
Type	COUNT
ACC 9'-0" x 18'-0"	5
ACC VAN_9'-0" x 18'-0"	1
EV 9'-0" x 18'-0"	65
EV ADA_9'-0" x 18'-0"	3
EV AMB_10'-0" x 18'-0"	1
EV VAN_12'-0" x 18'-0"	3
STANDARD_8'-6" x 18'-0"	99
	177

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

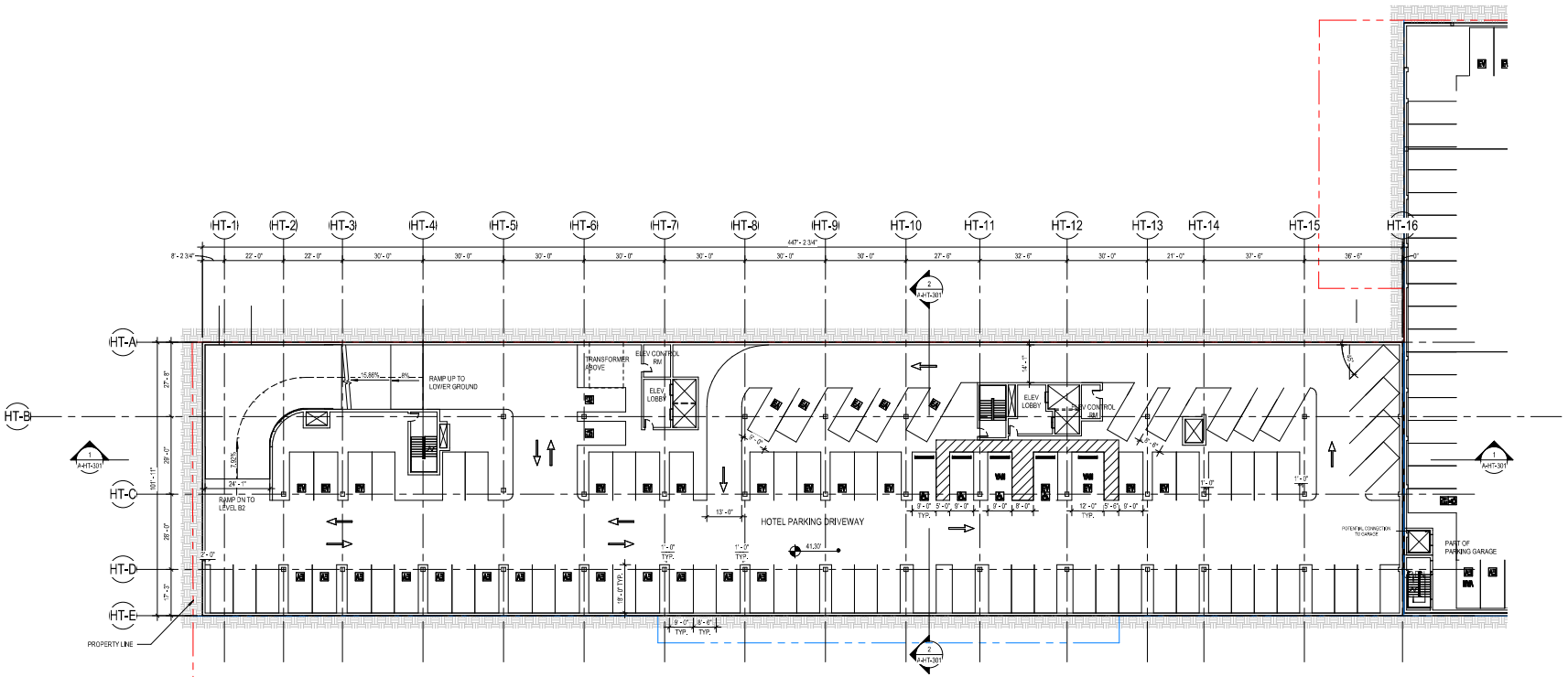
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

HOTEL LEVEL B2 FLOOR PLAN

A-HT-1B1

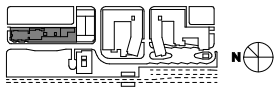
© 2025 Arcadis Inc.



1 HOTEL LEVEL B1 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

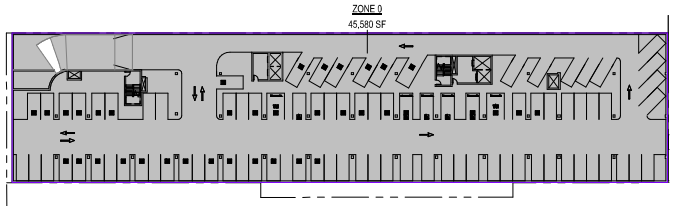
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

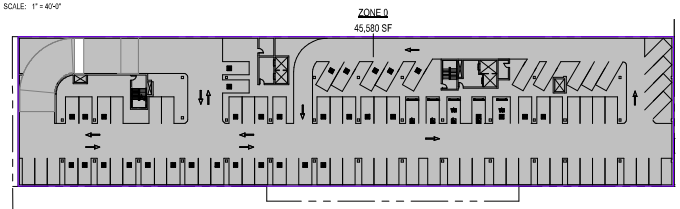
HOTEL LEVEL B1 FLOOR PLAN

A-HT-1B2

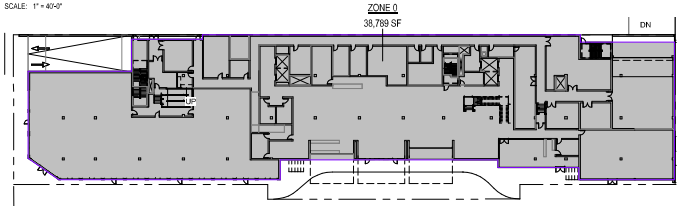
© 2025 Arcadis Inc.



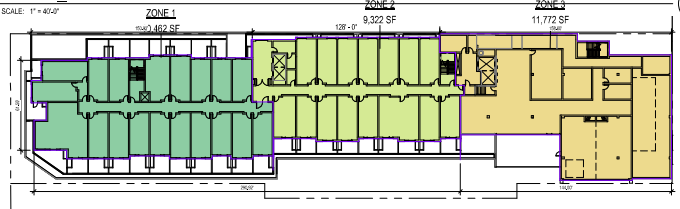
1 HOTEL_LEVEL B2
SCALE: 1" = 40'-0"



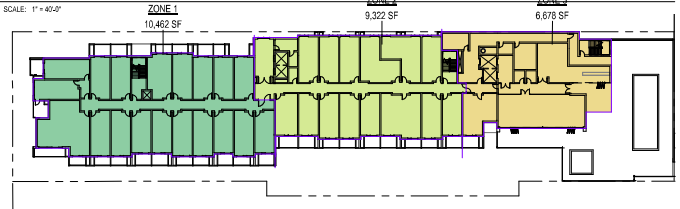
2 HOTEL_LEVEL B1
SCALE: 1" = 40'-0"



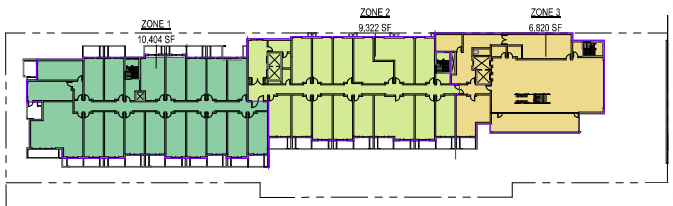
3 HOTEL_LEVEL 1
SCALE: 1" = 40'-0"



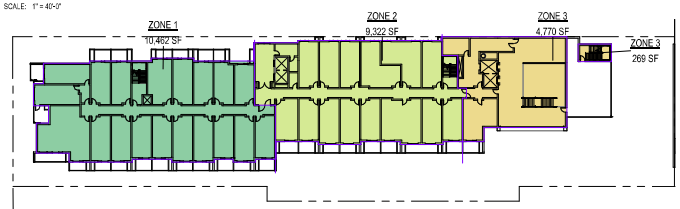
4 HOTEL_LEVEL 2
SCALE: 1" = 40'-0"



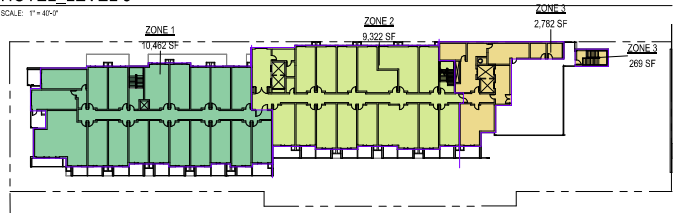
5 HOTEL_LEVEL 3
SCALE: 1" = 40'-0"



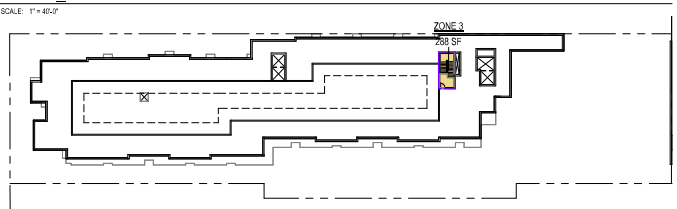
6 HOTEL_LEVEL 4
SCALE: 1" = 40'-0"



7 HOTEL_LEVEL 5
SCALE: 1" = 40'-0"



8 HOTEL_LEVEL 6
SCALE: 1" = 40'-0"



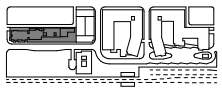
9 HOTEL_ROOF
SCALE: 1" = 40'-0"

PROPOSED PROJECT CLASSIFICATION (PER CBC SEC. 5.1)	ZONE 0	ZONE 1	ZONE 2	ZONE 3
OCCUPANCY CLASSIFICATION	M, S-2	R-2	R-2	S-2
TYPE OF CONSTRUCTION	TYPE IA	TYPE IIIA	TYPE IIIA	TYPE IIIA
TABULAR ALLOWABLE AREA FACTOR (Aa) PER TABLE 6.3	1.1	21,120	24,000	24,000
ACTUAL BUILDING AREA		10,462	9,322	6,678
AREA PERMITTED BY TABULAR AREA		21,120	24,000	24,000
PERCENTAGE OF BUILDING AREA PERMITTED BY TABULAR AREA		49.53%	38.84%	27.83%
# OF STORIES (NO)		2	2	2
ALLOWABLE # OF STORIES PER TABLE 6.3		5	5	5
ALLOWABLE AREA (Aa) PER EQUATION 5-3 Aa = [At + (Pi x Ai)] x Sa	1.1	23,232	26,400	26,400

HOTEL TOTAL AREA OF BUILDING BY ZONE (FIRE...

ZONE	OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION	AREA
TYPE IA			
ZONE 0			
HOTEL_LEVEL 1		TYPE IA	38,789 SF
HOTEL_LEVEL B1		TYPE IA	45,580 SF
HOTEL_LEVEL B2		TYPE IA	45,580 SF
			129,949 SF
TYPE IIIA			
ZONE 1			
HOTEL_LEVEL 6		TYPE IIIA	10,462 SF
HOTEL_LEVEL 5		TYPE IIIA	10,462 SF
HOTEL_LEVEL 4		TYPE IIIA	10,404 SF
HOTEL_LEVEL 3		TYPE IIIA	10,462 SF
HOTEL_LEVEL 2		TYPE IIIA	10,462 SF
			52,251 SF
ZONE 2			
HOTEL_LEVEL 6		TYPE IIIA	9,322 SF
HOTEL_LEVEL 5		TYPE IIIA	9,322 SF
HOTEL_LEVEL 4		TYPE IIIA	9,322 SF
HOTEL_LEVEL 3		TYPE IIIA	9,322 SF
HOTEL_LEVEL 2		TYPE IIIA	9,322 SF
			46,611 SF
ZONE 3			
HOTEL_ROOF		TYPE IIIA	288 SF
HOTEL_LEVEL 6		TYPE IIIA	2,782 SF
HOTEL_LEVEL 6		TYPE IIIA	269 SF
HOTEL_LEVEL 5		TYPE IIIA	4,770 SF
HOTEL_LEVEL 5		TYPE IIIA	269 SF
HOTEL_LEVEL 4		TYPE IIIA	6,820 SF
HOTEL_LEVEL 3		TYPE IIIA	6,678 SF
HOTEL_LEVEL 2		TYPE IIIA	11,772 SF
			33,650 SF

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

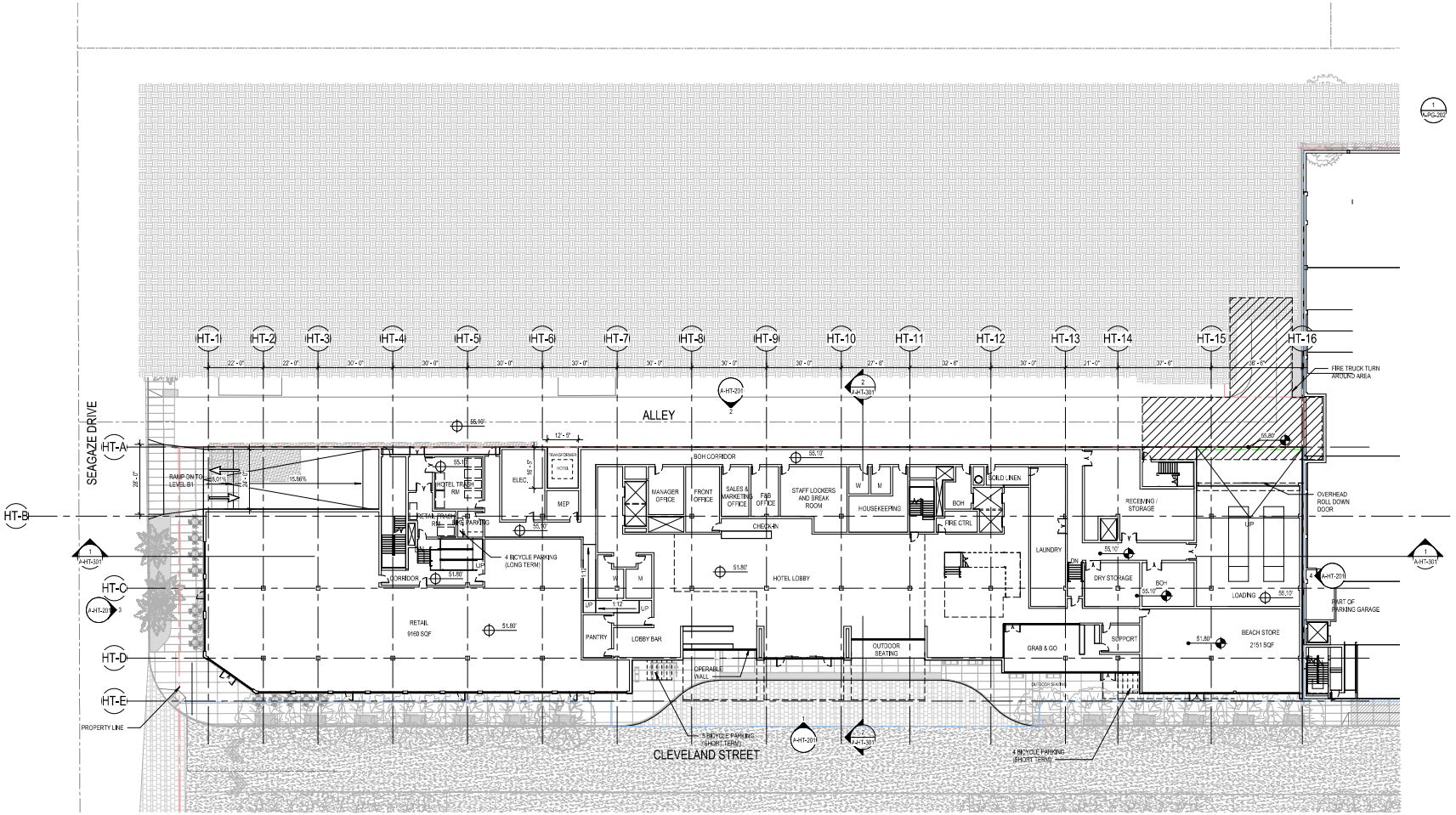
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

LIFE SAFETY PLANS

A-HT-002

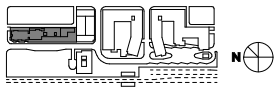
© 2025 Arcadis Inc.



1 HOTEL LOWER GROUND FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

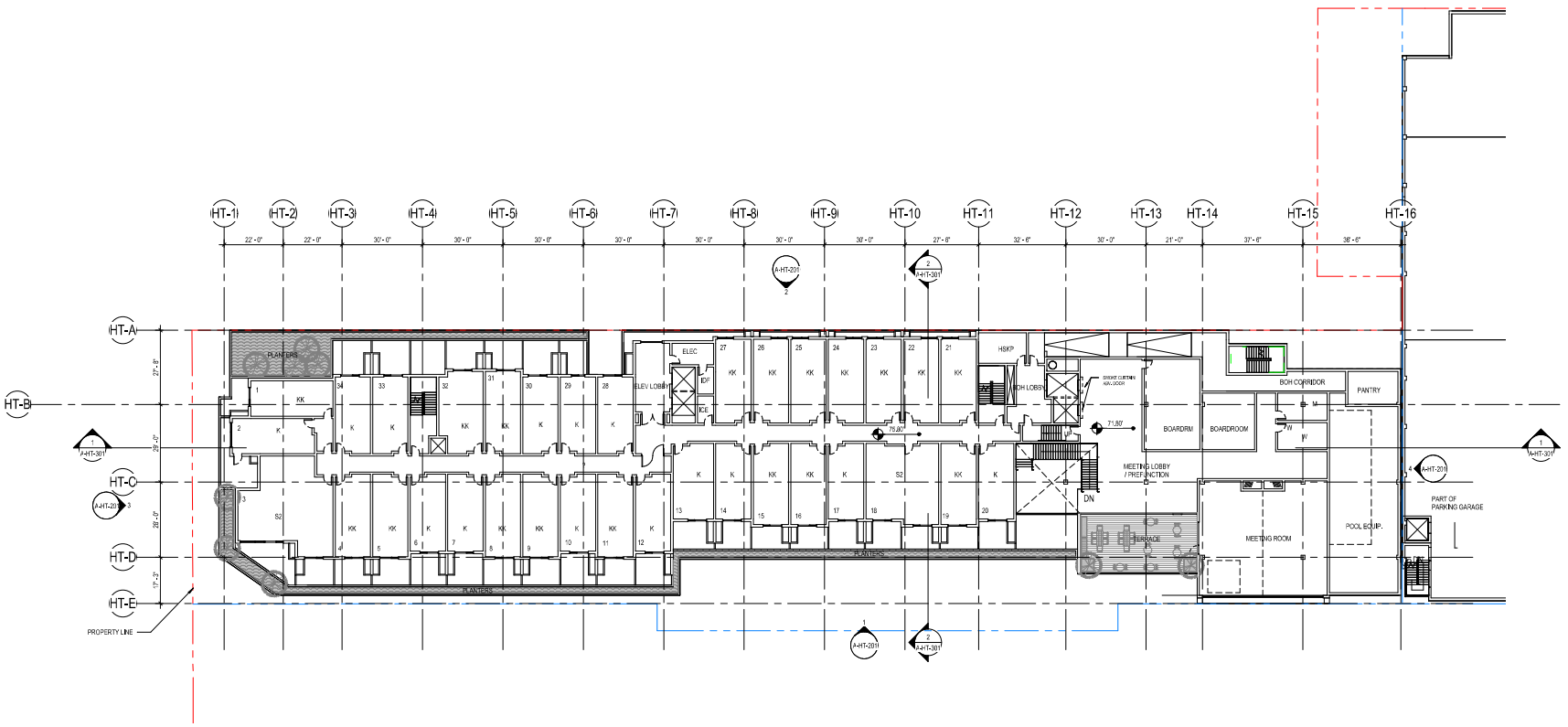
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

HOTEL LOWER GROUND FLOOR PLAN

A-HT-101

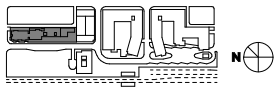
© 2025 Arcadis Inc.



1 HOTEL LEVEL 2 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

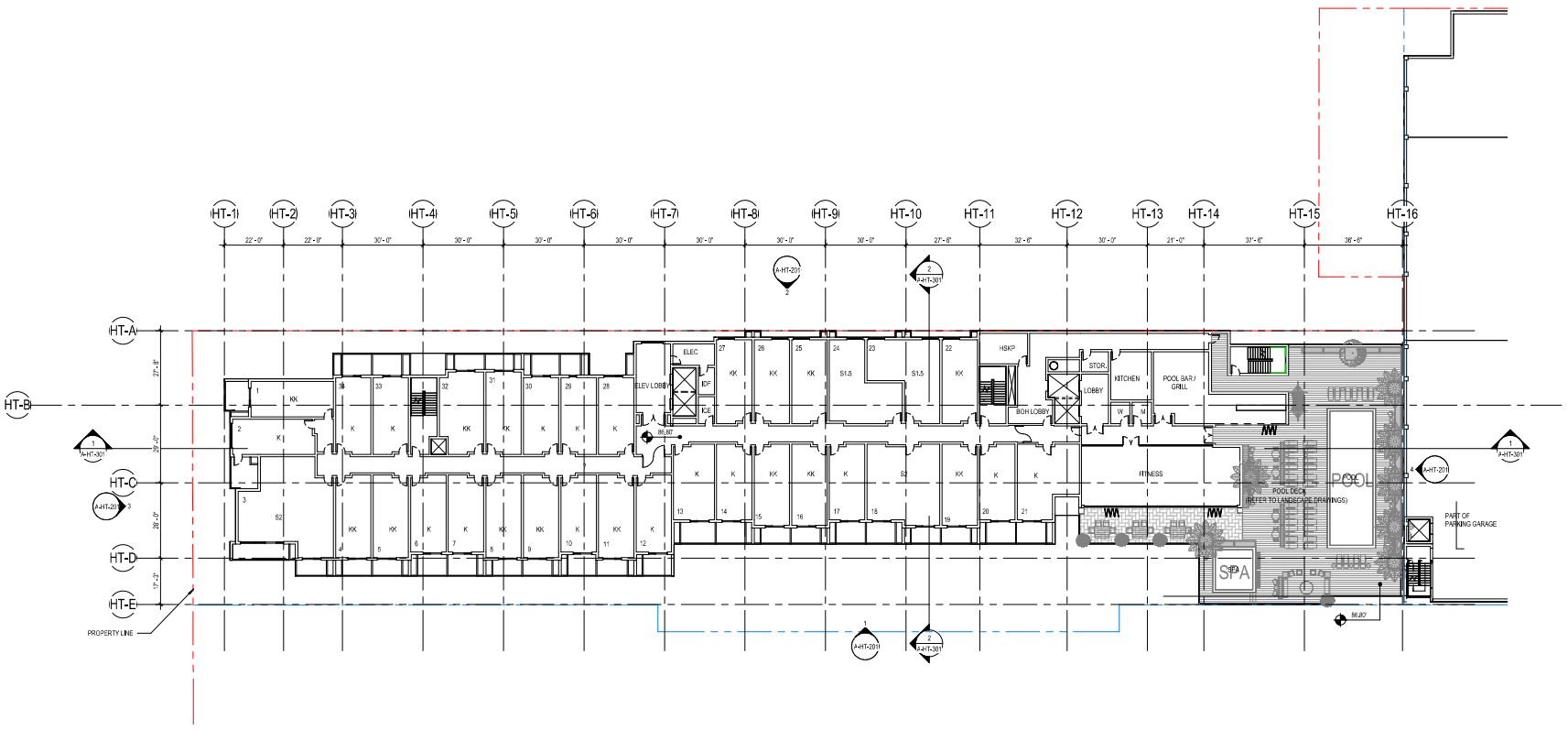
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

HOTEL LEVEL 2 FLOOR PLAN

A-HT-102

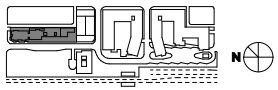
© 2025 Arcadis Inc.



1 HOTEL LEVEL 3 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

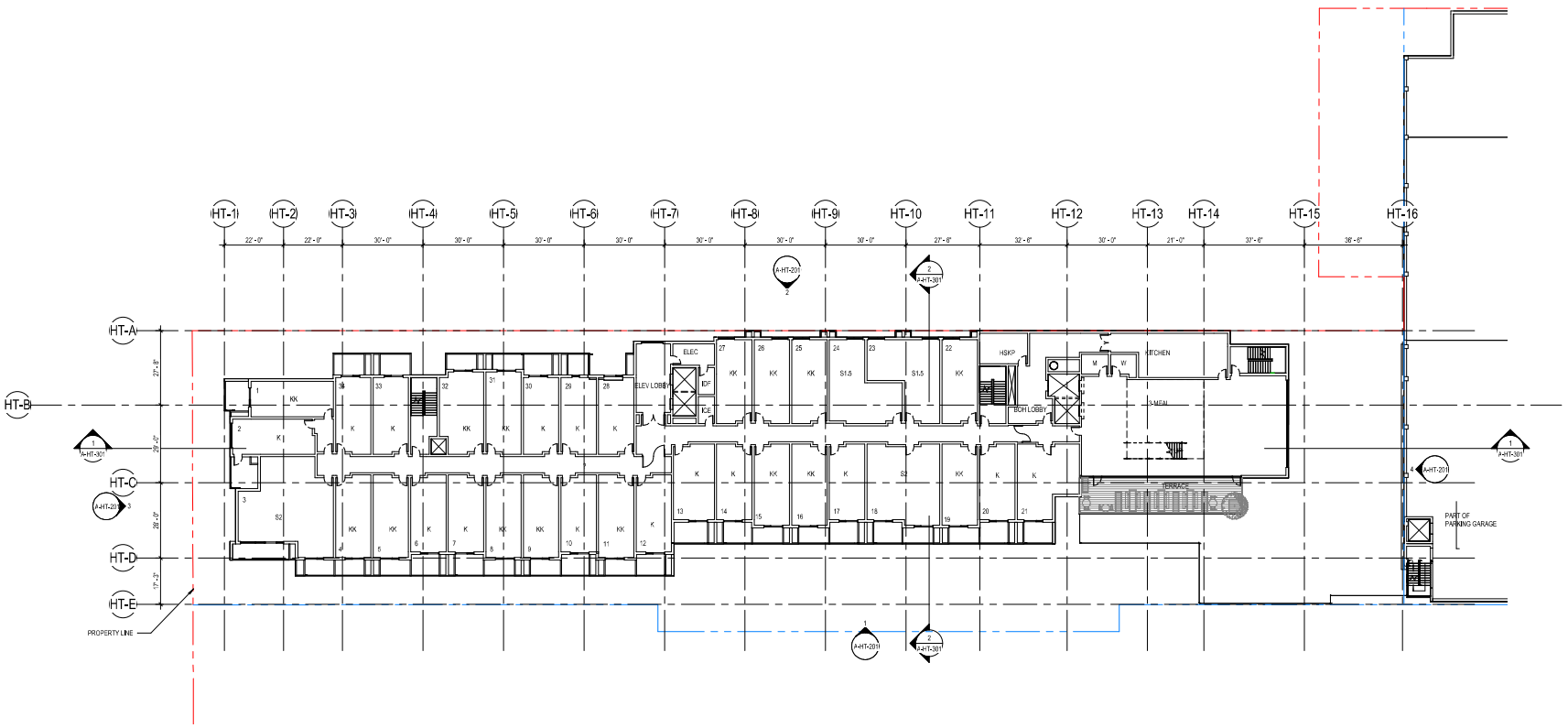
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

HOTEL LEVEL 3 FLOOR PLAN

A-HT-103

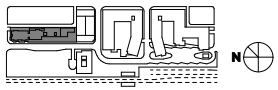
© 2025 Arcadis Inc.



1 HOTEL LEVEL 4 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

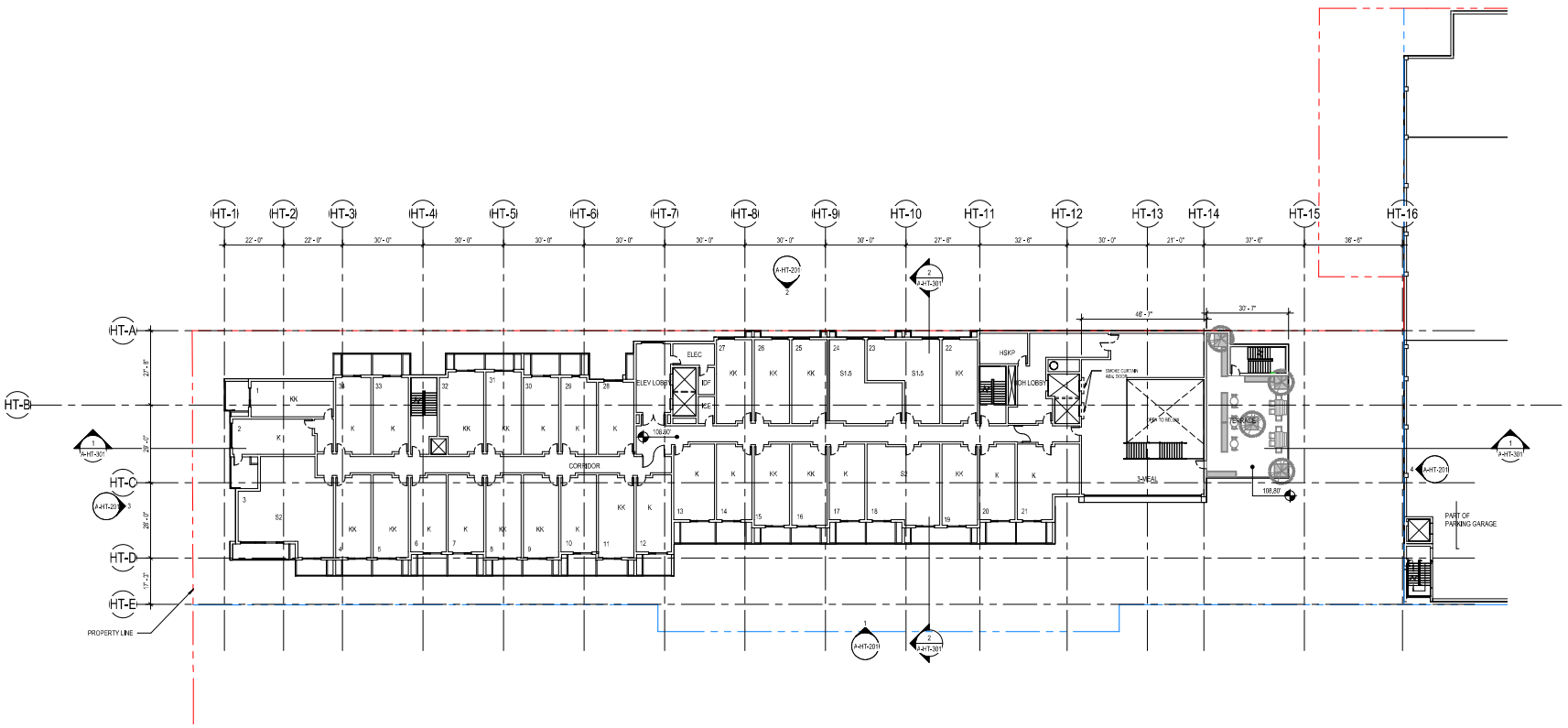
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

HOTEL LEVEL4 FLOOR PLAN

A-HT-104

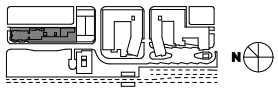
© 2025 Arcadis Inc.



1 HOTEL LEVEL 5 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

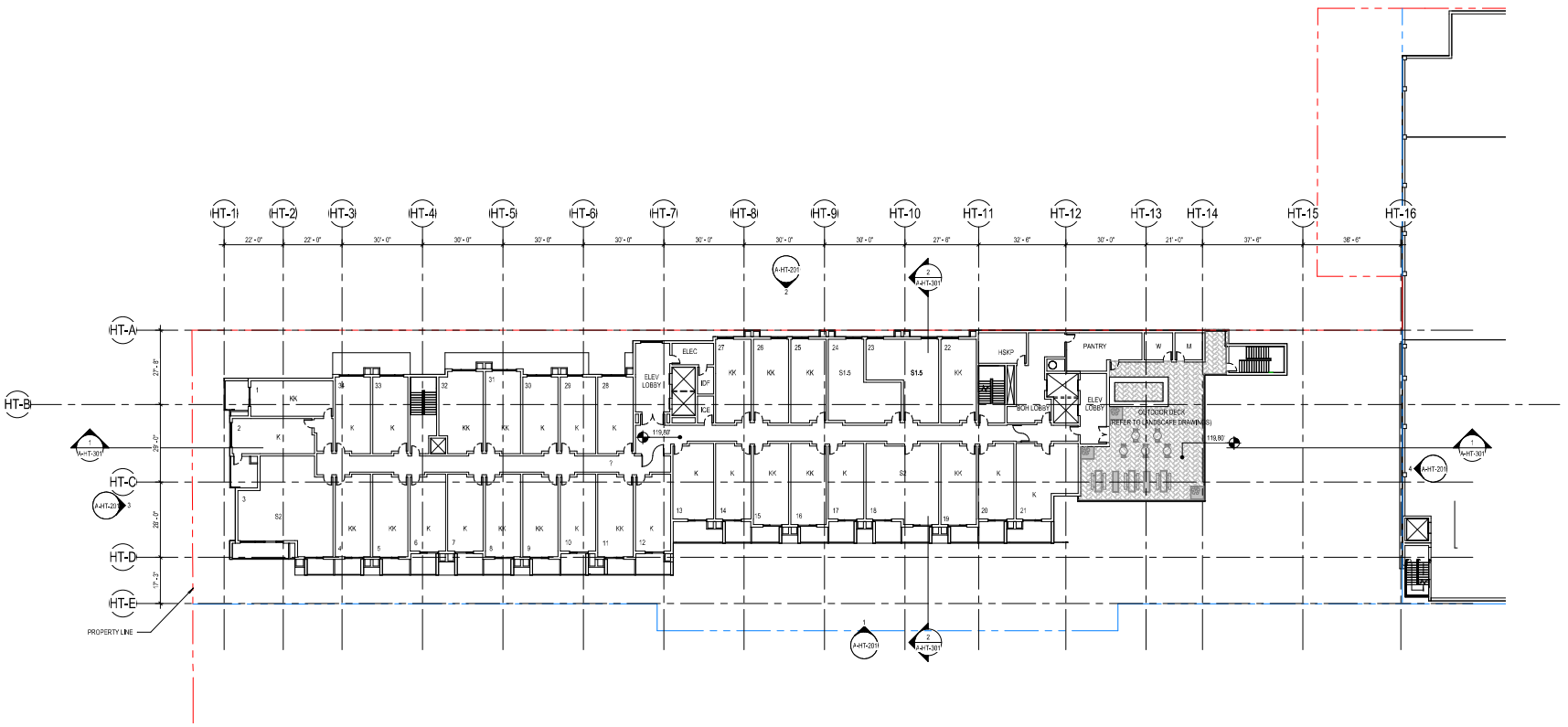
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

HOTEL LEVEL5 FLOOR PLAN

A-HT-105

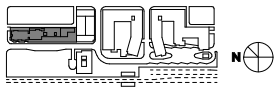
© 2025 Arcadis Inc.



1 HOTEL LEVEL 6 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

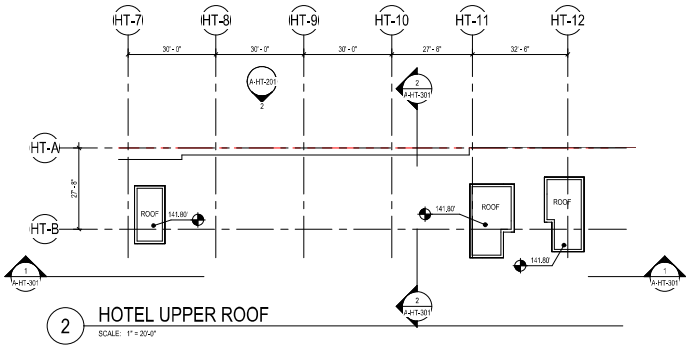
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

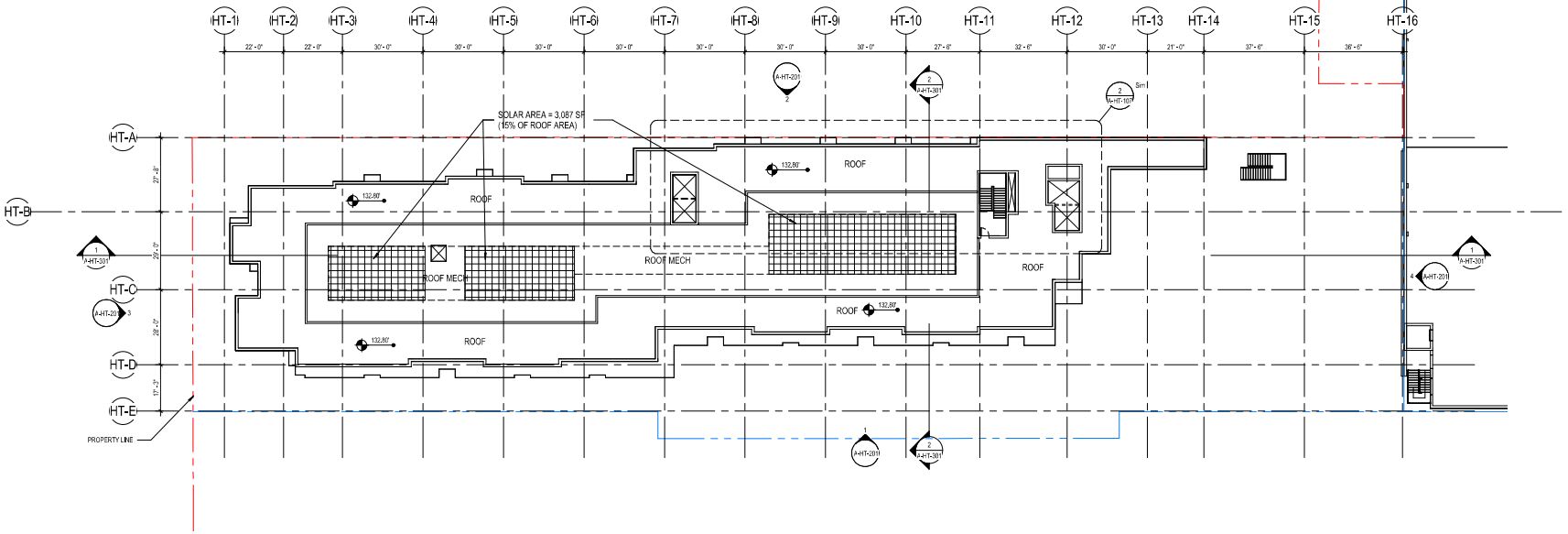
HOTEL LEVEL6 FLOOR PLAN

A-HT-106

© 2025 Arcadis Inc.

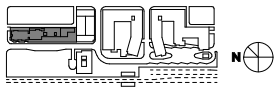


2 HOTEL UPPER ROOF
SCALE: 1" = 20'-0"



1 HOTEL ROOF PLAN
SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

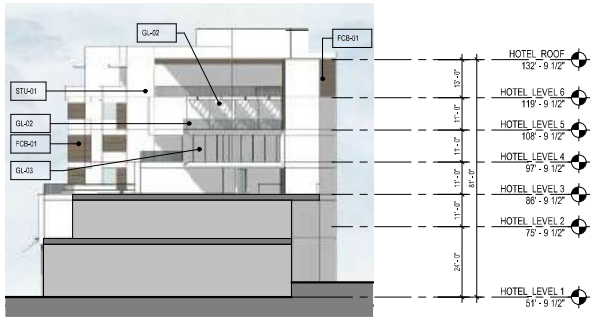
Issue Drawing Log

REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason
HOTEL ROOF PLAN

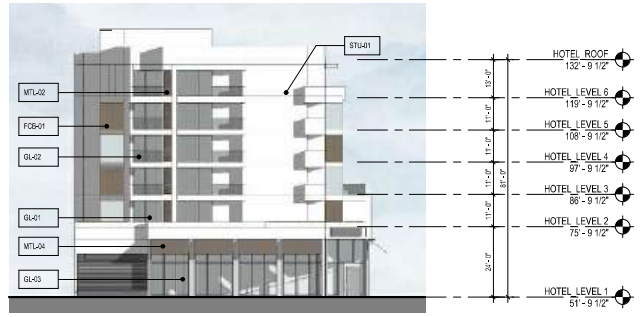
A-HT-107

© 2025 Arcadis Inc.



4 HOTEL SOUTHEAST ELEVATION

SCALE: 1" = 20'-0"



3 HOTEL NORTHWEST ELEVATION

SCALE: 1" = 20'-0"



2 HOTEL NORTHEAST ELEVATION

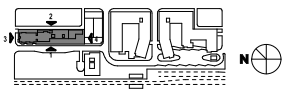
SCALE: 1" = 20'-0"



1 HOTEL SOUTHWEST ELEVATION

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

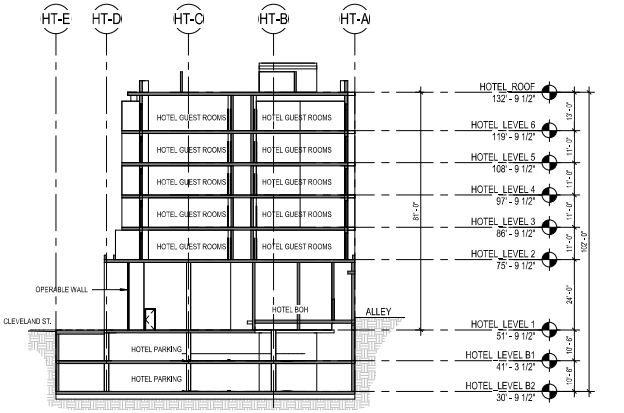
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

HOTEL ELEVATIONS

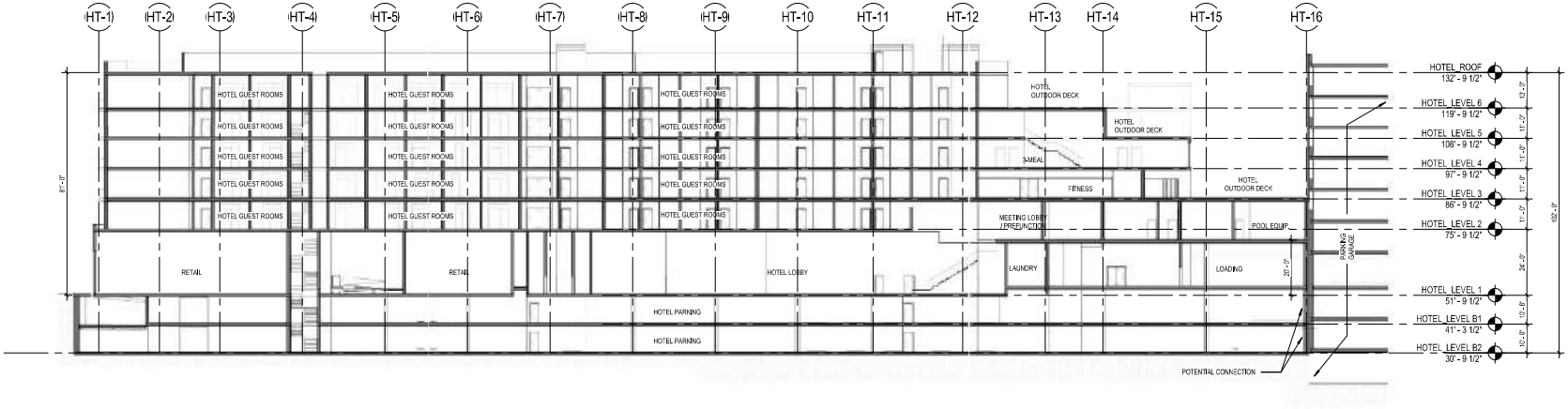
A-HT-201

© 2025 Arcadis Inc.



2 HOTEL SECTION 2

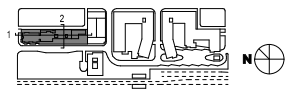
SCALE: 1" = 20'-0"



1 HOTEL SECTION

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

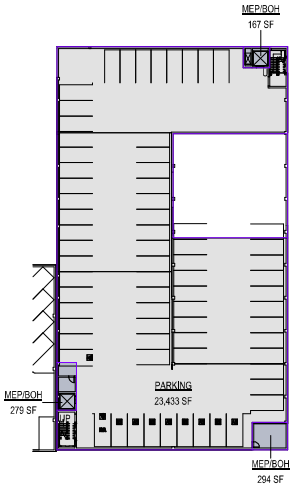
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

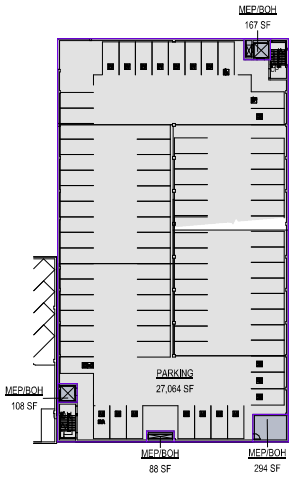
HOTEL SECTIONS

A-HT-301

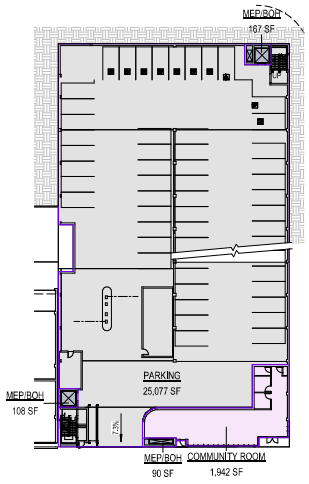
© 2025 Arcadis Inc.



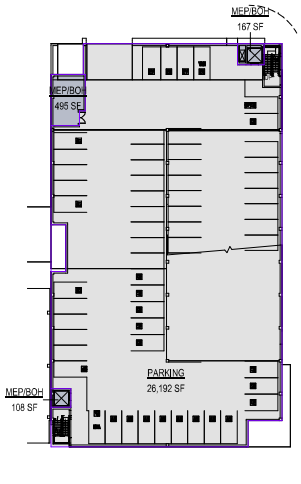
1 PG_LEVEL B2
SCALE: 1/32" = 1'-0"



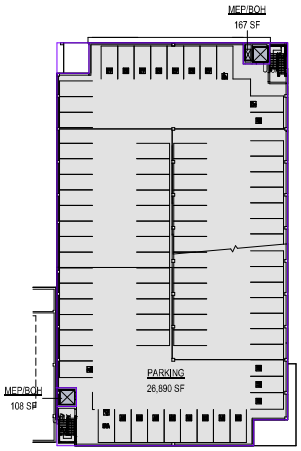
2 PG_LEVEL B1
SCALE: 1/32" = 1'-0"



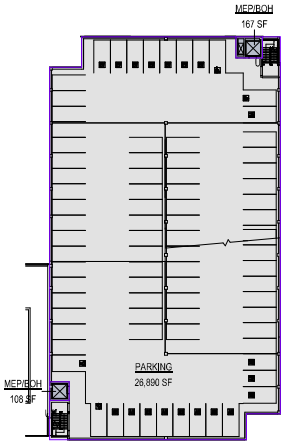
3 PG_LOWER GROUND
SCALE: 1/32" = 1'-0"



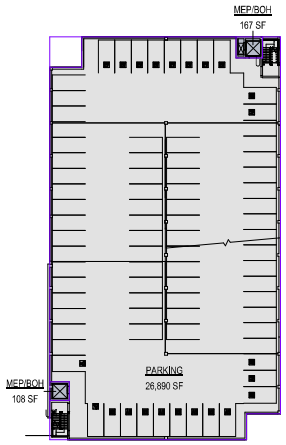
4 PG_UPPER GROUND
SCALE: 1/32" = 1'-0"



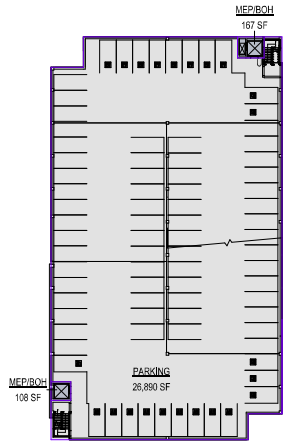
5 PG_LEVEL 2
SCALE: 1/32" = 1'-0"



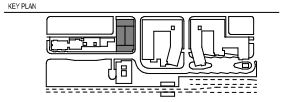
6 PG_LEVEL 3
SCALE: 1/32" = 1'-0"



7 PG_LEVEL 4
SCALE: 1/32" = 1'-0"



8 PG_LEVEL 5
SCALE: 1/32" = 1'-0"



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

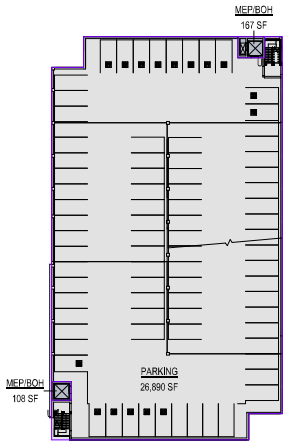
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

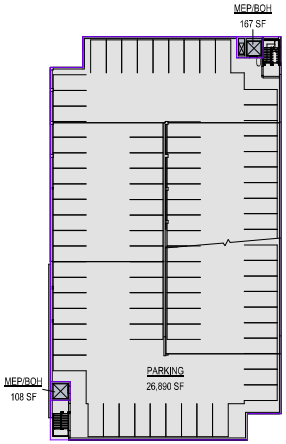
GARAGE AREA PLANS

A-PG-001

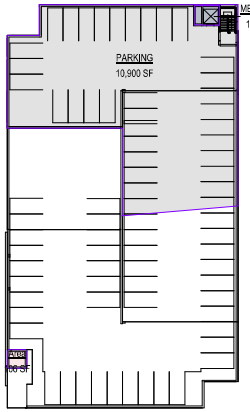
© 2025 Arcadis Inc.



1 PG_LEVEL 6
SCALE: 1/32" = 1'-0"



2 PG_LOWER ROOF
SCALE: 1/32" = 1'-0"



3 PG_UPPER ROOF
SCALE: 1/32" = 1'-0"

PARKING GARAGE PARKING AREA (NON GFA)

LEVEL	PROGRAM	AREA
PARKING		
PG_UPPER ROOF	PARKING	10,900 SF
PG_LOWER ROOF	PARKING	26,890 SF
PG_LEVEL 6	PARKING	26,890 SF
PG_LEVEL 5	PARKING	26,890 SF
PG_LEVEL 4	PARKING	26,890 SF
PG_LEVEL 3	PARKING	26,890 SF
PG_LEVEL 2	PARKING	26,890 SF
PG_UPPER GROUND	PARKING	26,192 SF
PG_LOWER GROUND	PARKING	25,077 SF
PG_LEVEL B1	PARKING	27,064 SF
PG_LEVEL B2	PARKING	23,433 SF
TOTAL		274,008 SF

PARKING GARAGE GROSS FLOOR AREA

LEVEL	PROGRAM	AREA
MEP/BOH		
PG_UPPER ROOF	MEP/BOH	143 SF
PG_LOWER ROOF	MEP/BOH	274 SF
PG_LEVEL 6	MEP/BOH	274 SF
PG_LEVEL 5	MEP/BOH	274 SF
PG_LEVEL 4	MEP/BOH	274 SF
PG_LEVEL 3	MEP/BOH	274 SF
PG_LEVEL 2	MEP/BOH	274 SF
PG_UPPER GROUND	MEP/BOH	769 SF
PG_LOWER GROUND	MEP/BOH	365 SF
PG_LEVEL B1	MEP/BOH	656 SF
PG_LEVEL B2	MEP/BOH	740 SF
COMMUNITY ROOM		
PG_LOWER GROUND	COMMUNITY ROOM	1,942 SF
TOTAL		6,261 SF

GARAGE PARKING COUNT BY LEVEL

LEVEL	COUNT
PG_UPPER ROOF	34
PG_LOWER ROOF	85
PG_LEVEL 6	82
PG_LEVEL 5	82
PG_LEVEL 4	82
PG_LEVEL 3	81
PG_LEVEL 2	81
PG_UPPER GROUND	72
PG_LOWER GROUND	54
PG_LEVEL B1	81
PG_LEVEL B2	67
TOTAL	901

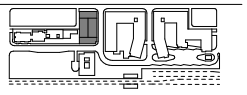
GARAGE PARKING COUNT BY USE & TYPE

TYPE	COUNT
COMM	
ACC 9'-0" x 18'-0"	10
ACC VAN_9'-0" x 18'-0"	2
EV 9'-0" x 18'-0"	120
EV ADA_9'-0" x 18'-0"	1
EV AMB_10'-0" x 18'-0"	1
EV VAN_9'-0" x 18'-0"	1
STANDARD_8'-6" x 18'-0"	476
	611
OFFICE	
ACC 9'-0" x 18'-0"	5
ACC VAN_9'-0" x 18'-0"	1
EV 9'-0" x 18'-0"	33
EV ADA_9'-0" x 18'-0"	1
EV VAN_9'-0" x 18'-0"	1
STANDARD_8'-6" x 18'-0"	149
	190
TOTAL	801

GARAGE BIKE PARKING COUNT

LEVEL	COUNT
PG_LOWER GROUND	40
TOTAL	40

KEY PLAN



N

Autodesk Docs://CRTKL-LA - Toll Brothers - OTC/A_CRTKL_OTC_Hotel-Parking.rvt 5/14/2025 11:14:57 AM

© 2025 Arcadis Inc.

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

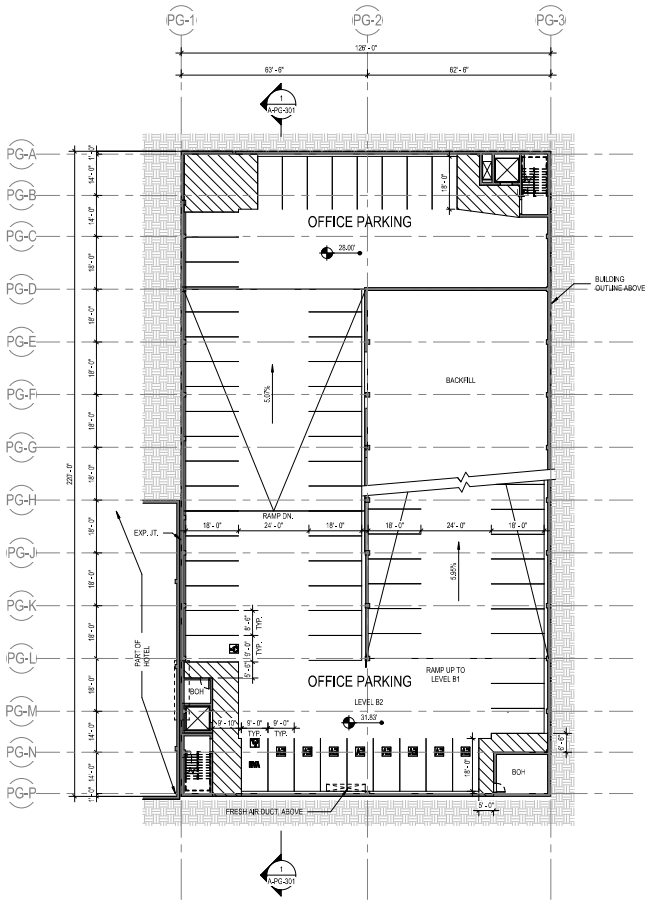
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

GARAGE AREA PLANS

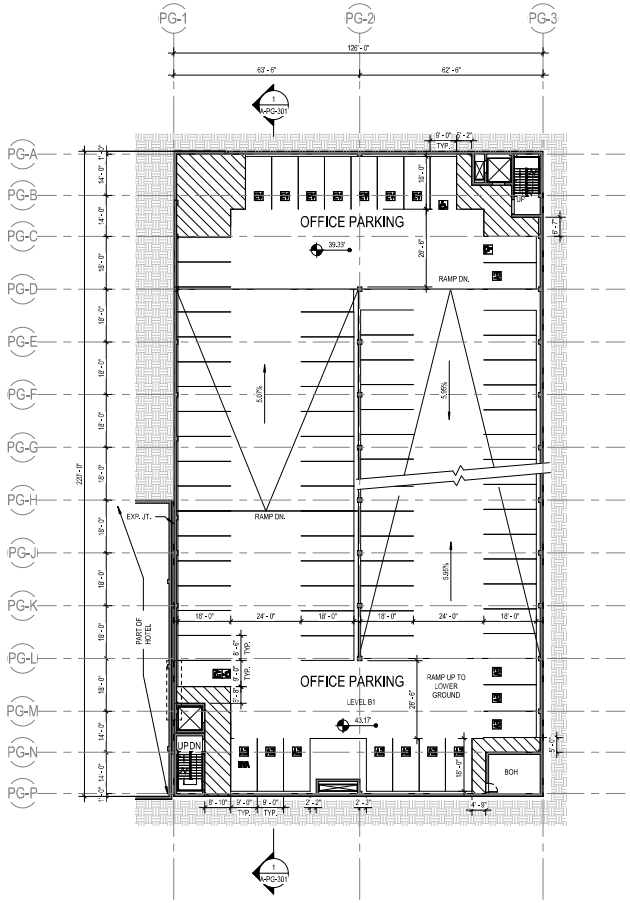
A-PG-002

GARAGE PARKING COUNT BY USE & TYPE	
TYPE	COUNT
COMM	
ACC 9'-0" x 18'-0"	10
ACC VAN_9'-0" x 18'-0"	2
EV 9'-0" x 18'-0"	120
EV ADA_9'-0" x 18'-0"	1
EV AMB_10'-0" x 18'-0"	1
EV VAN_9'-0" x 18'-0"	1
STANDARD_8'-6" x 18'-0"	476
	611
OFFICE	
ACC 9'-0" x 18'-0"	5
ACC VAN_9'-0" x 18'-0"	1
EV 9'-0" x 18'-0"	33
EV ADA_9'-0" x 18'-0"	1
EV VAN_9'-0" x 18'-0"	1
STANDARD_8'-6" x 18'-0"	149
	190
TOTAL	801



2 PARKING GARAGE LEVEL B2 FLOOR PLAN

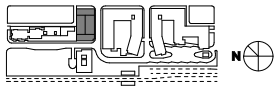
SCALE: 1" = 20'-0"



1 PARKING GARAGE LEVEL B1 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

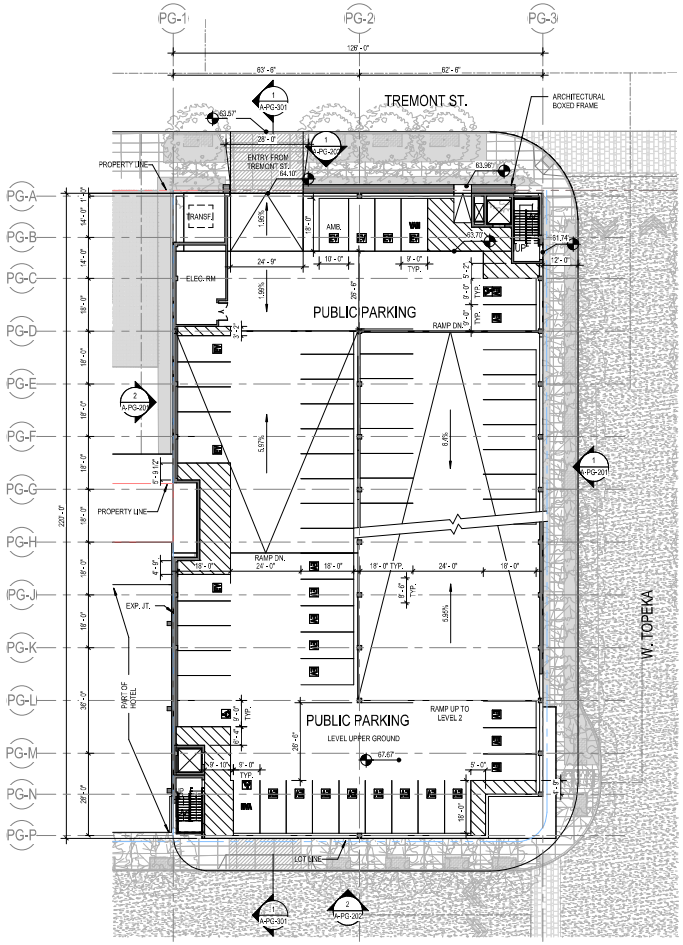
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

PARKING GARAGE LEVEL B1 & B2 FLOOR PLAN

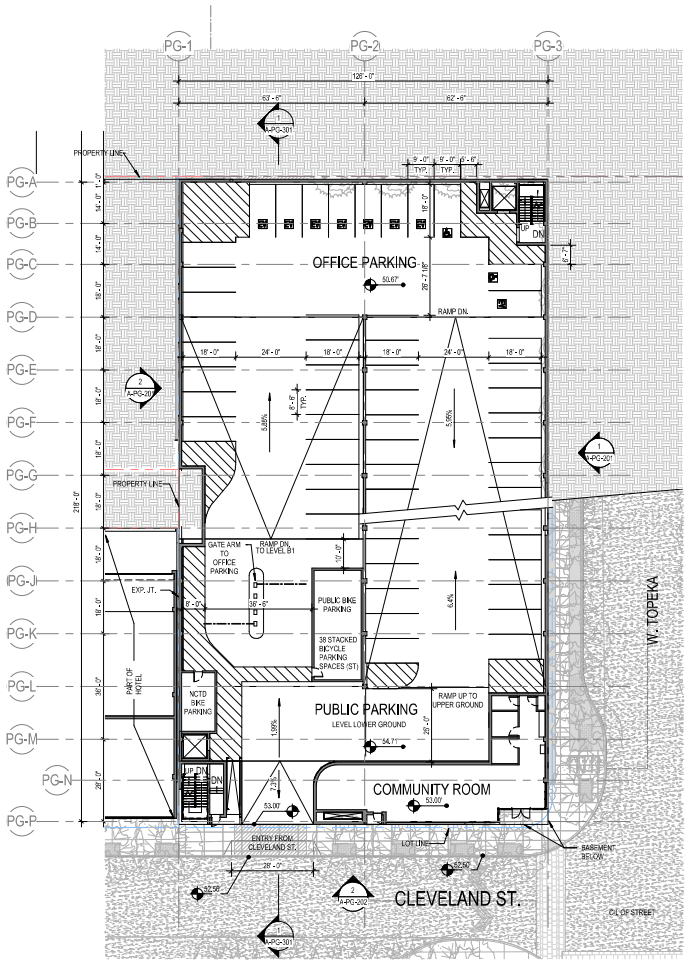
A-PG-100

© 2025 Arcadis Inc.



2 PARKING GARAGE UPPER GROUND FLOOR PLAN

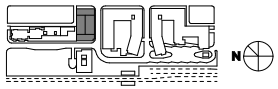
SCALE: 1" = 20'-0"



1 PARKING GARAGE LOWER GROUND FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

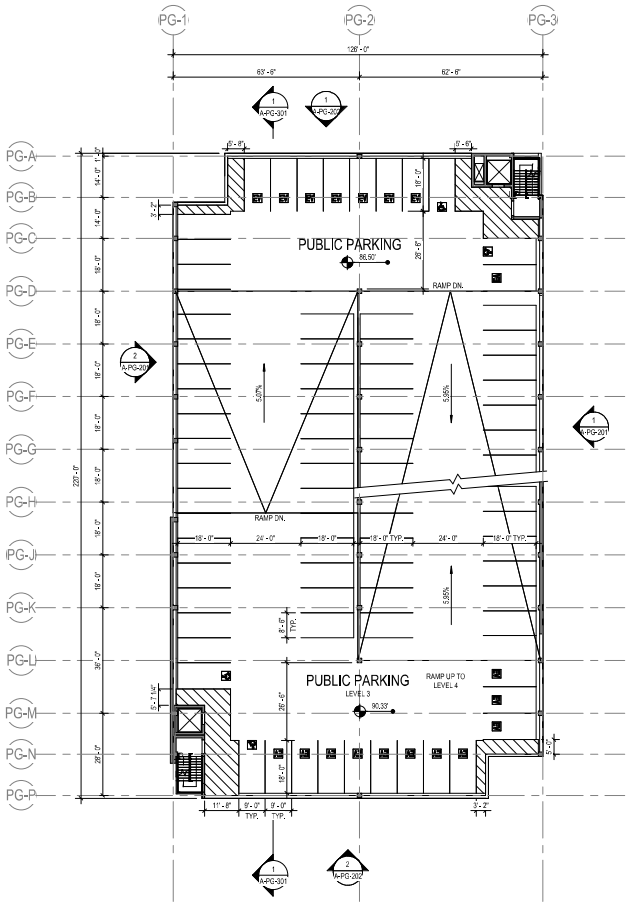
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

PARKING GARAGE LEVEL LOWER & UPPER GROUND

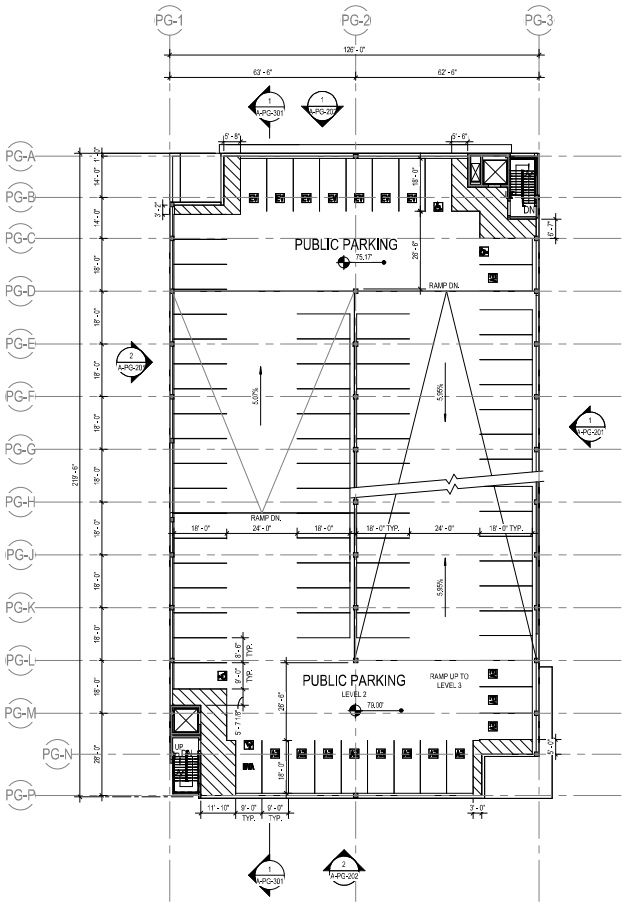
A-PG-101

© 2025 Arcadis Inc.



2 PARKING GARAGE LEVEL 3 FLOOR PLAN

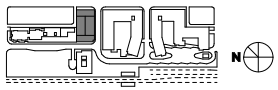
SCALE: 1" = 20'-0"



1 PARKING GARAGE LEVEL 2 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

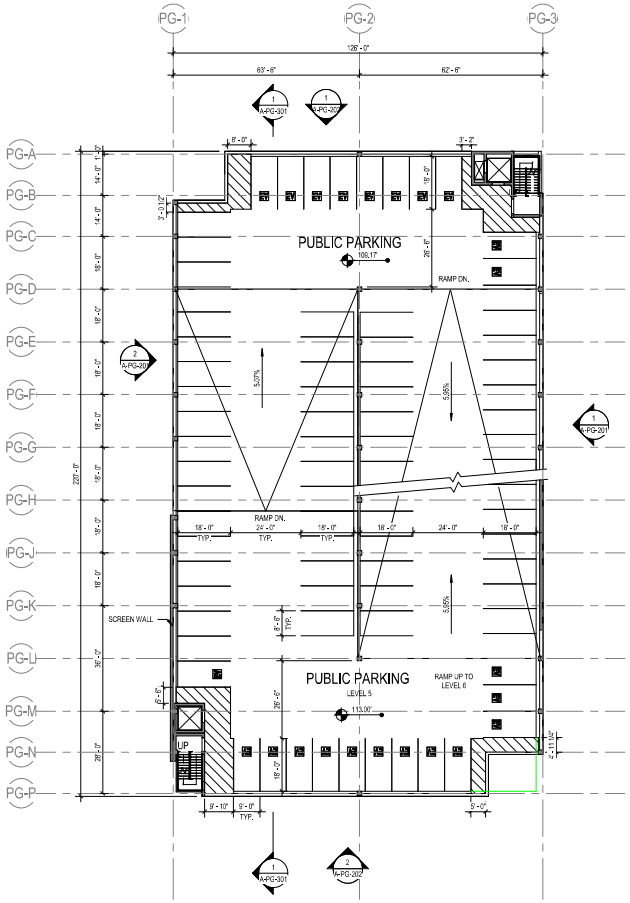
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

PARKING GARAGE LEVEL L2 & L3 FLOOR PLAN

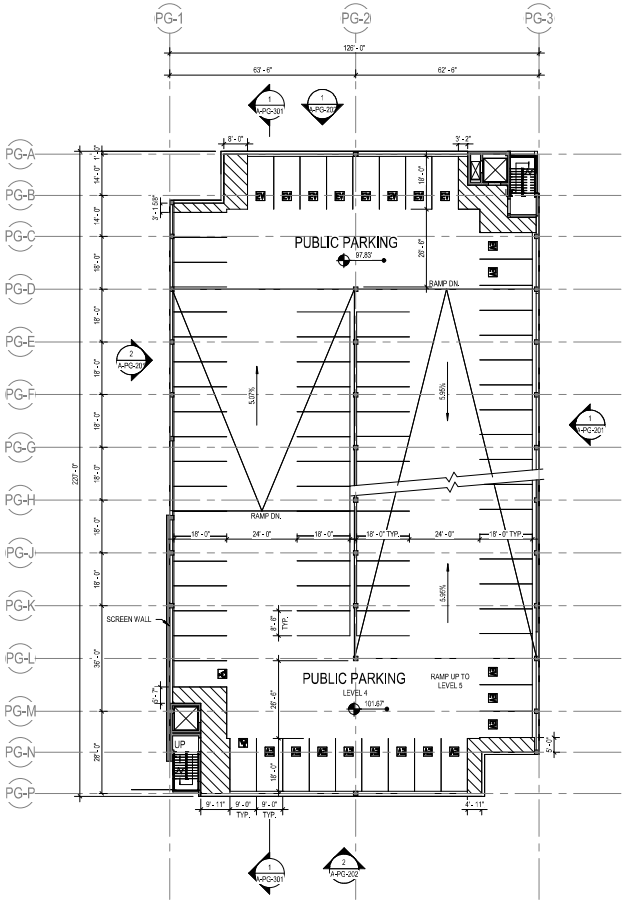
A-PG-102

© 2025 Arcadis Inc.



2 PARKING GARAGE LEVEL 5 FLOOR PLAN

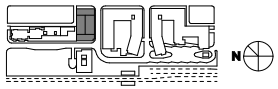
SCALE: 1" = 20'-0"



1 PARKING GARAGE LEVEL 4 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

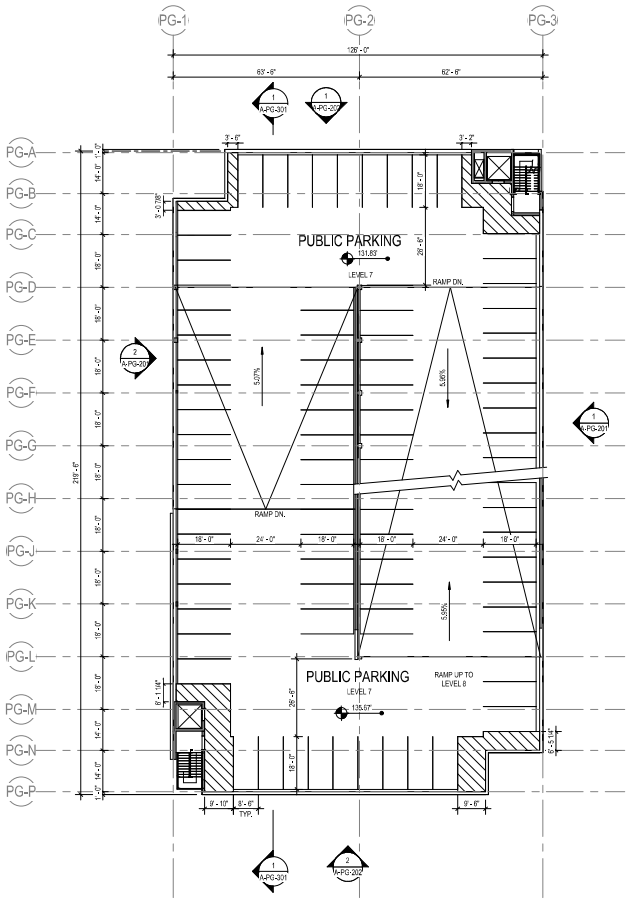
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

PARKING GARAGE LEVEL L4 & L5 FLOOR PLAN

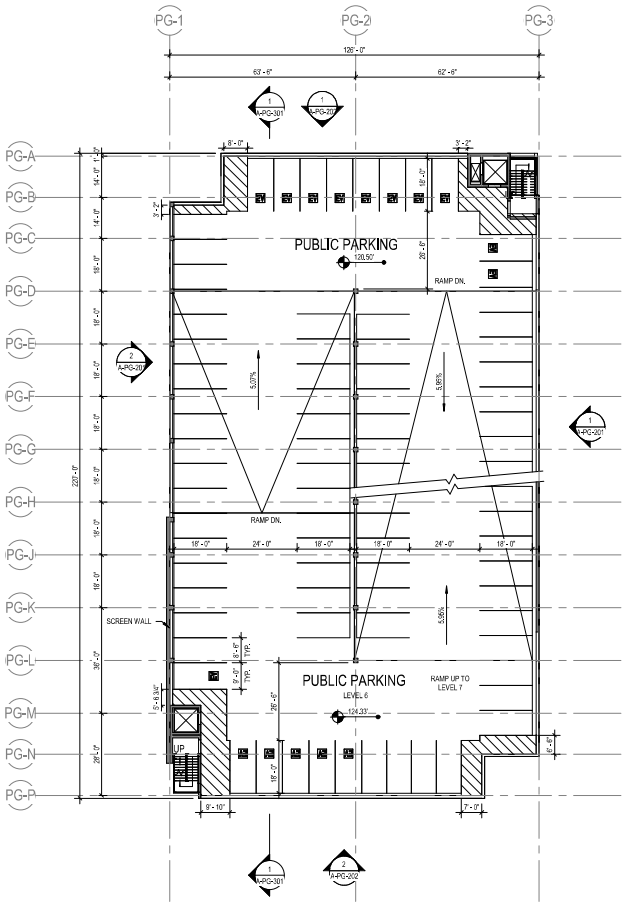
A-PG-103

© 2025 Arcadis Inc.



2 PARKING GARAGE LEVEL 7 FLOOR PLAN

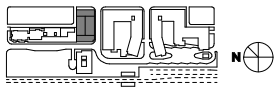
SCALE: 1" = 20'-0"



1 PARKING GARAGE LEVEL 6 FLOORPLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

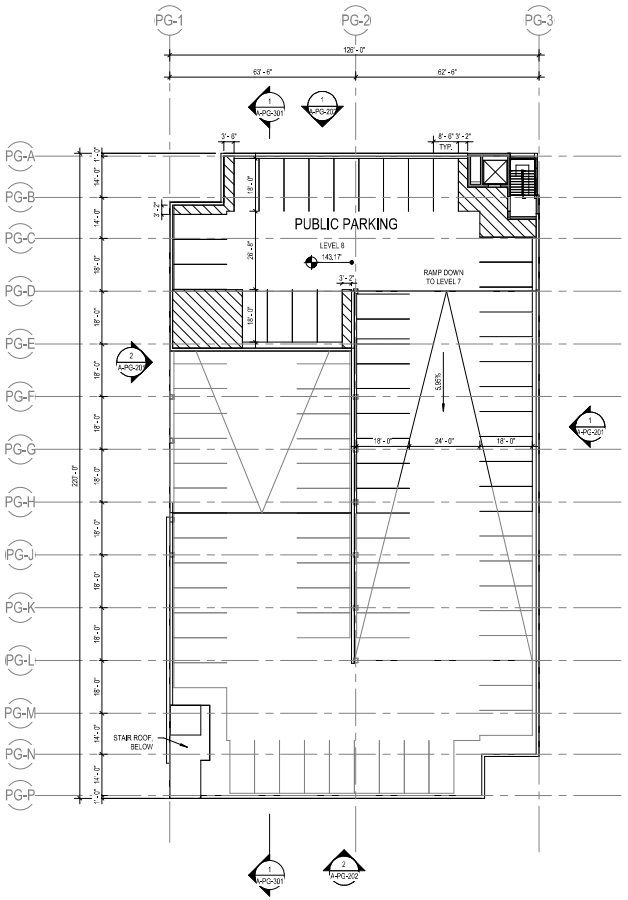
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

PARKING GARAGE LEVEL L6 & LOWER ROOF PLAN

A-PG-104

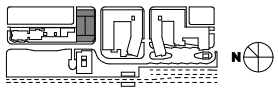
© 2025 Arcadis Inc.



1 PARKING GARAGE LEVEL 8 ROOF PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

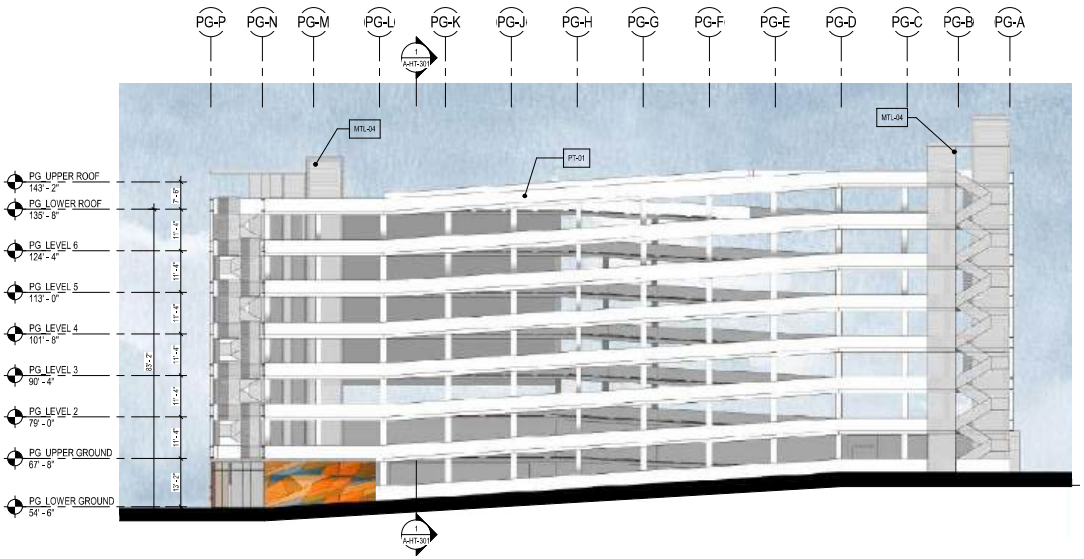
REV	DATE	DESCRIPTION

Project Status / Issue Reason

PARKING GARAGE LEVEL UPPER ROOF PLAN

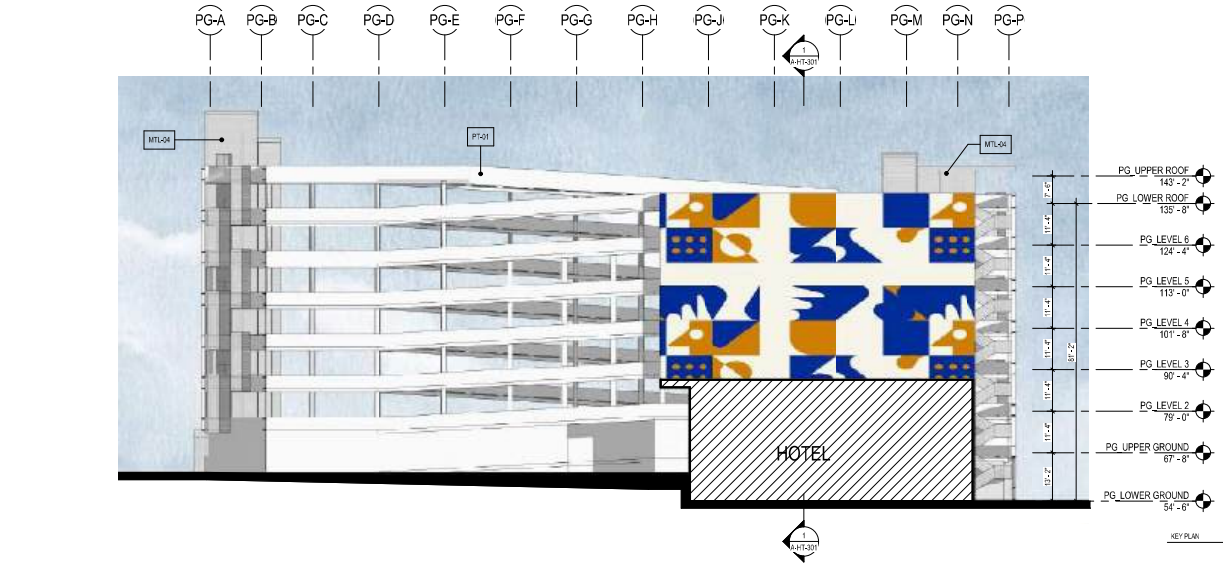
A-PG-105

© 2025 Arcadis Inc.



1 PARKING GARAGE - SOUTH ELEVATION

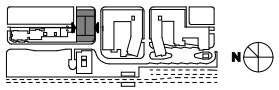
SCALE: 1/16" = 1'-0"



2 PARKING GARAGE - NORTH ELEVATION

SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

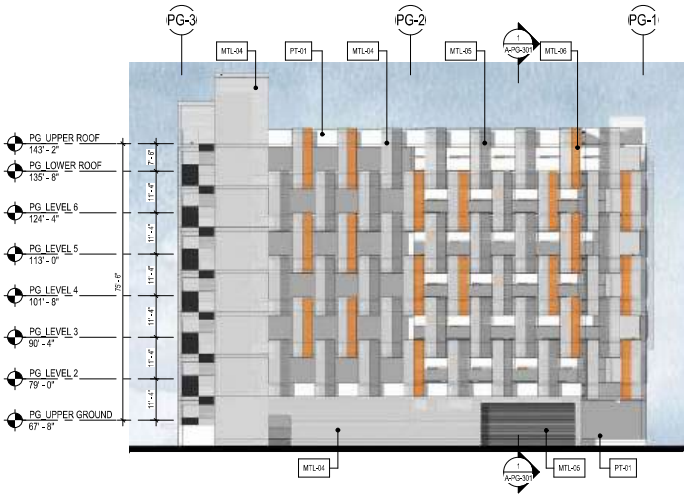
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

PARKING GARAGE ELEVATIONS

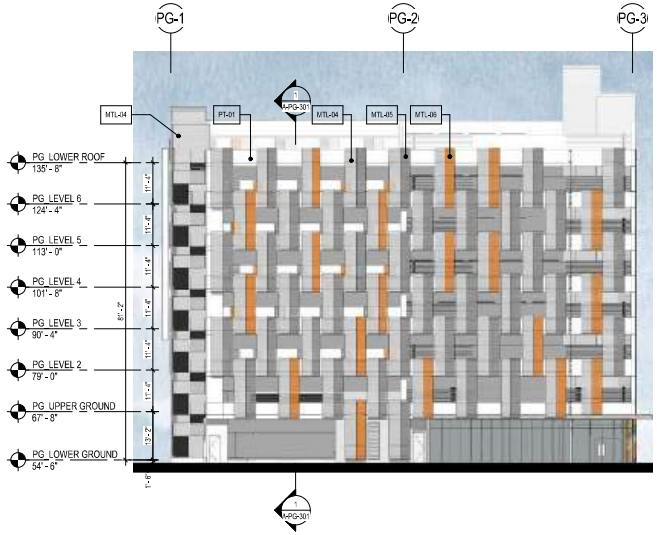
A-PG-201

© 2025 Arcadis Inc.



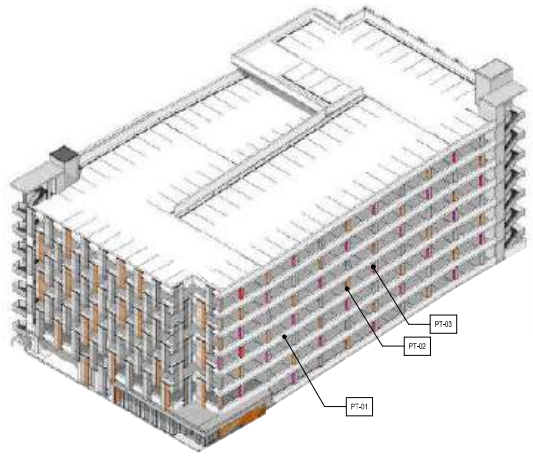
1 PARKING GARAGE - EAST ELEVATION

SCALE: 1/16" = 1'-0"



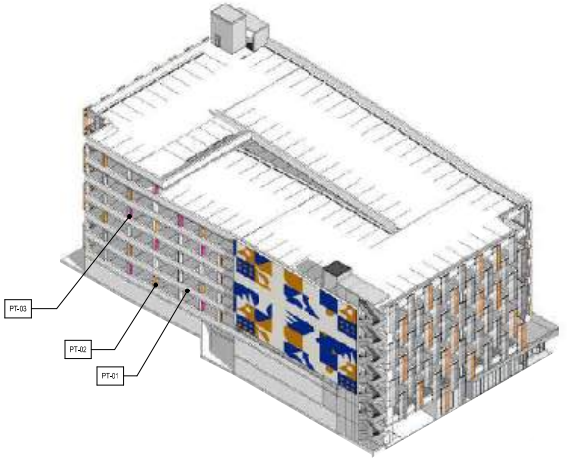
2 PARKING GARAGE - WEST ELEVATION

SCALE: 1/16" = 1'-0"



3 PARKING GARAGE - ISOMETRIC VIEW SW

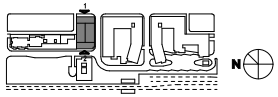
SCALE: 3/32" = 1'-0"



4 PARKING GARAGE - ISOMETRIC VIEW NW

SCALE: 3/32" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

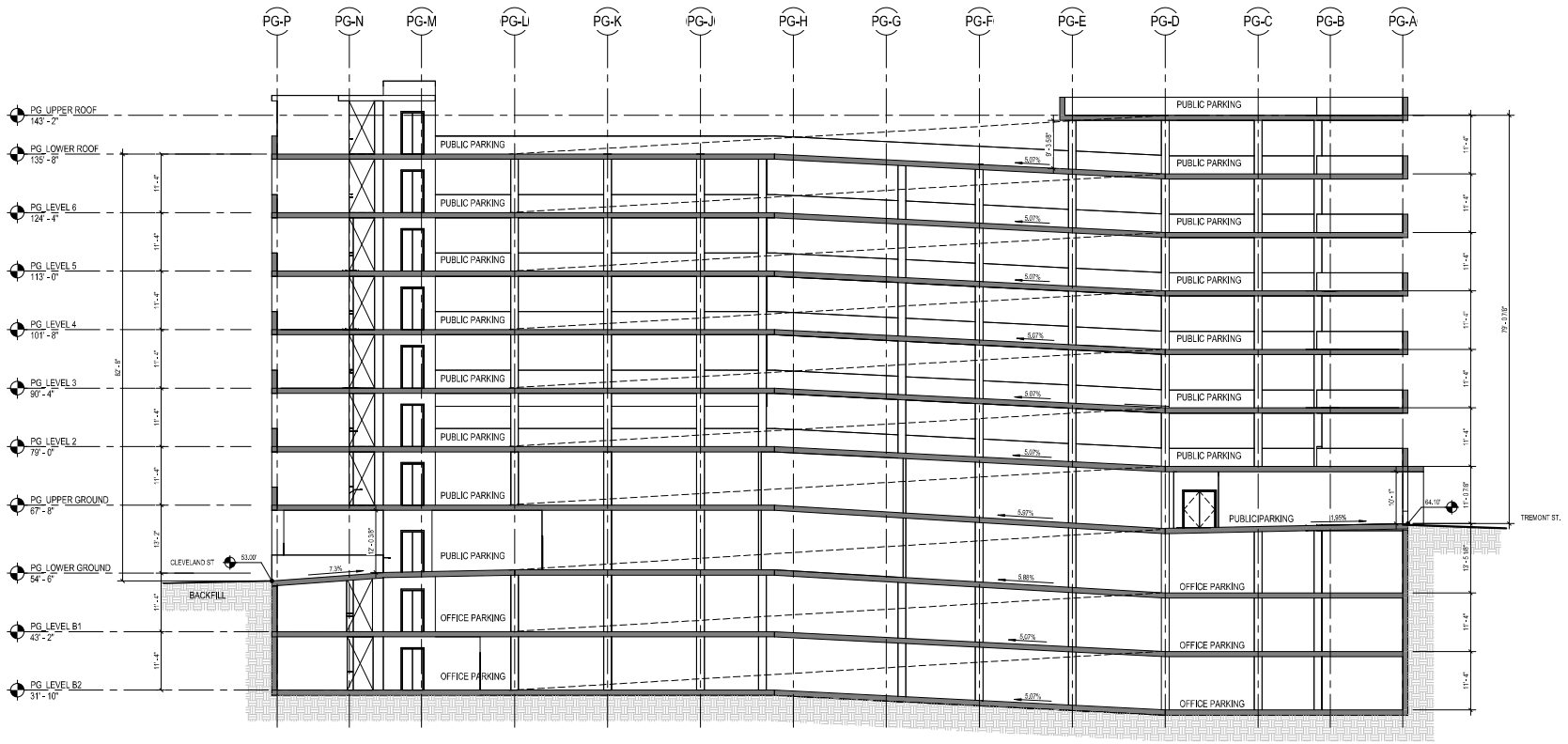
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

PARKING GARAGE ELEVATIONS

A-PG-202

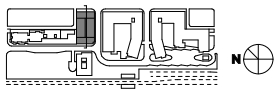
© 2025 Arcadis Inc.



1 PARKING GARAGE EAST-WEST SECTION

SCALE: 3/32" = 1'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

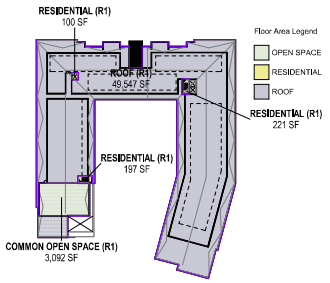
REV	DATE	DESCRIPTION
1	08/26/22	DP SUBMITTAL 1
2	02/13/23	DP SUBMITTAL 2
3	10/09/23	DP SUBMITTAL 3
4	4/10/2024	DP SUBMITTAL 4

Project Status / Issue Reason

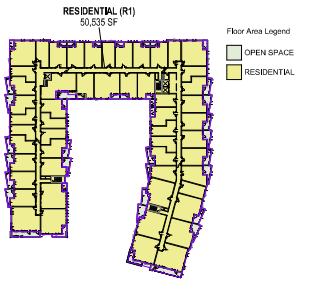
PARKING GARAGE SECTION

A-PG-301

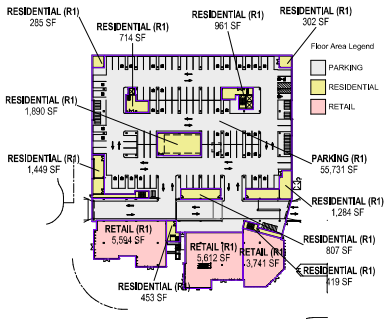
© 2025 Arcadis Inc.



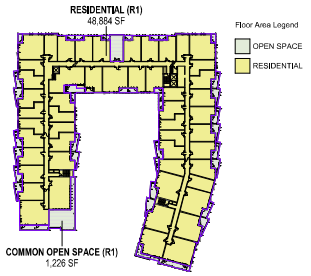
9 R1_GROSS AREA_RF
SCALE: 1" = 80'-0"



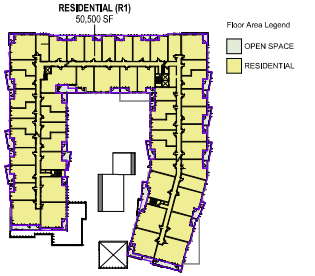
6 R1_GROSS AREA_L3
SCALE: 1" = 80'-0"



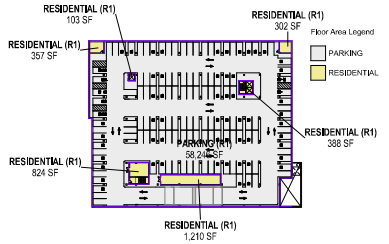
3 R1_GROSS AREA_LG
SCALE: 1" = 80'-0"



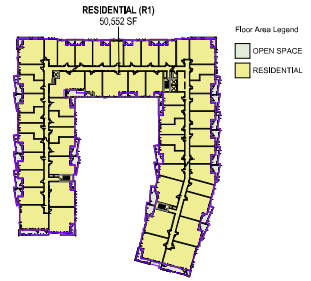
8 R1_GROSS AREA_L5
SCALE: 1" = 80'-0"



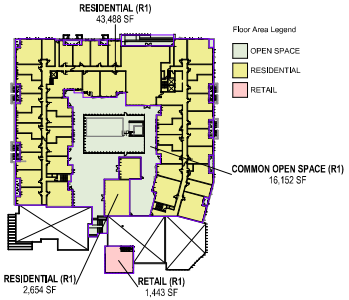
5 R1_GROSS AREA_L2
SCALE: 1" = 80'-0"



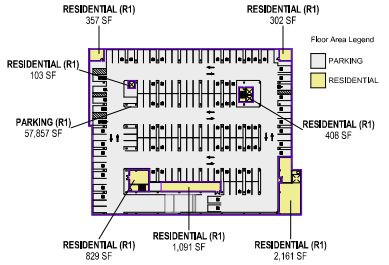
2 R1_GROSS AREA_B1
SCALE: 1" = 80'-0"



7 R1_GROSS AREA_L4
SCALE: 1" = 80'-0"



4 R1_GROSS AREA_UG
SCALE: 1" = 80'-0"



1 R1_GROSS AREA_B2
SCALE: 1" = 80'-0"

BLOCK 3 (R1) PARKING BY LEVEL	
LEVEL	COUNT
R1_LOWER GROUND	101
R1_LEVEL B1	140
R1_LEVEL B2	140
TOTAL	381

BLOCK 3 (R1) PARKING BY USE/TYPE	
TYPE	COUNT
RESI	
8'-6" x 18'-0"_STANDARD	217
9'-0" x 18'-0"_EV	149
9'-0" x 18'-0"_EV + HANDICAP	3
9'-0" x 18'-0"_EV + HANDICAP VAN	4
9'-0" x 18'-0"_HANDICAP	5
9'-0" x 18'-0"_VAN	3
	381
TOTAL	381

BLOCK 3 (R1) BIKE PARKING	
USE	COUNT
RESIDENTIAL (R1)	51

BLOCK 3 (R1) UNIT COUNT	
LEVEL	COUNT
R1_LEVEL 5	50
R1_LEVEL 4	53
R1_LEVEL 3	53
R1_LEVEL 2	53
R1_UPPER GROUND	41
TOTAL	250

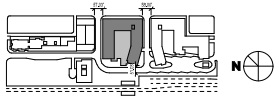
BLOCK 3 (R1) UNIT MIX		
UNIT TYPE	COUNT	AVERAGE AREA
1B	124	<varies>
2B	49	1,131 SF
3B	8	1,249 SF
ST	69	605 SF
TOTAL	250	

BLOCK 3 (R1) GROSS FLOOR AREA		
LEVEL	PROGRAM	AREA
RETAIL		
R1_LOWER GROUND	RETAIL	14,947 SF
R1_UPPER GROUND	RETAIL	1,443 SF
		16,390 SF
RESIDENTIAL		
R1_LEVEL B2	RESIDENTIAL	5,251 SF
R1_LEVEL B1	RESIDENTIAL	3,184 SF
R1_LOWER GROUND	RESIDENTIAL	8,563 SF
R1_UPPER GROUND	RESIDENTIAL	46,142 SF
R1_LEVEL 2	RESIDENTIAL	50,500 SF
R1_LEVEL 3	RESIDENTIAL	50,535 SF
R1_LEVEL 4	RESIDENTIAL	50,552 SF
R1_LEVEL 5	RESIDENTIAL	48,884 SF
R1_ROOF	RESIDENTIAL	518 SF
		264,130 SF
TOTAL		280,520 SF

BLOCK 3 (R1) PARKING AREA		
LEVEL	PROGRAM	AREA
PARKING		
R1_LEVEL B2	PARKING	57,857 SF
R1_LEVEL B1	PARKING	58,246 SF
R1_LOWER GROUND	PARKING	55,731 SF
TOTAL		171,834 SF

BLOCK 3 (R1) OPEN SPACE ABOVE GRADE	
LEVEL	AREA
PRIVATE OPEN SPACE (R1)	
R1_LEVEL 5	5,526 SF
R1_LEVEL 4	5,772 SF
R1_LEVEL 3	5,714 SF
R1_LEVEL 2	4,805 SF
R1_UPPER GROUND	2,371 SF
	24,188 SF
COMMON OPEN SPACE (R1)	
R1_ROOF	3,092 SF
R1_LEVEL 5	1,863 SF
R1_UPPER GROUND	16,152 SF
	21,107 SF
TOTAL	45,296 SF

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

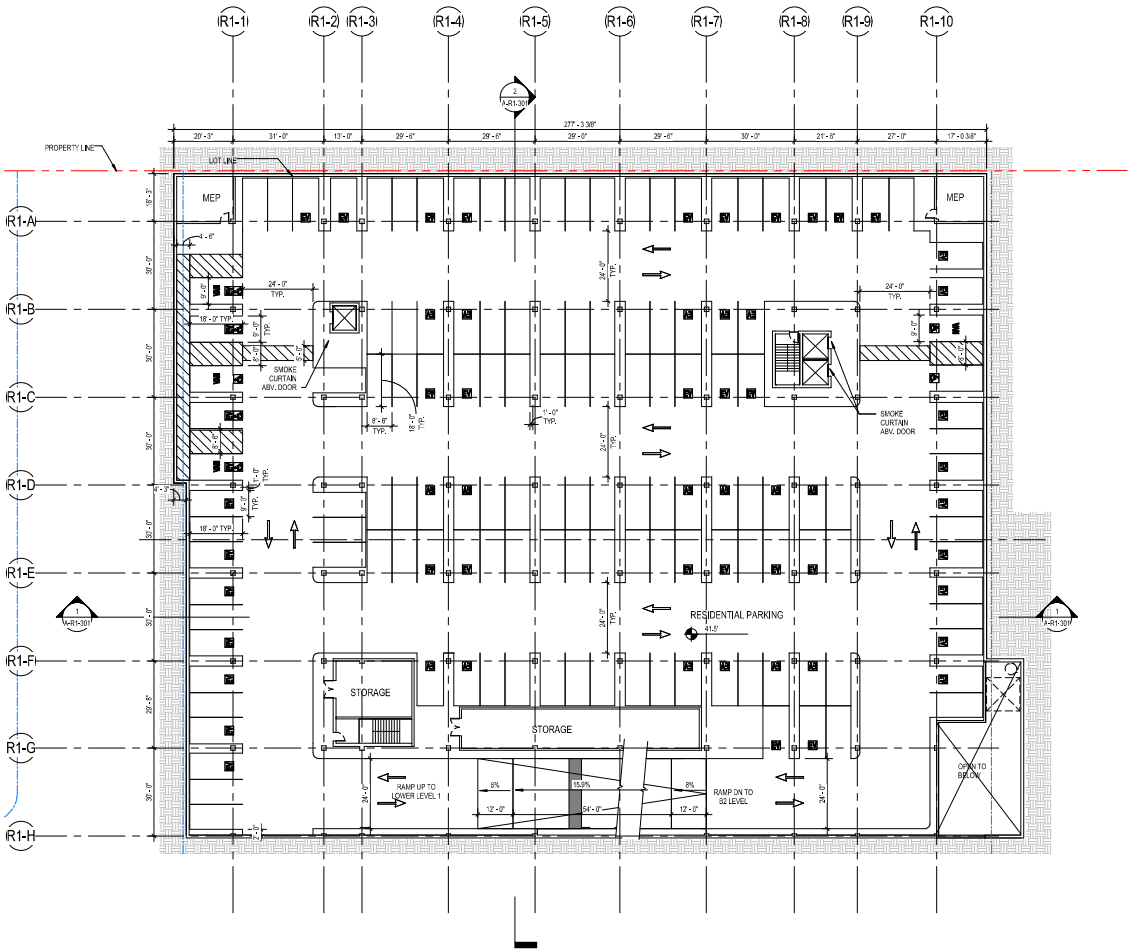
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

GROSS AREA PLANS

A-R1-001

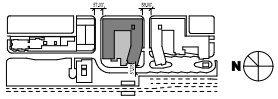
© 2025 Arcadis Inc.



1 R1 LEVEL B1 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

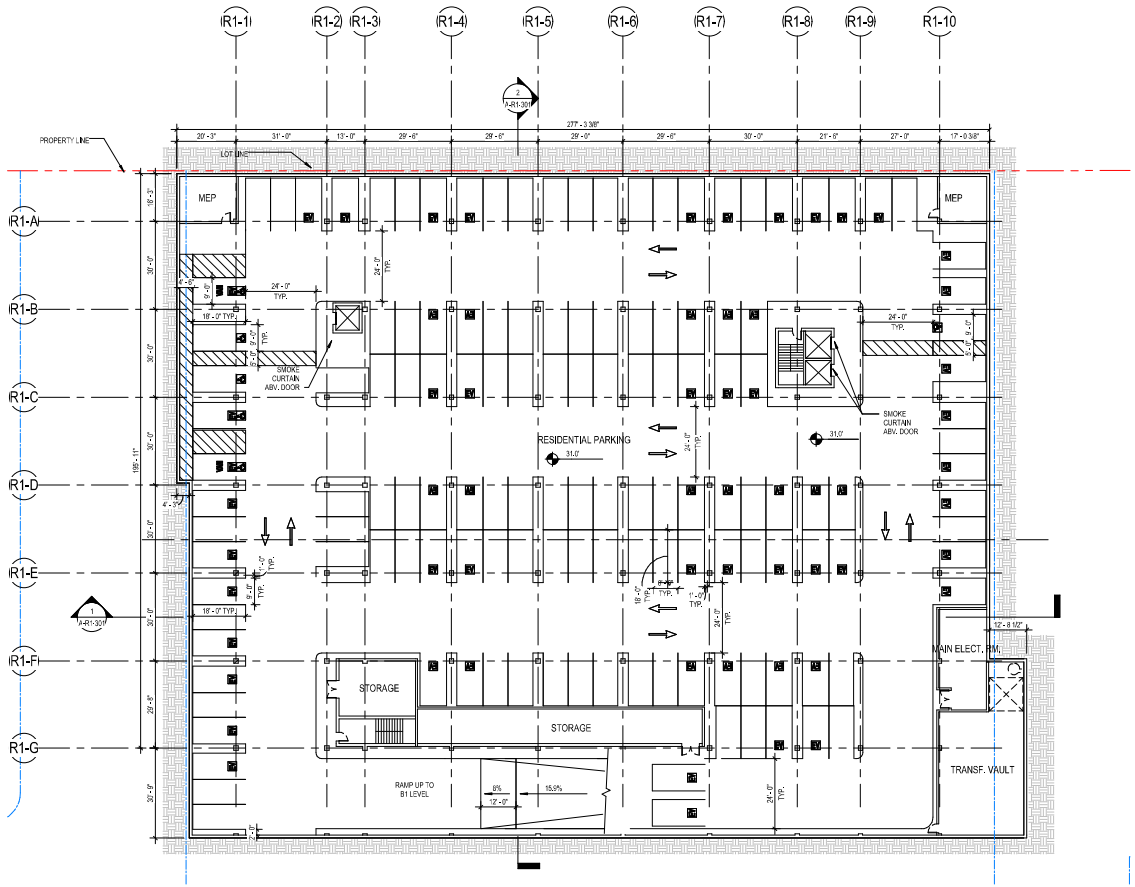
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 LEVEL B1 FLOOR PLAN

A-R1-1B1

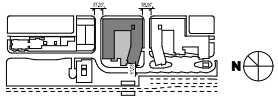
© 2025 Arcadis Inc.



1 R1 LEVEL B2 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

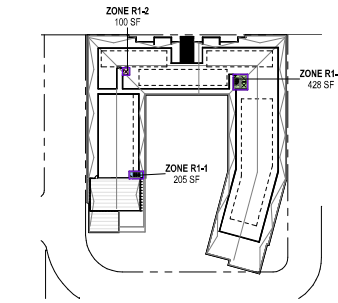
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

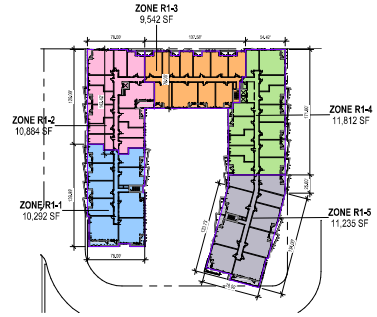
R1 LEVEL B2 FLOOR PLAN

A-R1-1B2

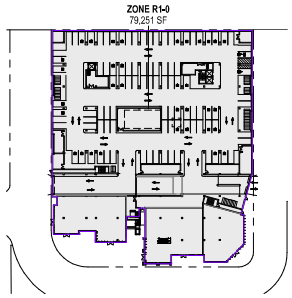
© 2025 Arcadis Inc.



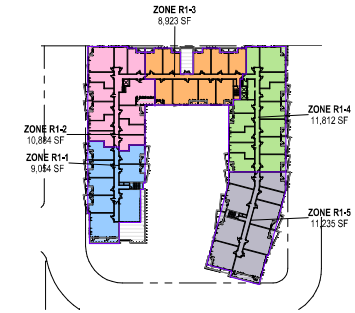
9 R1_FIRE COMP_RF
SCALE: 1" = 80'-0"



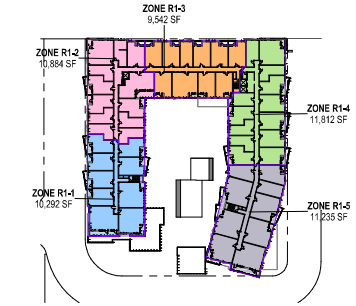
6 R1_FIRE COMP_L3
SCALE: 1" = 80'-0"



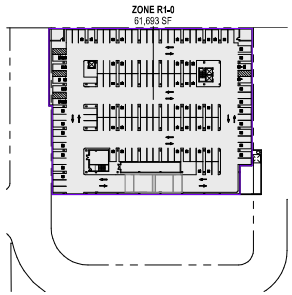
3 R1_FIRE COMP_LG
SCALE: 1" = 80'-0"



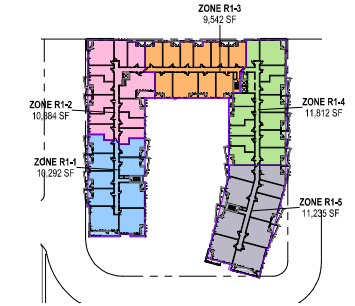
8 R1_FIRE COMP_L5
SCALE: 1" = 80'-0"



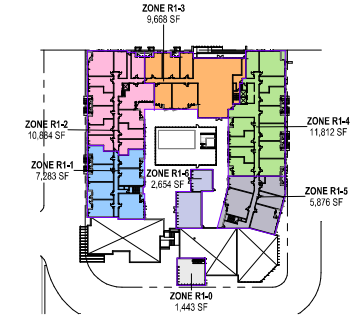
5 R1_FIRE COMP_L2
SCALE: 1" = 80'-0"



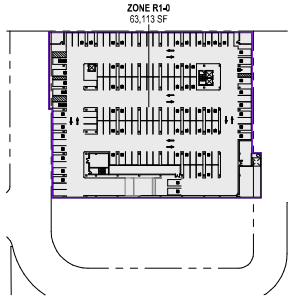
2 R1_FIRE COMP_B1
SCALE: 1" = 80'-0"



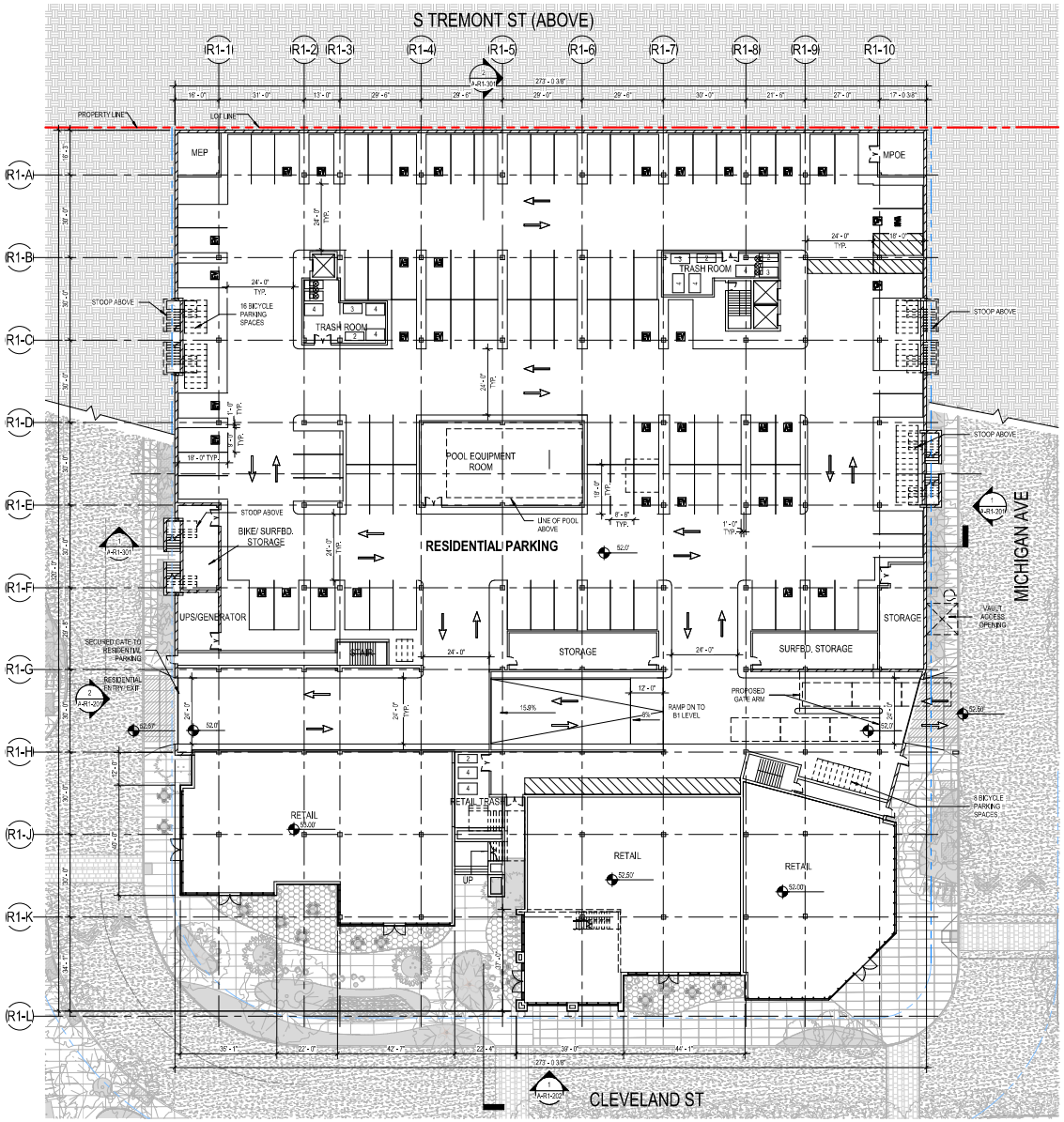
7 R1_FIRE COMP_L4
SCALE: 1" = 80'-0"



4 R1_FIRE COMP_UG
SCALE: 1" = 80'-0"



1 R1_FIRE COMP_B2
SCALE: 1" = 80'-0"

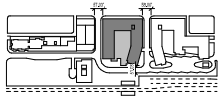


1 R1 LOWER GROUND FLOOR PLAN

SCALE: 1" = 20'-0"

BLOCK 3 (R1) PARKING BY USE/TYPE	
TYPE	COUNT
RESI	
8'-6" x 18'-0"_STANDARD	217
9'-0" x 18'-0"_EV	149
9'-0" x 18'-0"_EV + HANDICAP	3
9'-0" x 18'-0"_EV + HANDICAP VAN	4
9'-0" x 18'-0"_HANDICAP	5
9'-0" x 18'-0"_VAN	3
	381
TOTAL	381

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

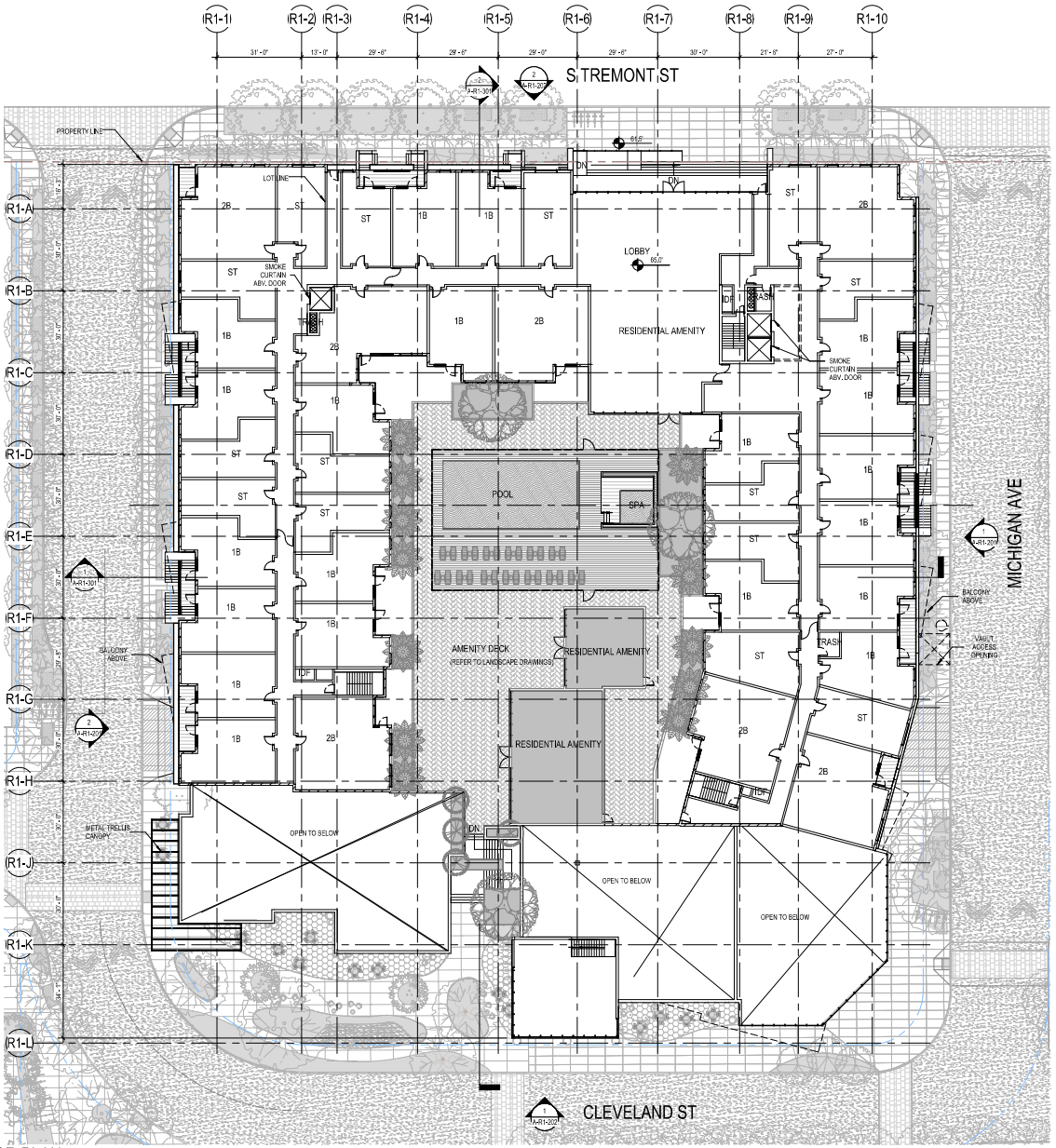
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 LOWER GROUND FLOOR PLAN

A-R1-101A

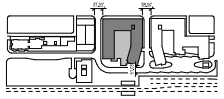
© 2025 Arcadis Inc.



1 R1 UPPER GROUND FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 UPPER GROUND FLOOR PLAN

A-R1-101B

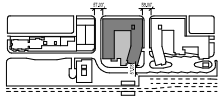
© 2025 Arcadis Inc.



1 R1 LEVEL 2 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

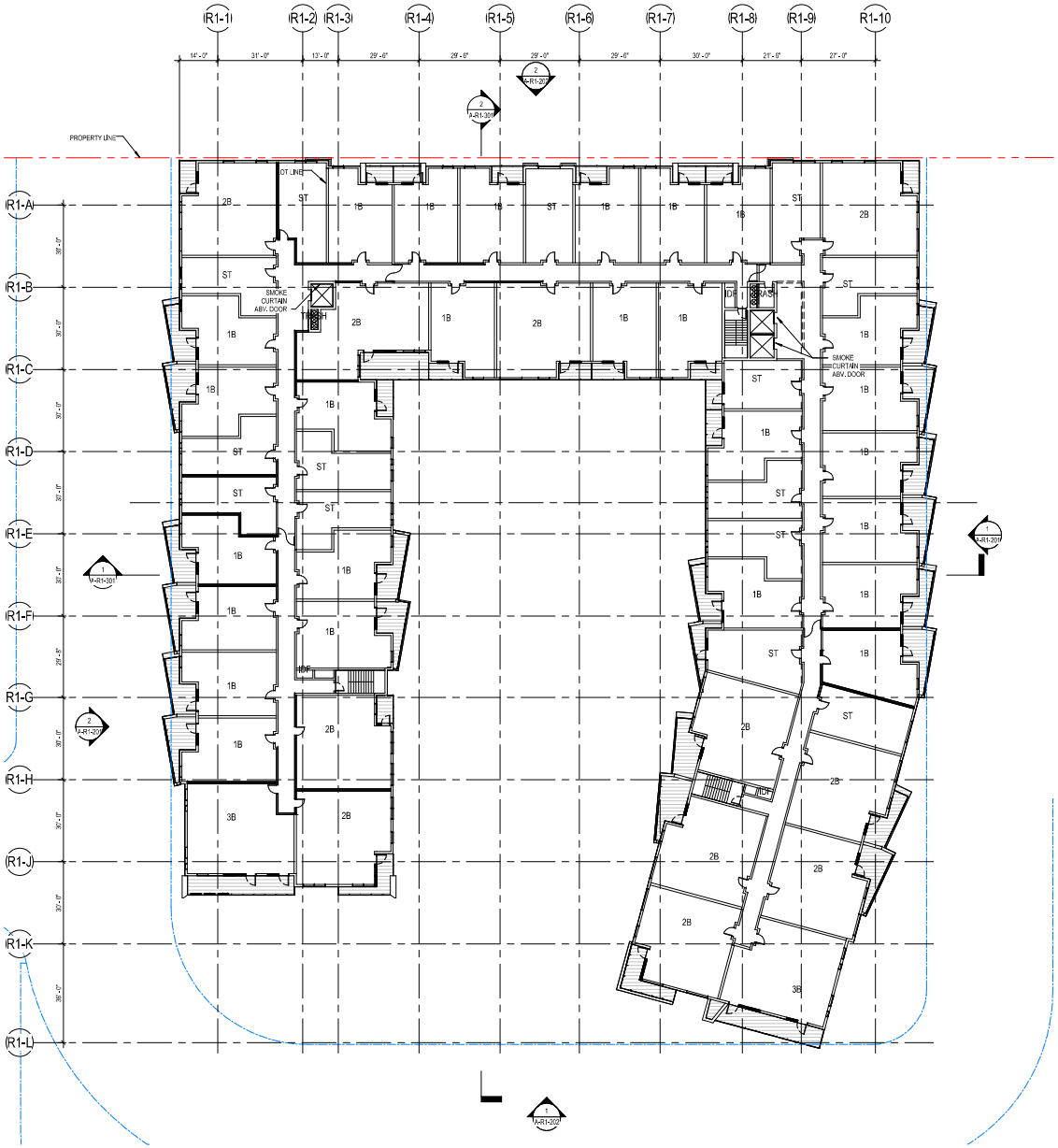
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 LEVEL 2 FLOOR PLAN

A-R1-102

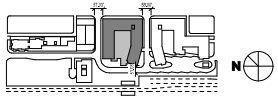
© 2025 Arcadis Inc.



1 R1 LEVEL 3 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

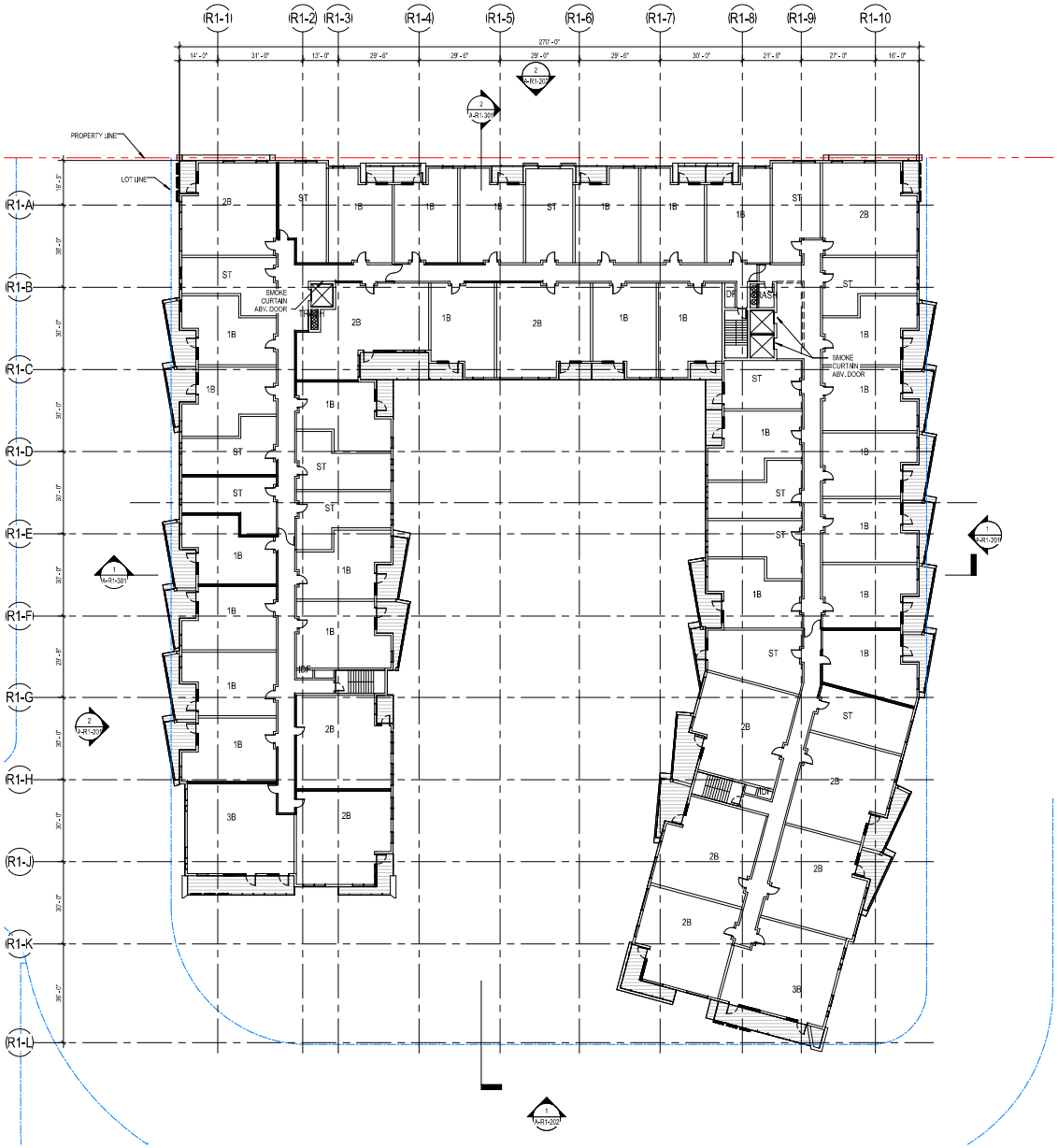
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 LEVEL 3 FLOOR PLAN

A-R1-103

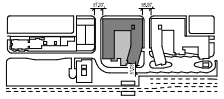
© 2025 Arcadis Inc.



1 R1 LEVEL 4 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



N

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

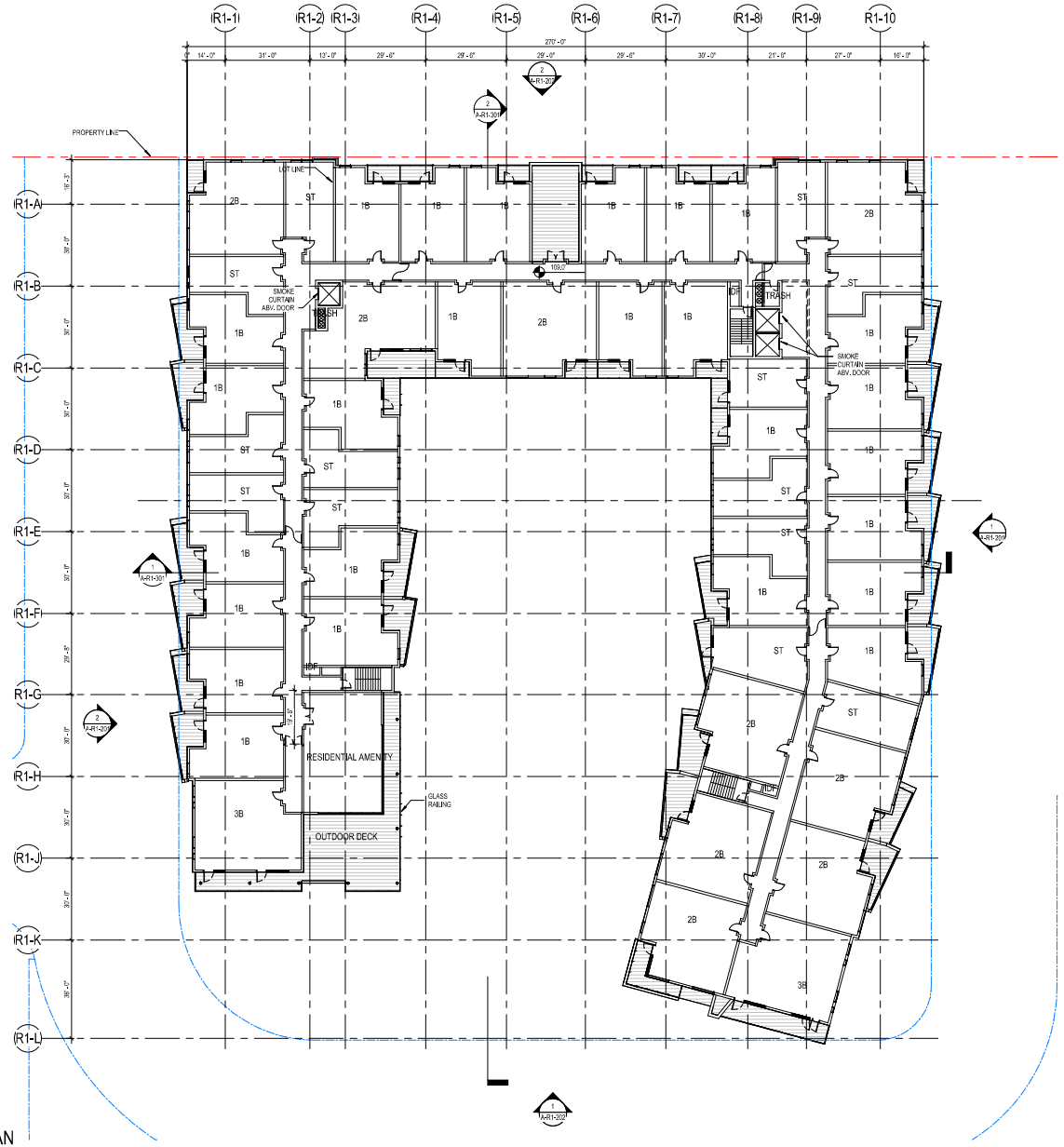
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 LEVEL 4 FLOOR PLAN

A-R1-104

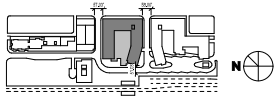
© 2025 Arcadis Inc.



1 R1 LEVEL 5 FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

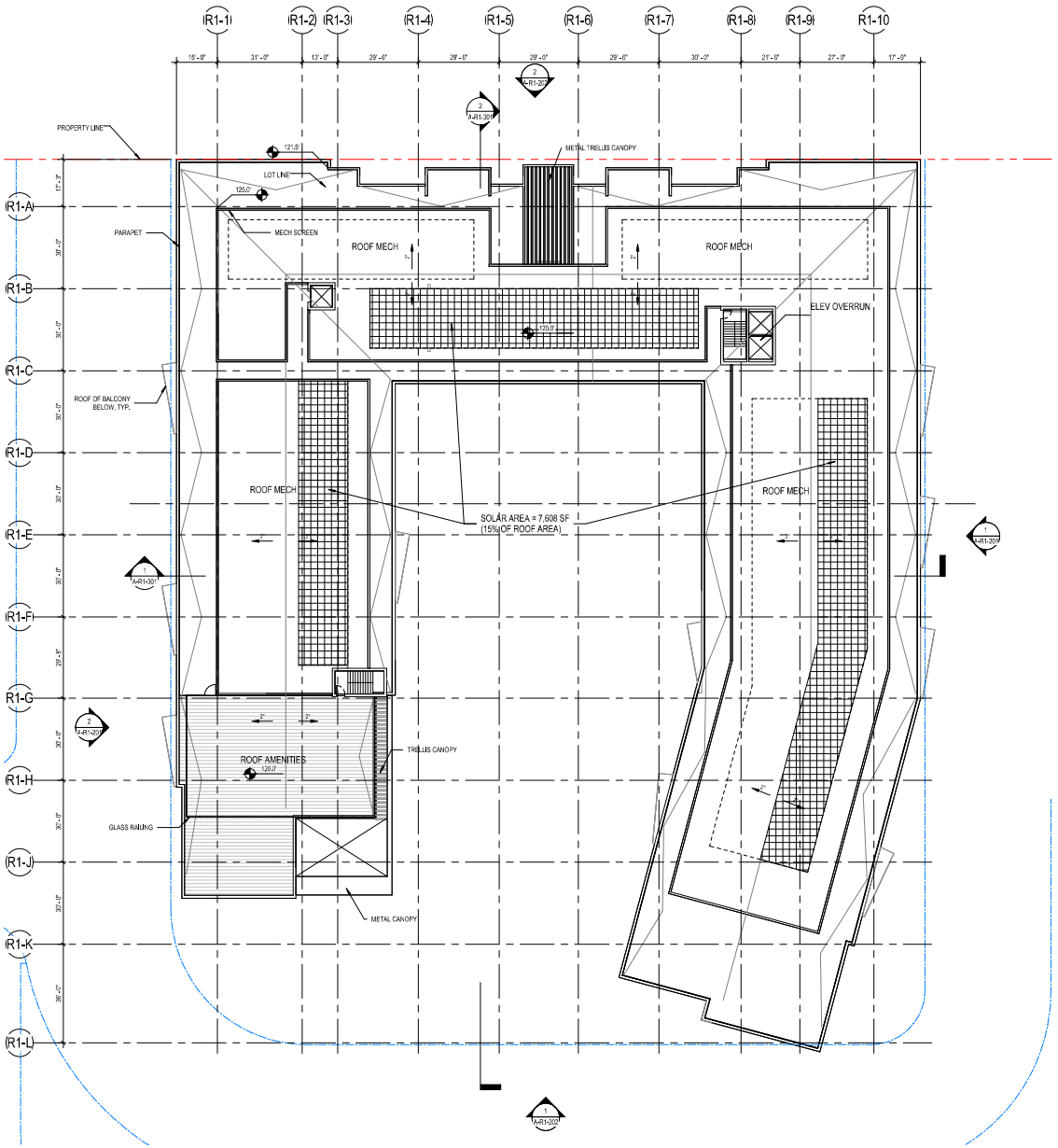
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 LEVEL 5 FLOOR PLAN

A-R1-105

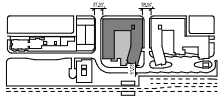
© 2025 Arcadis Inc.



1 R1 ROOF FLOOR PLAN

SCALE: 1" = 20'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 ROOF FLOOR PLAN

A-R1-106

© 2025 Arcadis Inc.

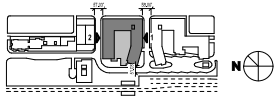


2 R1 NORTH ELEVATION
SCALE: 1/16" = 1'-0"



1 R1 SOUTH ELEVATION
SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 BUILDING ELEVATIONS

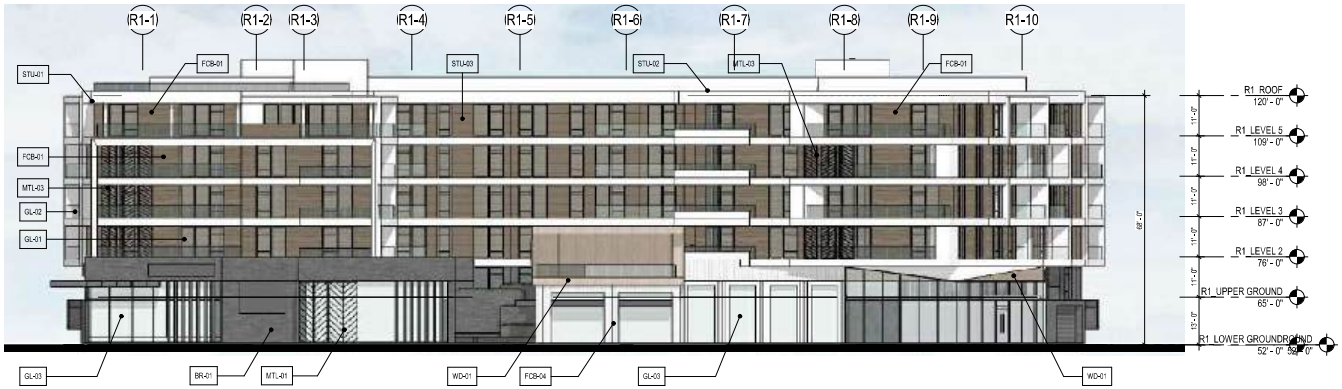
A-R1-201

© 2025 Arcadis Inc.



2 R1 EAST ELEVATION

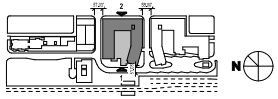
SCALE: 1/16" = 1'-0"



1 R1 WEST ELEVATION

SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R1 BUILDING ELEVATIONS

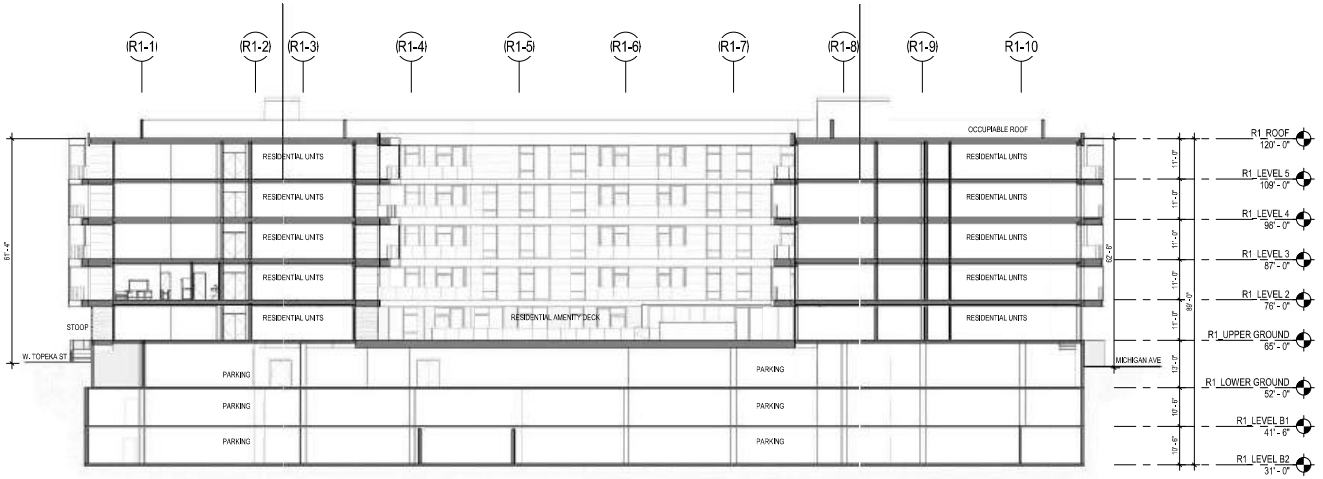
A-R1-202

© 2025 Arcadis Inc.



2 R1 SECTION E-W

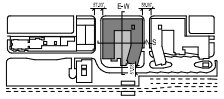
SCALE: 1/16" = 1'-0"



1 R1 SECTION N-S

SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

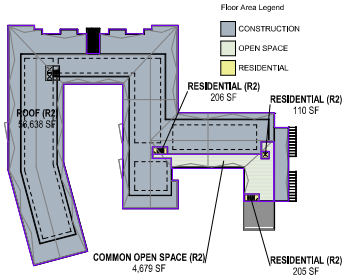
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

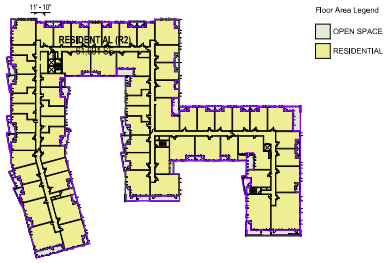
R1 BUILDING SECTIONS

A-R1-301

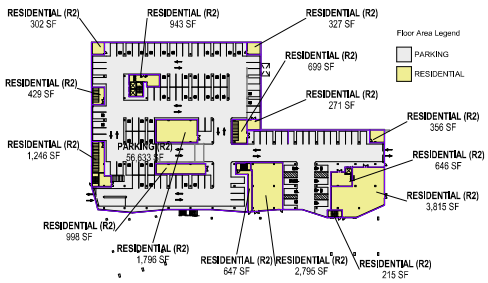
© 2025 Arcadis Inc.



9 R2_GROSS AREA_RF
SCALE: 1" = 80'-0"



6 R2_GROSS AREA_L3
SCALE: 1" = 80'-0"



3 R2_GROSS AREA_LG
SCALE: 1" = 80'-0"

BLOCK 4 (R2) PARKING BY LEVEL	
LEVEL	COUNT
R2_LOWER GROUND	110
R2_LEVEL B1	146
R2_LEVEL B2	153
TOTAL	409

BLOCK 4 (R2) PARKING BY USE/TYPE	
TYPE	COUNT
RESI	
8'-0" x 18'-0"_STANDARD	235
9'-0" x 18'-0"_EV	156
9'-0" x 18'-0"_EV + HANDICAP	2
9'-0" x 18'-0"_EV + HANDICAP VAN	5
9'-0" x 18'-0"_HANDICAP	7
9'-0" x 18'-0"_VAN	2
	406
TOTAL	409

BLOCK 4 (R2) BIKE PARKING BY USE	
USE	COUNT
RESIDENTIAL (R2)	51

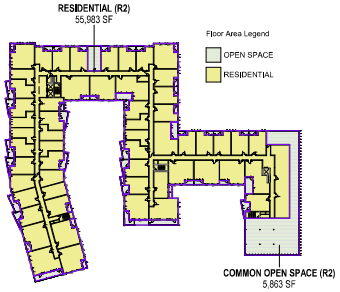
BLOCK 4 (R2) UNIT COUNT	
LEVEL	COUNT
R2_LEVEL 5	56
R2_LEVEL 4	63
R2_LEVEL 3	63
R2_LEVEL 2	63
R2_UPPER GROUND	52
TOTAL	297

BLOCK 4 (R2) UNIT MIX		
UNIT TYPE	COUNT	AVERAGE AREA
1B	155	<varies>
2B	76	1,010 SF
3B	10	1,478 SF
ST	56	<varies>
TOTAL	297	

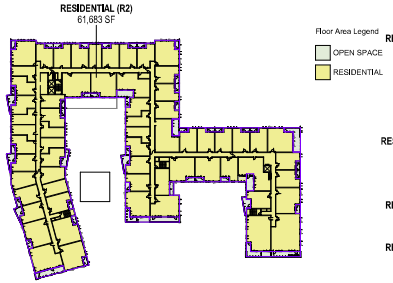
BLOCK 4 (R2) GROSS FLOOR AREA		
LEVEL	PROGRAM	AREA
RESIDENTIAL		
R2_LEVEL B2	RESIDENTIAL	6,457 SF
R2_LEVEL B1	RESIDENTIAL	5,088 SF
R2_LOWER GROUND	RESIDENTIAL	15,483 SF
R2_UPPER GROUND	RESIDENTIAL	55,803 SF
R2_LEVEL 2	RESIDENTIAL	61,683 SF
R2_LEVEL 3	RESIDENTIAL	61,891 SF
R2_LEVEL 4	RESIDENTIAL	61,677 SF
R2_LEVEL 5	RESIDENTIAL	55,983 SF
R2_ROOF	RESIDENTIAL	521 SF
		324,185 SF
TOTAL		324,185 SF

BLOCK 4 (R2) PARKING AREA		
LEVEL	PROGRAM	AREA
PARKING		
R2_LEVEL B2	PARKING	61,029 SF
R2_LEVEL B1	PARKING	60,739 SF
R2_LOWER GROUND	PARKING	56,633 SF
TOTAL		178,401 SF

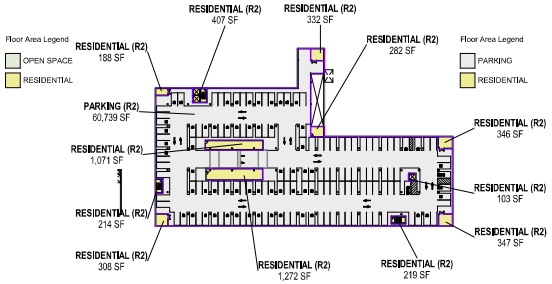
BLOCK 4 (R2) OPEN SPACE ABOVE GRADE	
LEVEL	AREA
PRIVATE OPEN SPACE (R2)	
R2_LEVEL 5	5,739 SF
R2_LEVEL 4	7,013 SF
R2_LEVEL 3	7,013 SF
R2_LEVEL 2	6,322 SF
R2_UPPER GROUND	2,087 SF
	28,175 SF
COMMON OPEN SPACE (R2)	
R2_ROOF	4,679 SF
R2_LEVEL 5	6,466 SF
R2_UPPER GROUND	16,006 SF
	27,151 SF
TOTAL	55,326 SF



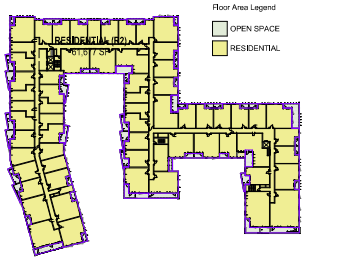
8 R2_GROSS AREA_L5
SCALE: 1" = 80'-0"



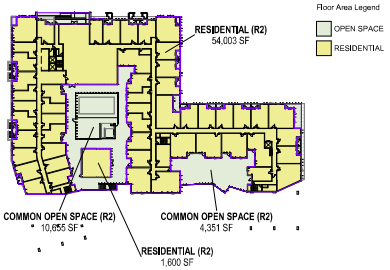
5 R2_GROSS AREA_L2
SCALE: 1" = 80'-0"



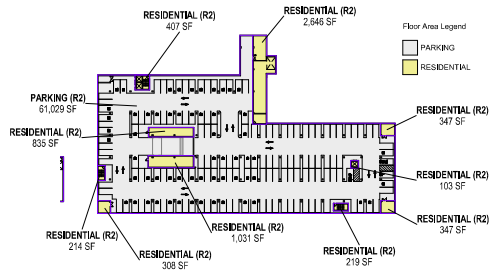
2 R2_GROSS AREA_B1
SCALE: 1" = 80'-0"



7 R2_GROSS AREA_L4
SCALE: 1" = 80'-0"

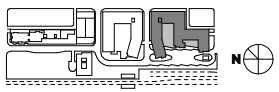


4 R2_GROSS AREA_UG
SCALE: 1" = 80'-0"



1 R2_GROSS AREA_B2
SCALE: 1" = 80'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

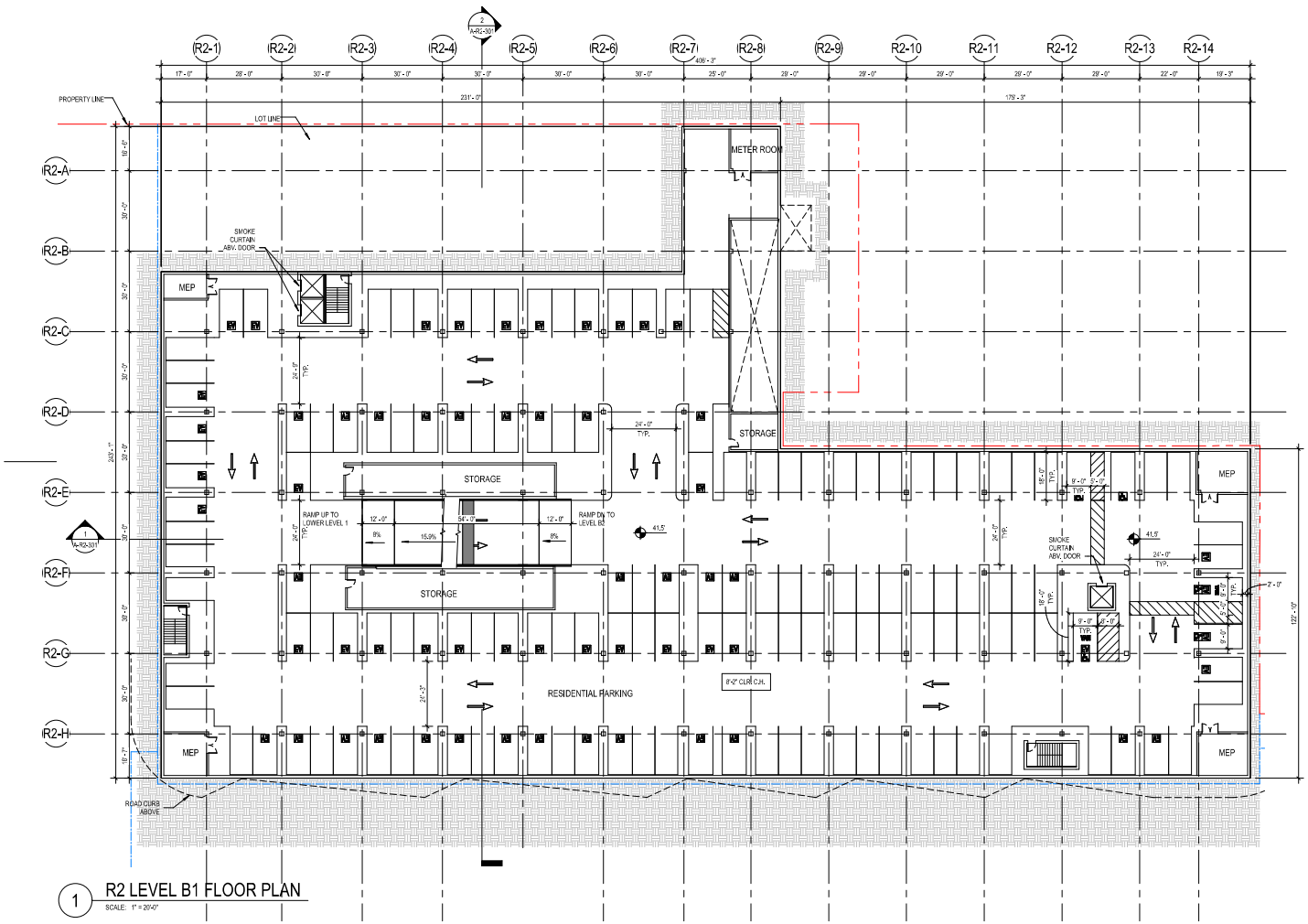
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

GROSS AREA PLANS

A-R2-001

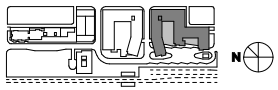
© 2025 Arcadis Inc.



1 R2 LEVEL B1 FLOOR PLAN
SCALE: 1" = 20'-0"

PARKING NOTES

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

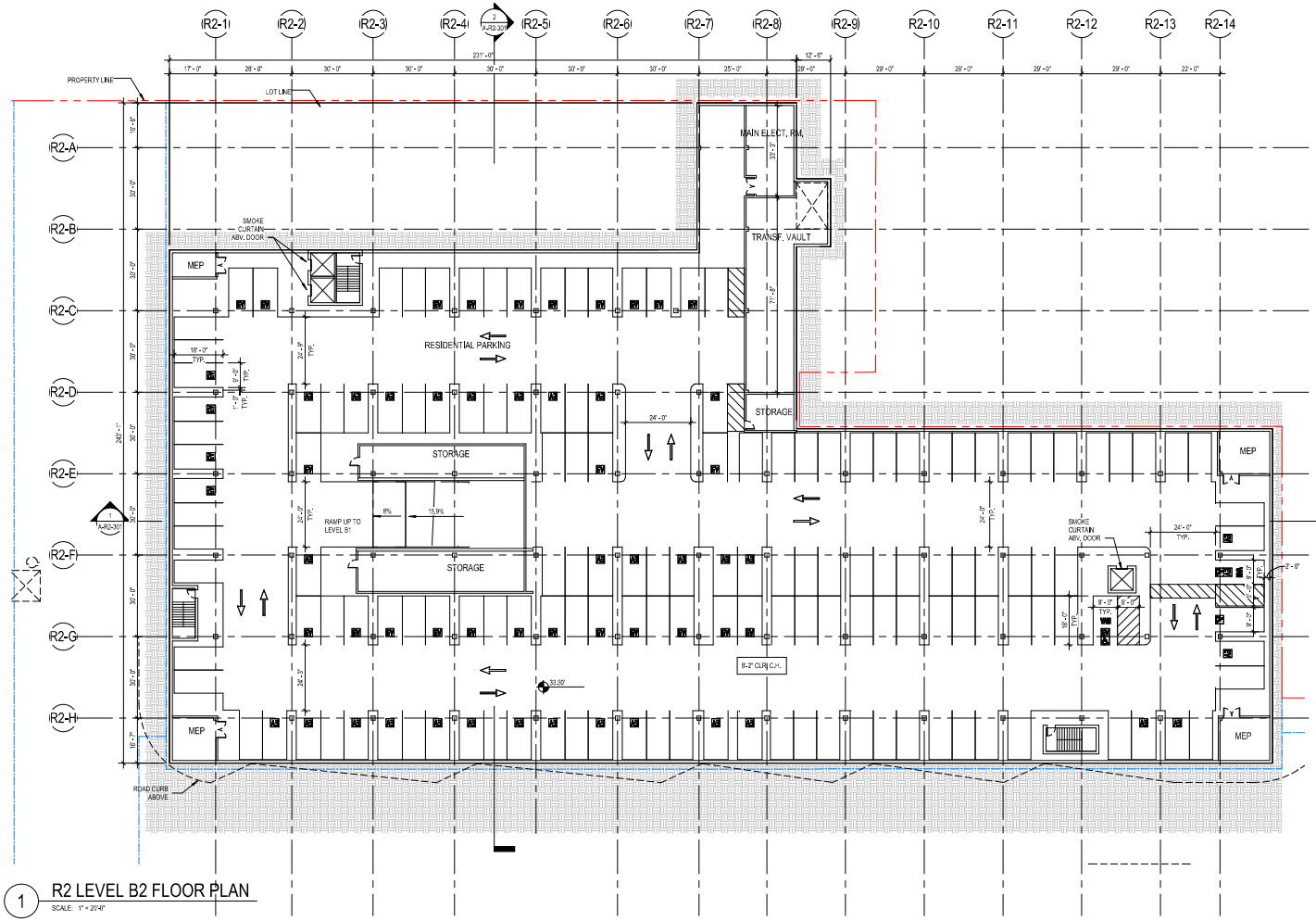
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 LEVEL B1 FLOOR PLAN

A-R2-1B1

© 2025 Arcadis Inc.

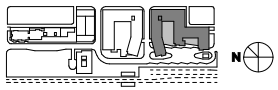


1 R2 LEVEL B2 FLOOR PLAN

SCALE: 1" = 20'-0"

PARKING NOTES

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

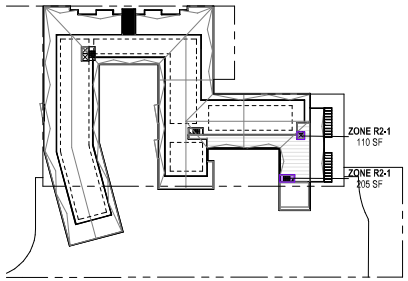
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

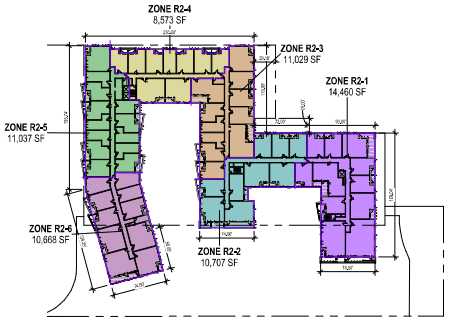
R2 LEVEL B2 FLOOR PLAN

A-R2-1B2

© 2025 Arcadis Inc.



9 R2_FIRE COMP_RF
SCALE: 1" = 80'-0"



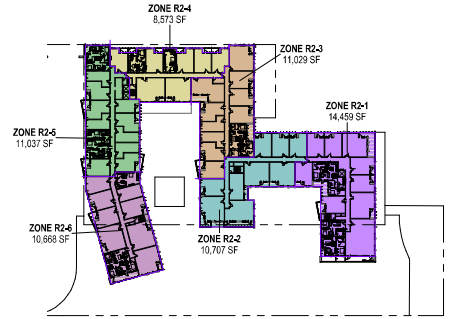
6 R2_FIRE COMP_L3
SCALE: 1" = 80'-0"



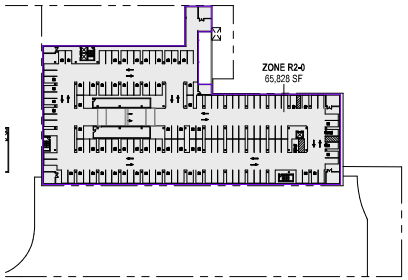
3 R2_FIRE COMP_LG
SCALE: 1" = 80'-0"



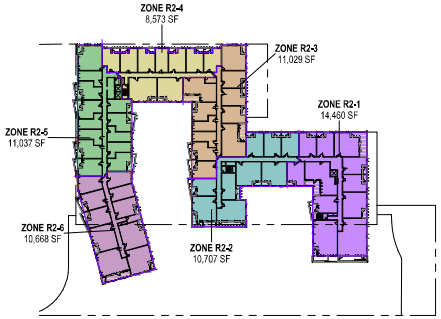
8 R2_FIRE COMP_L5
SCALE: 1" = 80'-0"



5 R2_FIRE COMP_L2
SCALE: 1" = 80'-0"



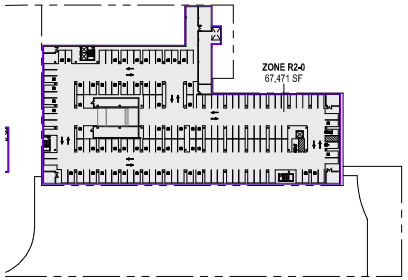
2 R2_FIRE COMP_B1
SCALE: 1" = 80'-0"



7 R2_FIRE COMP_L4
SCALE: 1" = 80'-0"

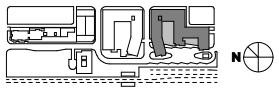


4 R2_FIRE COMP_UG
SCALE: 1" = 80'-0"



1 R2_FIRE COMP_B2
SCALE: 1" = 80'-0"

KEY PLAN



R-2 TOTAL AREA OF BUILDING BY ZONE (FIRE COMPARTMENT)

ZONE	OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION	AREA
TYPE IA			
ZONE R2-0			
R2_LOWER GROUND		TYPE IA	72,417 SF
R2_LEVEL B1		TYPE IA	65,828 SF
R2_LEVEL B2		TYPE IA	67,471 SF
			205,716 SF
TYPE IIIA			
ZONE R2-1			
R2_ROOF		TYPE IIIA	110 SF
R2_ROOF		TYPE IIIA	205 SF
R2_LEVEL 5		TYPE IIIA	8,670 SF
R2_LEVEL 4		TYPE IIIA	14,460 SF
R2_LEVEL 3		TYPE IIIA	14,460 SF
R2_LEVEL 2		TYPE IIIA	14,459 SF
R2_UPPER GROUND		TYPE IIIA	10,594 SF
			62,957 SF
ZONE R2-2			
R2_LEVEL 5		TYPE IIIA	10,707 SF
R2_LEVEL 4		TYPE IIIA	10,707 SF
R2_LEVEL 3		TYPE IIIA	10,707 SF
R2_LEVEL 2		TYPE IIIA	10,707 SF
R2_UPPER GROUND		TYPE IIIA	10,117 SF
			52,944 SF
ZONE R2-3			
R2_LEVEL 5		TYPE IIIA	11,029 SF
R2_LEVEL 4		TYPE IIIA	11,029 SF
R2_LEVEL 3		TYPE IIIA	11,029 SF
R2_LEVEL 2		TYPE IIIA	11,029 SF
R2_UPPER GROUND		TYPE IIIA	11,030 SF
			55,146 SF
ZONE R2-4			
R2_LEVEL 5		TYPE IIIA	7,989 SF
R2_LEVEL 4		TYPE IIIA	8,573 SF
R2_LEVEL 3		TYPE IIIA	8,573 SF
R2_LEVEL 2		TYPE IIIA	8,573 SF
R2_UPPER GROUND		TYPE IIIA	9,634 SF
			43,342 SF
ZONE R2-5			
R2_LEVEL 5		TYPE IIIA	11,037 SF
R2_LEVEL 4		TYPE IIIA	11,037 SF
R2_LEVEL 3		TYPE IIIA	11,037 SF
R2_LEVEL 2		TYPE IIIA	11,037 SF
R2_UPPER GROUND		TYPE IIIA	11,031 SF
			55,180 SF
ZONE R2-6			
R2_LEVEL 5		TYPE IIIA	10,668 SF
R2_LEVEL 4		TYPE IIIA	10,668 SF
R2_LEVEL 3		TYPE IIIA	10,668 SF
R2_LEVEL 2		TYPE IIIA	10,668 SF
R2_UPPER GROUND		TYPE IIIA	4,961 SF
			47,635 SF
ZONE R2-7			
R2_UPPER GROUND		TYPE IIIA	1,600 SF
			1,600 SF

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

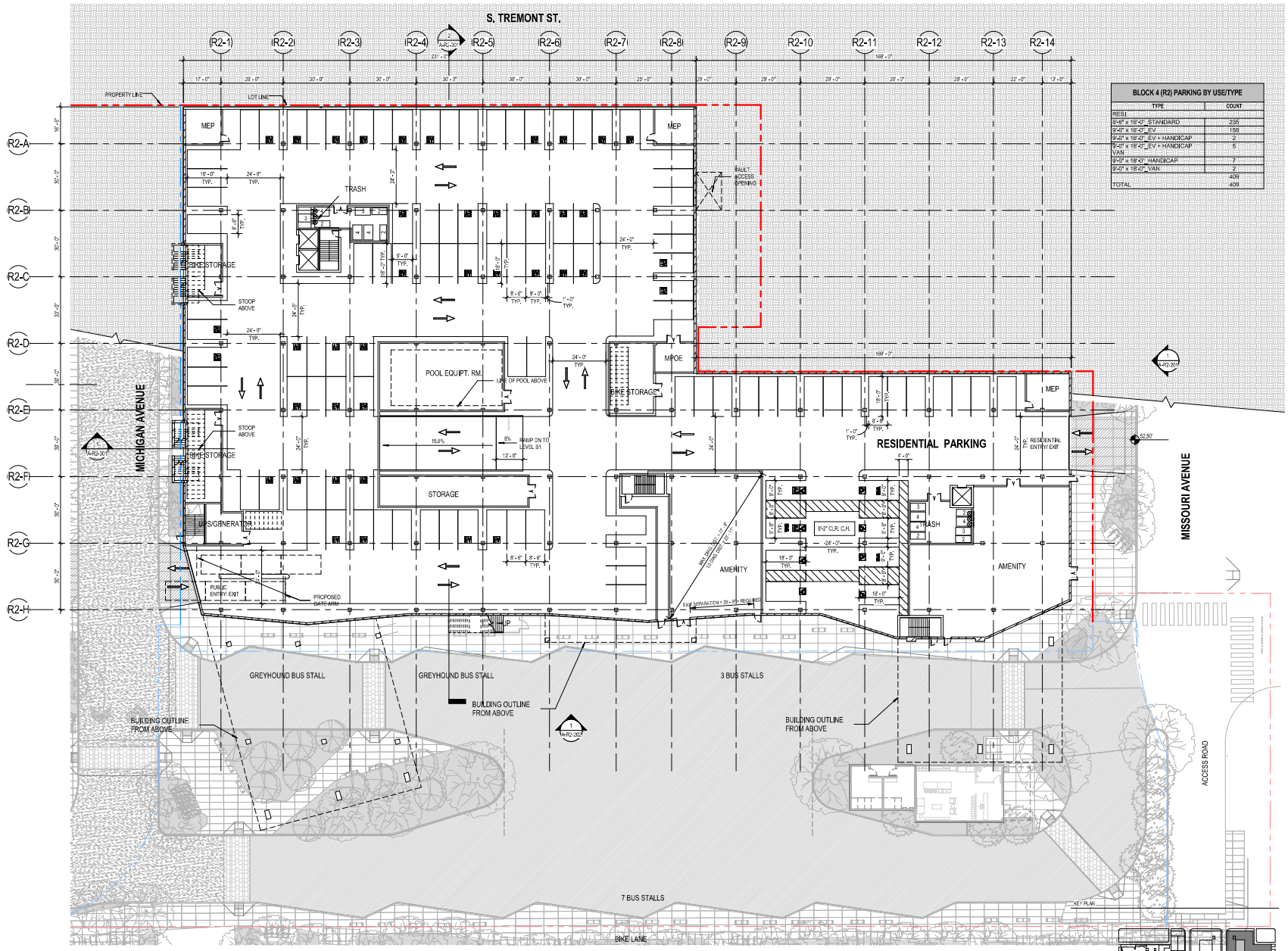
REV	DATE	DESCRIPTION
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

LIFE SAFETY PLANS

A-R2-002

© 2025 Arcadis Inc.



BLOCK 4 (R2) PARKING BY USE/TYPE	
TYPE	COUNT
RESI	
9'-0" x 18'-0" STANDARD	235
9'-0" x 18'-0" EV	158
9'-0" x 18'-0" EV + HANDICAP VAN	2
9'-0" x 18'-0" EV + HANDICAP	6
9'-0" x 18'-0" HANDICAP	7
9'-0" x 18'-0" VAN	2
	409
TOTAL	409

1 R2 LOWER GROUND FLOOR PLAN

SCALE: 1" = 20'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

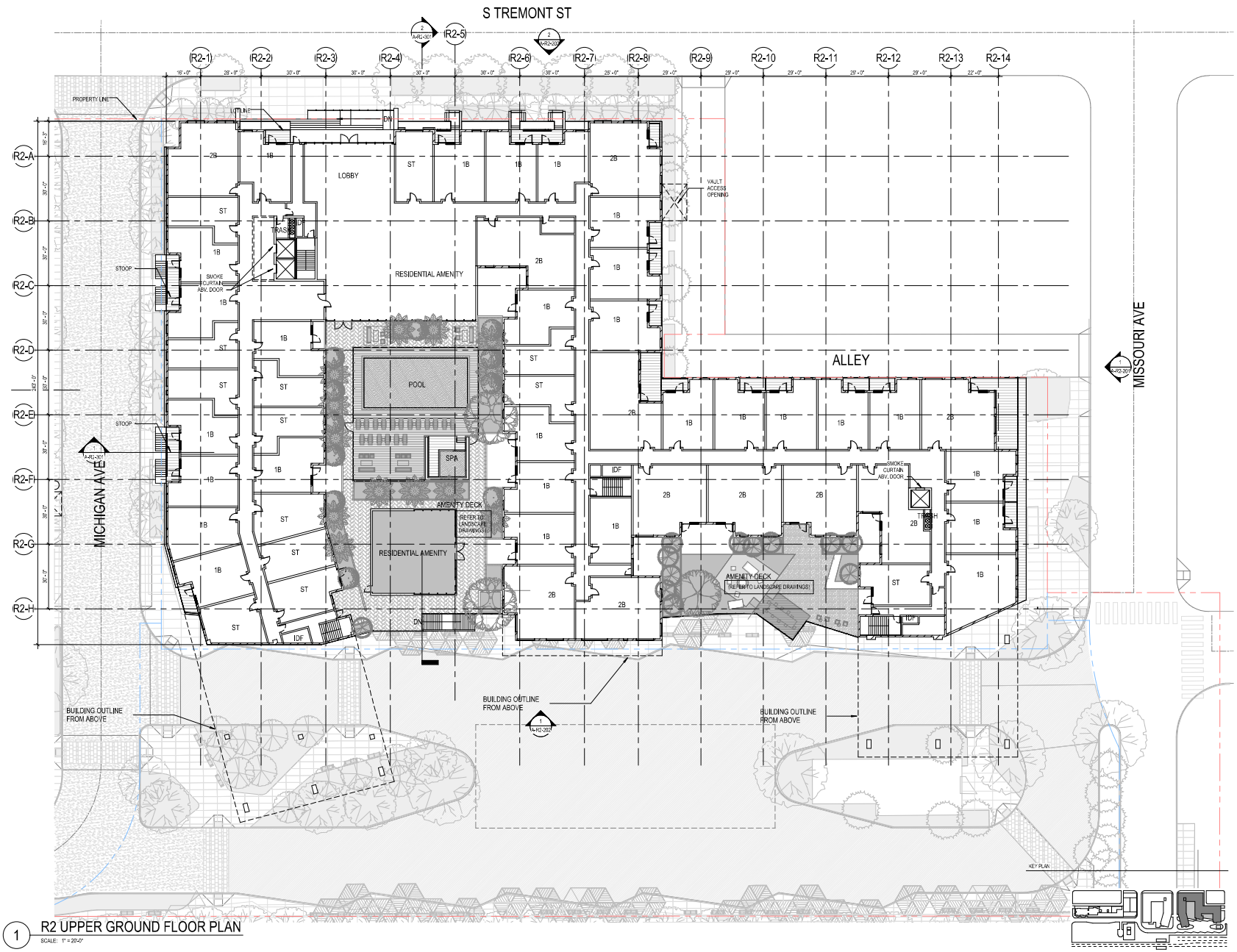
Project Status / Issue Reason

R2 LOWER GROUND FLOOR PLAN

A-R2-101A

Autodesk Docs://CRTKL-LA - Toll Brothers - OTC/A_CRTKL_OTC_ResidentialLvl 5/14/2025 11:27:47 AM

© 2025 Arcadis Inc.



1 R2 UPPER GROUND FLOOR PLAN

SCALE: 1" = 20'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

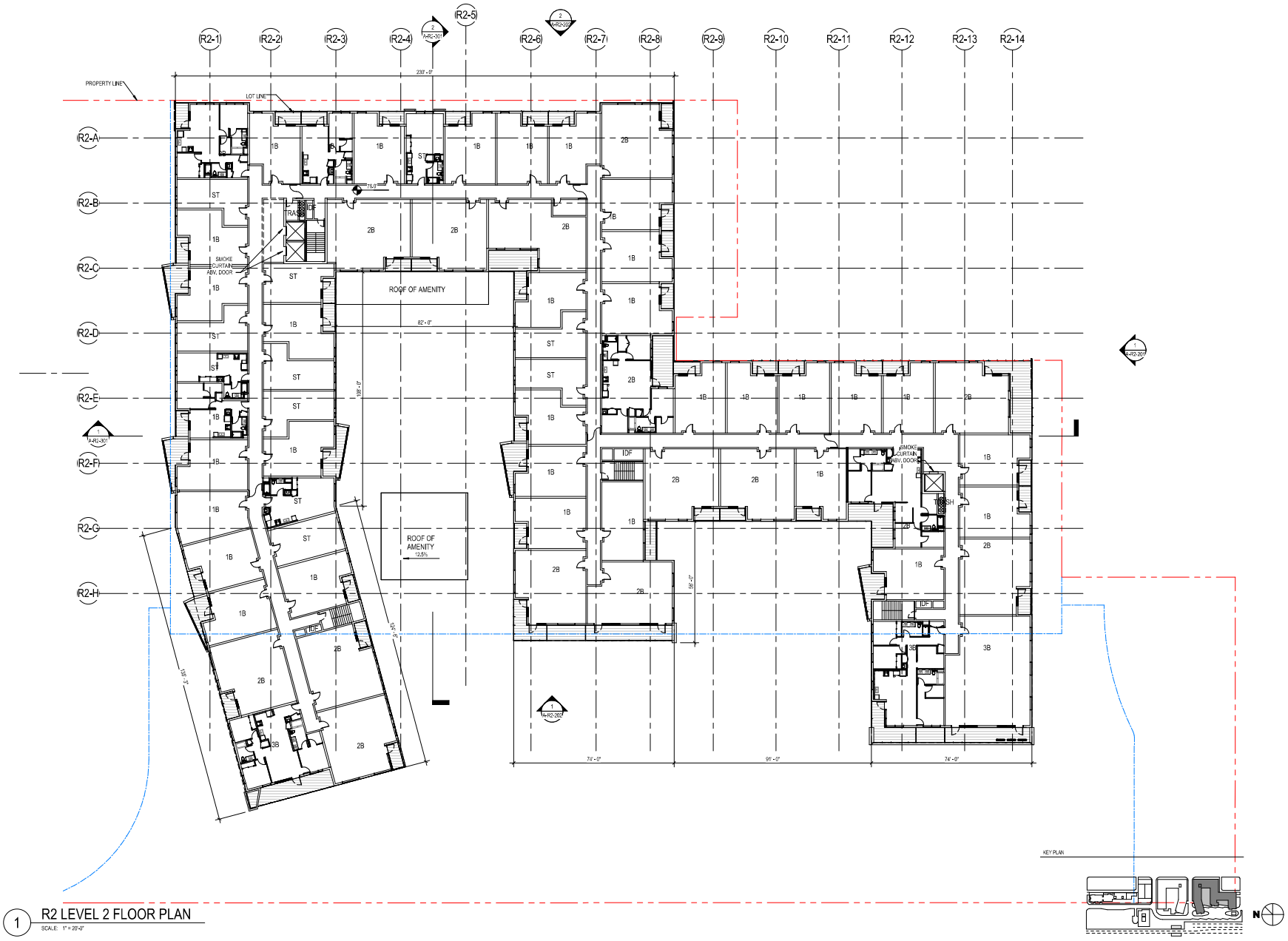
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 UPPER GROUND FLOOR PLAN

A-R2-101B

© 2025 Arcadis Inc.



1 R2 LEVEL 2 FLOOR PLAN

SCALE: 1" = 20'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

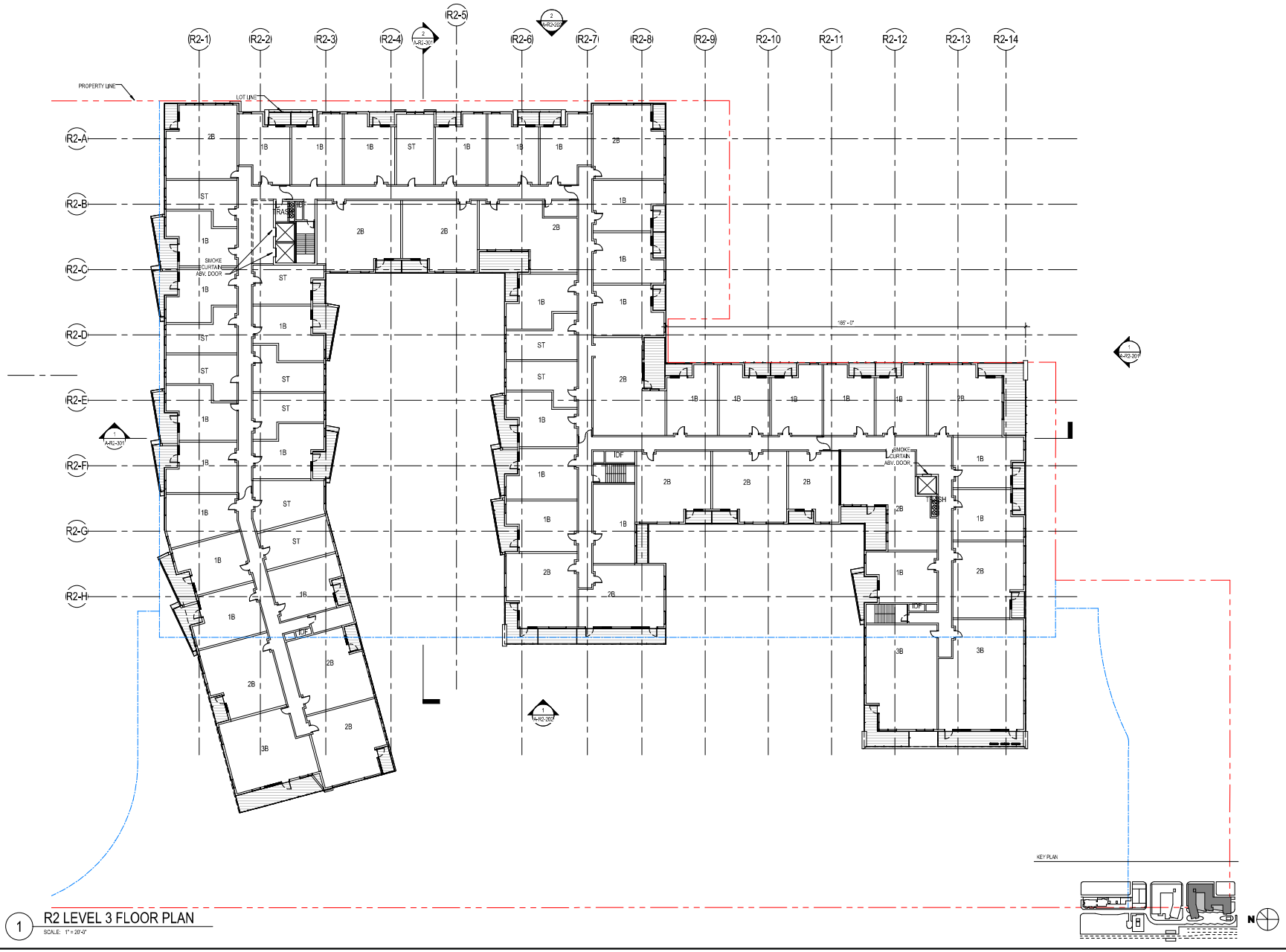
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 LEVEL 2 FLOOR PLAN

A-R2-102

© 2025 Arcadis Inc.



1 R2 LEVEL 3 FLOOR PLAN

SCALE: 1" = 20'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

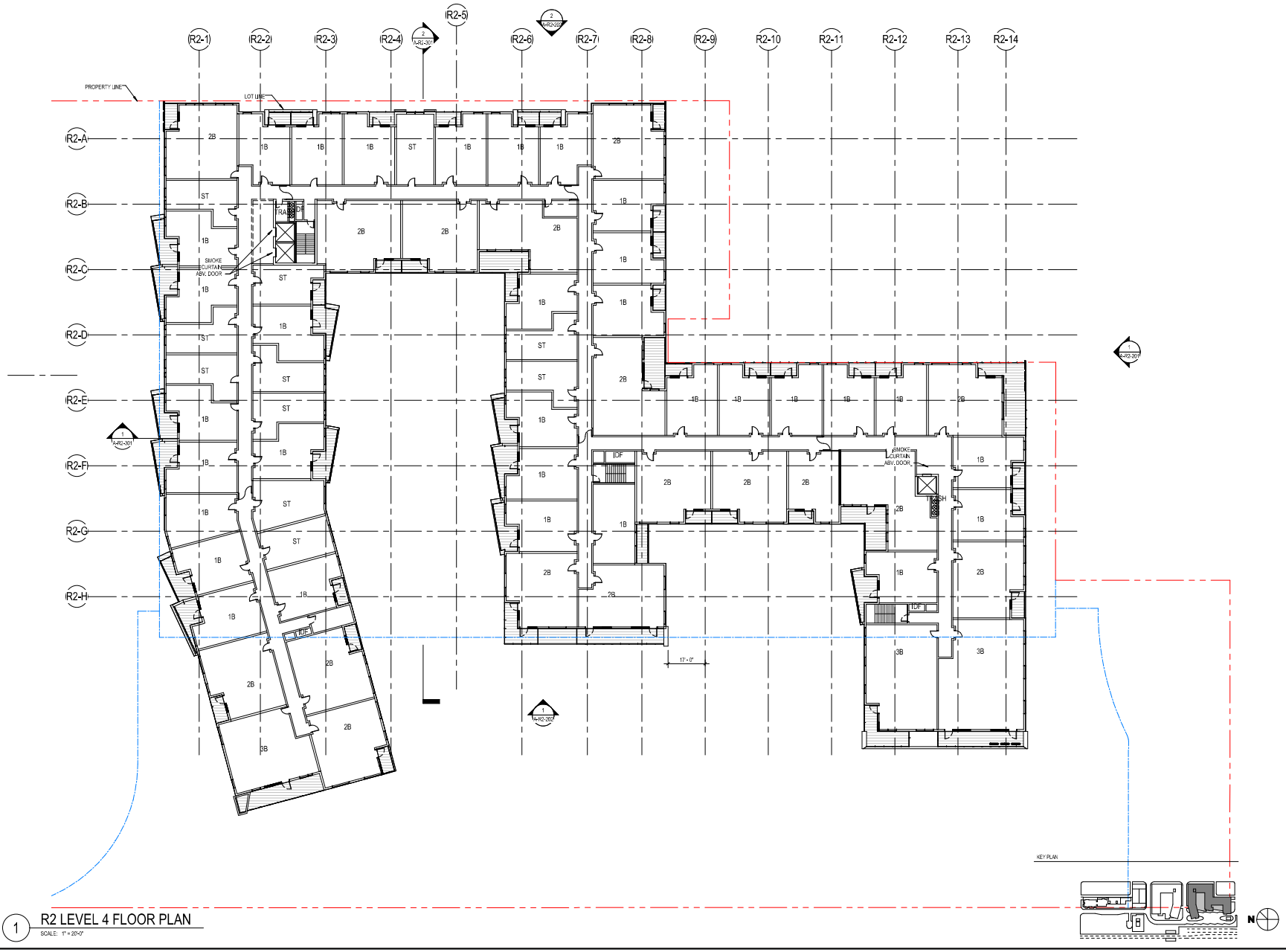
Project Status / Issue Reason

R2 LEVEL 3 FLOOR PLAN

A-R2-103

Autodesk Docs://CRTKL-LA - Toll Brothers - OTC/A_CRTKL_OTC_ResidentialLvl 5/14/2025 11:27:52 AM

© 2025 Arcadis Inc.



1 R2 LEVEL 4 FLOOR PLAN

SCALE: 1" = 20'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

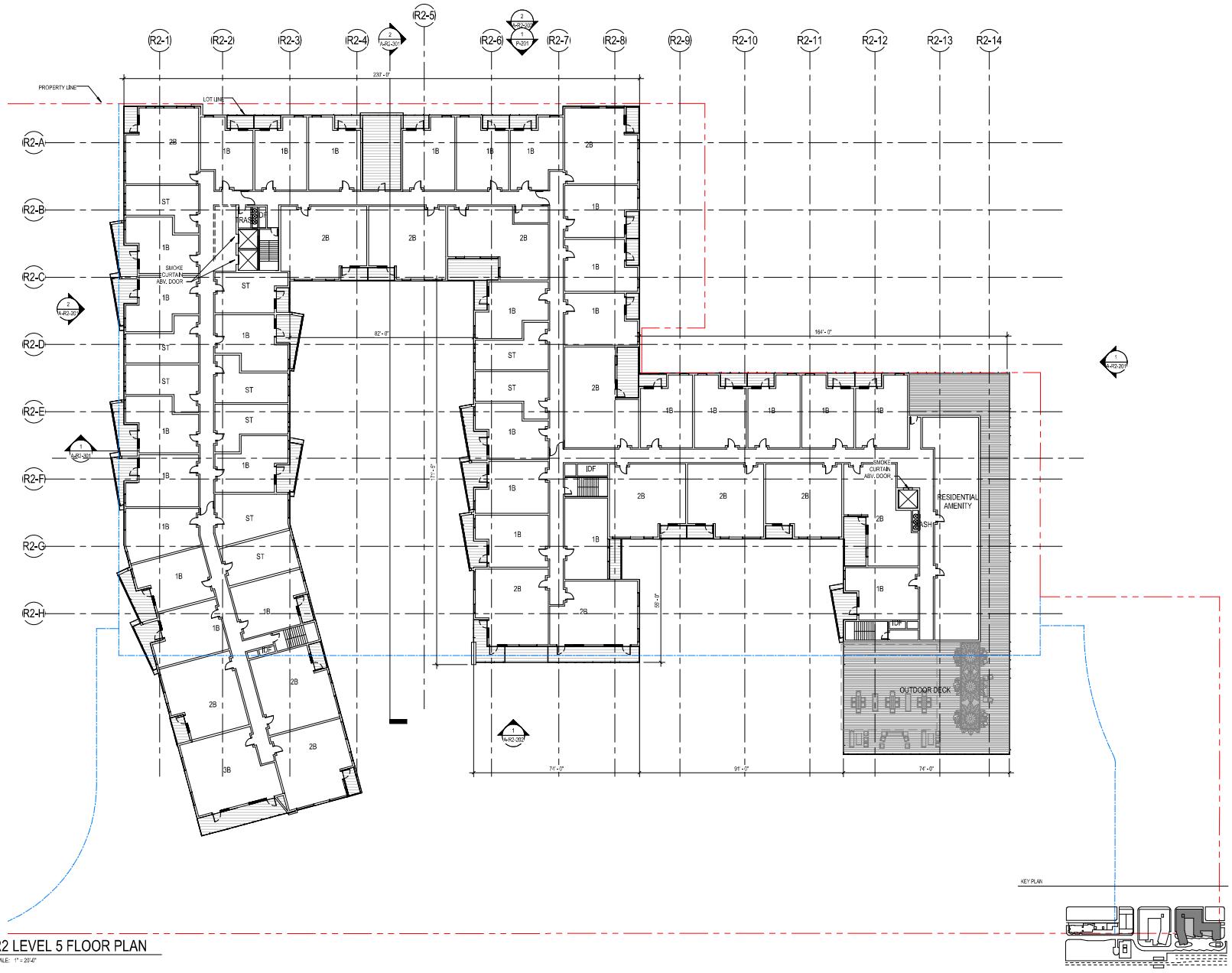
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 LEVEL 4 FLOOR PLAN

A-R2-104

Autodesk Docs://CRTKL-LA - Toll Brothers - OTC/A_CRTKL_OTC_ResidentialLvl 5/14/2025 11:27:54 AM © 2025 Arcadis Inc.



1 R2 LEVEL 5 FLOOR PLAN

SCALE: 1" = 20'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

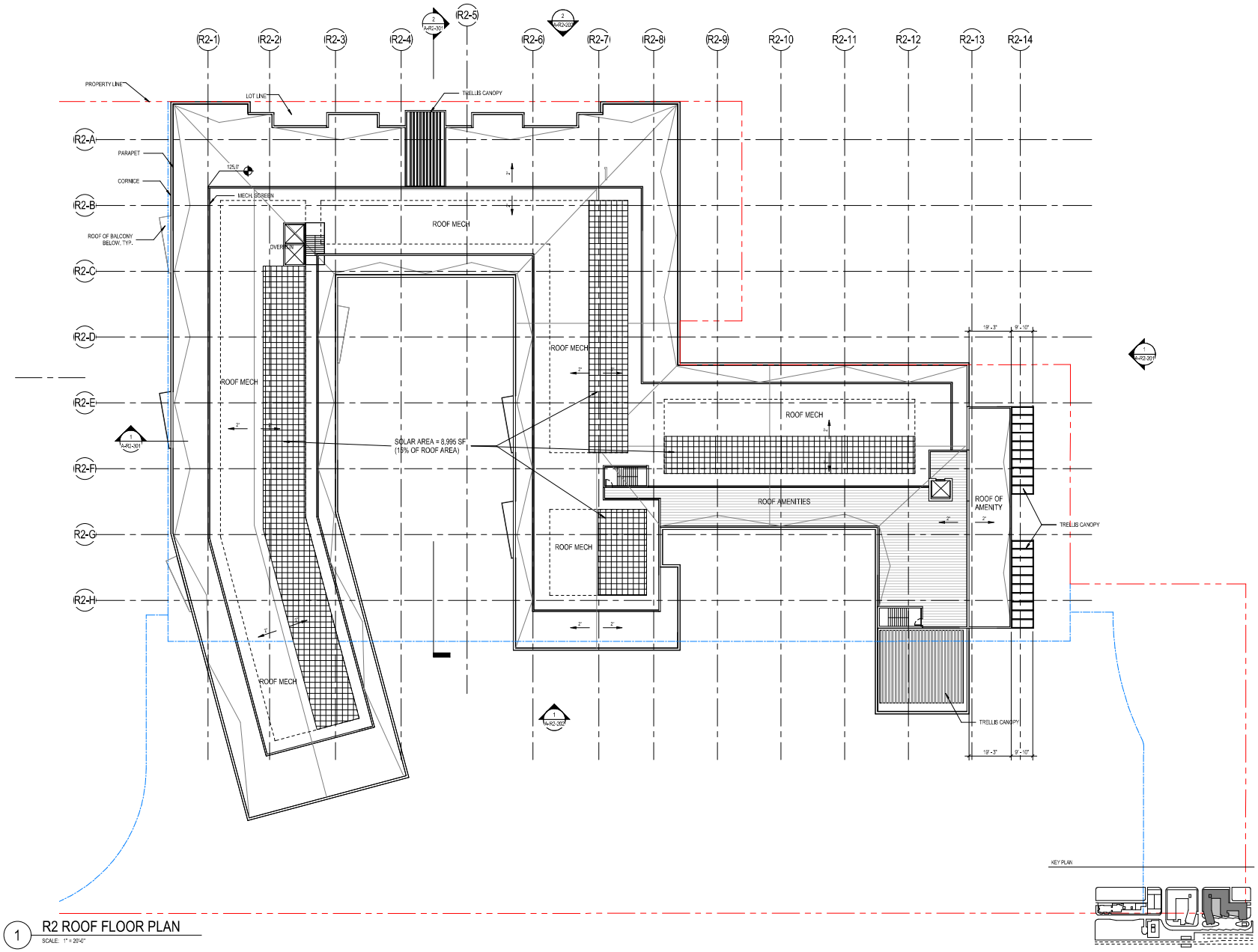
REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 LEVEL 5 FLOOR PLAN

A-R2-105

© 2025 Arcadis Inc.



1 R2 ROOF FLOOR PLAN

SCALE: 1" = 20'-0"

ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER

Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 ROOF FLOOR PLAN

A-R2-106

Autodesk Docs://CRTKL-LA - Toll Brothers - OTC/A_CRTKL_OTC_ResidentialLvl 5/14/2025 11:27:56 AM © 2025 Arcadis Inc.



2 R2 NORTH ELEVATION

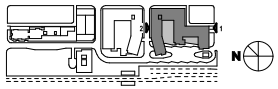
SCALE: 1/16" = 1'-0"



1 R2 SOUTH ELEVATION

SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 BUILDING ELEVATIONS

A-R2-201

© 2025 Arcadis Inc.



2 R2 EAST ELEVATION

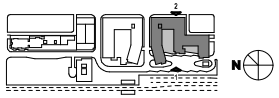
SCALE: 1/16" = 1'-0"



1 R2 WEST ELEVATION

SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8155

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-09-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 BUILDING ELEVATIONS

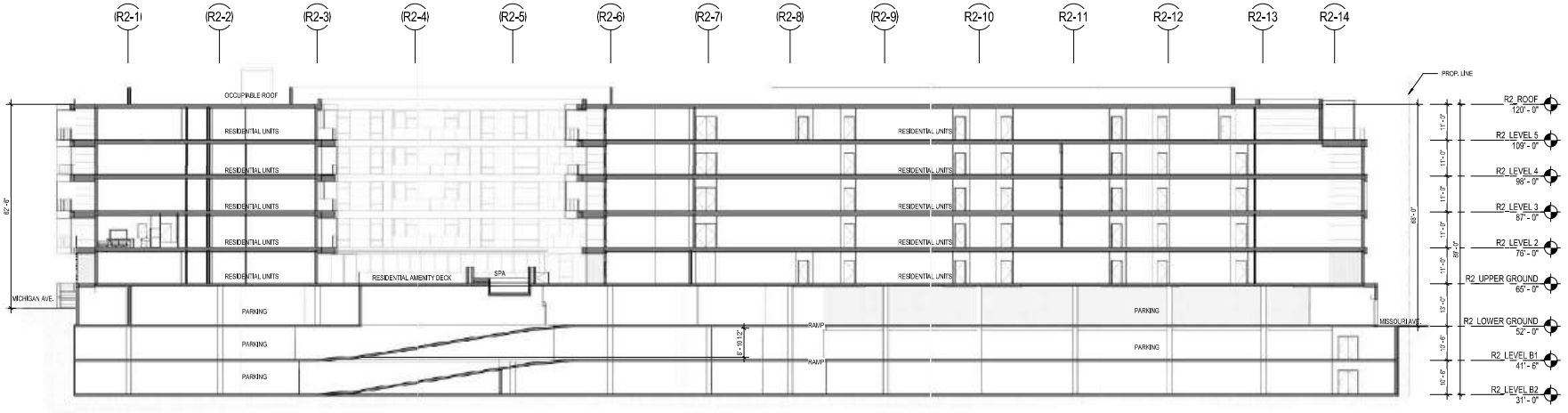
A-R2-202

© 2025 Arcadis Inc.



2 R2 SECTION E-W

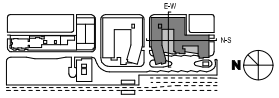
SCALE: 1/16" = 1'-0"



1 R2 SECTION N-S

SCALE: 1/16" = 1'-0"

KEY PLAN



ARCADIS

OCEANSIDE TRANSIT CENTER

235 South Tremont Avenue
Oceanside, CA 92054

OWNER
Toll Brothers Apartment Living
23422 Mill Creek Drive
Suite 105
Laguna Hills, CA 92653
CONTACT - Michael McCann
PHONE - (949) 370-8105

Disclaimer

Signature & Seal

NOT FOR CONSTRUCTION

Issue Drawing Log

REV	DATE	DESCRIPTION
1	08-26-22	DP SUBMITTAL
2	02-13-23	DP RESUBMITTAL 1
3	10-26-23	DP RESUBMITTAL 2
5	5/14/25	DP SUBMITTAL 7

Project Status / Issue Reason

R2 BUILDING SECTIONS

A-R2-301

Autodesk Docs://CRTKL-LA - Toll Brothers - OTC/A_CRTKL_OTC_ResidentialLvl 5/14/2025 11:28:01 AM © 2025 Arcadis Inc.

MEMORANDUM

DATE: June 23, 2025

TO: Planning Commission

FROM: Rob Dmohowski, Development Services Department

SUBJECT: **OTC Redevelopment Project. – GPA22-00002**

Due to size, attachment 4.04 Attachment 4 – “Final Environmental Impact Report” has not been included in the packet. To view this document electronically, please go to:

https://www.ci.oceanside.ca.us/government/development-services/planning/ceqa/oceanside-transit-center-eir

4.05 ATTACHMENT 5

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

City Council Policy 300-14 Enhanced Notification and Community Outreach Report for Oceanside Transit Center Redevelopment

Addendum

In accordance with City Council Enhanced Notification Policy 300-14, the required public outreach report for the redevelopment of the Oceanside Transit Center (OTC) was submitted in October 2023. The outreach report was accepted, and a letter of completeness was issued by the city of Oceanside.

Since then, outreach has been on-going. While the original report provided a summary of the feedback we received, copies of all exhibits, and comprehensive responses to the key areas of interest, this addendum report is intended to summarize the community engagement that has taken place since submission (October 2023 – May 2025). A complete timeline is included as Exhibit A.

Supplemental Public Engagement and Education since submission of Outreach Report





Public Meeting 7: February 1, 2024

The seventh public outreach meeting was held virtually. The project team provided an update on the project status and shared the updated Station Plaza design. Project architects led attendees in an interactive workshop so their feedback could be incorporated into the ultimate design for the customer service building, gateway signage and tower. Meeting materials are posted to the project website.

Public Meeting 8: May 22, 2025

This meeting was held in partnership with Strong Towns Oceanside and Ride San Diego. Roughly 50 attendees (pictured left) arrived at Green Cheek Beer Co. on Coast Highway to learn more about NCTD's strategic approach to TOD and proposed improvements for operational efficiency at OTC. Meeting materials are posted to the project website.

Stakeholder Meetings and Presentations

- 2/26/24 – Oceanside Bike and Pedestrian Committee presentation
- 4/23/24 – Oceanside Coastal Neighbors Association presentation
- 5/22/24 – Oceanside Coastal Neighbors Association + City Staff
- 6/6/24 - Oceanside Chamber Emerging Issues Forum: NCTD Operations presentation
- 8/6/24 – Visit Oceanside (Leslee Gaul)
- 9/11/24 – Mainstreet Oceanside (Gumaro Escarcega)
- 11/19/24 – Oceanside Coastal Neighbors Association presentation
- 12/5/24 – Circulate San Diego (Jeremy Bloom)
- 12/5/24 – Oceanside Bike and Pedestrian Committee (Tom Lichterman)
- 12/6/24 – Mainstreet Oceanside board member
- 1/8/25 – Rob Howard, Oceanside Clean Energy Alliance
- 1/2/25 – Preserve Calavera, Sierra Club, Buena Vista Audubon Society

- 1/14/25 – San Diego North Economic Development Council board presentation
- 1/15/25 – Visit Oceanside (Leslee Gaul)
- 1/18/25 – Oceanside Democratic Club presentation
- 1/27/25 – SDSU Transportation Services presentation
- 1/29/25 – YIMBY Dems
- 3/5/25 – CSU San Marcos Transportation Services
- 5/16/25 – Strong Towns Oceanside, Ride SD + Build SD site visit

Additionally, Oceanside Transit Center was awarded a 2024 Momentum Award from Circulate San Diego. NCTD was honored at the November 15th event for its approach to transit-oriented development in the region and in Oceanside specifically and was celebrated by regional transit and housing advocates and elected officials.

Community Responsive Planning

As a result of these meetings, presentations and on-going collaboration with local and regional transit, housing and environmental advocates, the following benefits and enhancements were added to the project:

- The project will exceed Cal Green and be 100% electric!
- The required Transportation Demand Management Plan (TDM) was expanded beyond the requirements to include residential and retail uses, and TDM measures will be implemented on Day 1 of project occupancy.
- Residents and retail employees will receive free PRONTO cards to encourage transit use.
- The proposed tower in the Station Plaza will be designed through a public RFP process with public input any coordination with local arts groups.
- A Community Room was added to Cleveland Street to be managed by the City of Oceanside and available for public use.
- A revised parking plan that includes a modified unbundling program for residents has been established following requests from local environmentalists.
- Project updates existing municipal stormwater system through provision of onsite and offsite public infrastructure which will increase the capacity of the municipal stormwater system. System updates will improve the existing condition by reducing flooding during rain events.
- 119 public bike parking spaces were added to the Station Plaza (this is in addition to the required number of bike spaces for residential, office, hotel, and retail uses). Public bike parking includes a mix of short- and long-term parking options.
- In response to requests for improved placemaking and a "Grand Central Station" feel, the Station Plaza redesign is more conducive to social gathering opportunities and lends itself to programming or activation by local non-profits. Project renderings have been updated to depict these enhancements (figures 1-3 below).
- The midblock crosswalk has been increased to prioritize pedestrians and create better connectivity (figure 4 below).

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY



Figure 1. Station Plaza, looking north.
Station Plaza provides a park-like environment for residents and transit riders, alike.



Figure 2. Station Plaza, looking east.

View from existing pedestrian tunnel

The proposed Plaza Tower is 60 feet tall and visible from the beach. It will be designed through a public process and is envisioned to be an iconic project feature.



Figure 3. Cleveland at Topeka, looking south

Retail options, widened sidewalks and coastal landscaping create Grand Central Station – Oceanside Style!



Figure 4. Cleveland at Michigan, looking north

The Station Plaza is the heart of the reimagined Oceanside Transit Center. The open design and wayfinding will be punctuated with public art. Improved pedestrian connectivity will make getting around safer and more efficient.

Exhibit A – Outreach and Engagement
Entitlement Timeline (Aug. 2022 – May 2025)

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

2022

- 8/15/22 Launch of Project Info Website (www.osidetransit.com)
- 8/26/22 Introductory Letter to Community
- 8/29/22 Oceanside Coastal Neighborhood Association (Lane Stewart)
- 8/29/22 Oceanside Chamber (Scott Ashton)
- **9/15/22 Public Meeting #1 - Community Open House**
- 9/22/22 Alex Foster (neighbor)
- 10/12/22 Oceanside Arts Commission
- 11/3/22 Kevin Ham (neighbor)
- 11/9/22 Oceanside Downtown Advisory Council
- 11/9/22 North County EDC intro (Erik Bruvold)
- 11/28/22 SANDAG (Marisa Mangan, Thomas DeFranco)
- 12/6/22 Mainstreet Oceanside
- 12/7/22 Tom Lichterman, Mike Bullock, Tom Frankum
- 12/7/22 Tim Pirkey (B-Cycle)
- Outreach to Diane Nygaard (Preserve Calavera)

2023

- 1/12/23 Update communication: project update, scoping reminder and Scoping mtg save the date
- **1/13/23 NOP**
- 1/18/23 Email Update re: Scoping Meeting
- 1/19/23 Jeremy Cohen (Seabird Resort)
- **2/1/23 Public Meeting #2 - Scoping Meeting**
- 2/3 North County EDC briefing
- **2/13/23 Close of Scoping Period**
- 2/15/23 Email Update
- 2/22/23 Michael Mitchell (resident)
- **2/22/23 Public Meeting #3 - Transit and Mobility – Part 1 (virtual)**
- 2/23/23 George Piner (neighbor)
- 2/24/23 Email Update
- 2/27/23 Bike and Ped Committee (feedback)
- 2/28/23 Gumaro and Rick (Mainstreet Oceanside)
- 3/3/23 Arts Commission
- 3/11/23 Email Update
- 3/15/23 Kevin Ham
- 3/16/23 Preserve Calavera, Sierra Club, Buena Vista Audubon Society
- **3/16/23 Public Meeting #4 - Transit and Mobility – Part 2 (in person)**
- 3/20/23 Bike and Ped Committee (presentation)
- 3/22/23 Scott Ashton, Oceanside Chamber
- 3/29/23 Kevin Ham, Jane Marshall, Mark Jacobs with Tracy Foster and Chris Orlando
- 3/31/23 Door to Door to Mission Ave Businesses
- 4/3/23 Arts Commission
- **4/3/23 Mission Ave Happy Hour**
- 4/4/23 Mainstreet Oceanside
- 4/6/23 Parking discussion with Mike Bullock and Joe LaCroix
- 4/10/23 Micro Grid Discussion
- 4/15/23 Oceanside Democratic Club

- **4/26/23 Public Meeting #5 - Aesthetics**
- 5/1/23 Micro Grid follow up
- 5/8/32 Charles Trevino
- 5/22/23 Oceanside Bike and Pedestrian Committee
- 5/24/23 Oceanside Museum of Art
- 5/30/23 SANDAG Briefing
- 6/5/23 CJ DiMento public art
- **6/13/23 Public Meeting #6 - Small Business Luncheon**
- 6/14/23 Bike parking, SANDAG
- 6/16/32 Dick Hamm, SALT
- 7/27/23 Preserve Calavera follow up
- 9/8/23 Downtown Design and Branding Charrette
- 10/23/23 Oceanside Bike and Pedestrian Committee

2024

- 1/18/24 Email Update re: Meeting
- 1/30/24 Email Update re: Meeting Reminder
- **2/1/24 Public Meeting #7 – Architecture**
- 2/7/24 Michael Mitchell
- 2/26/24 Oceanside Bike and Pedestrian Committee
- 3/21/24 Meet the City
- 4/23/24 OCNA
- 5/22/24 OCNA leadership + City Planning
- 5/30/24 Sustainable Tourism Event
- 6/6/24 Oceanside Chamber Emerging Issues Forum: NCTD Operations
- 8/6/24 Visit Oceanside (Leslee Gaul)
- **9/4 – 10/18/24 Public Circulation of DEIR**
- 9/11/24 Mainstreet Oceanside (Gumaro Escargera)
- 10/26/24 Circulate San Diego, Momentum Awards
- 11/15/24 Circulate San Diego (Jeremy Bloom)
- 11/19/24 OCNA
- 12/5/24 Tom Lichterman
- 12/6/24 Mainstreet Oceanside board member

2025

- 1/2/25 Preserve Calavera
- 1/8/25 Rob Howard, Oceanside Clean Energy Alliance
- 1/14/25 San Diego North Economic Development Council
- 1/15/25 Visit Oceanside
- 1/18/25 Oceanside Democratic Club
- 1/27/25 SDSU Transportation Services
- 1/29/25 YIMBY Dems
- 3/5/25 CSU San Marcos Transportation Services
- 5/16/25 Strong Towns Oceanside, Ride SD + Build SD site visit
- **5/22/25 Public Meeting #8 – Transit Oriented Development and Affordable Housing**

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

City Council Policy 300-14 Enhanced Notification and Community Outreach Report for Oceanside Transit Center Redevelopment

The redevelopment of the Oceanside Transit Center (OTC) is a public-private partnership between Toll Brothers Apartment Living and North County Transit District (NCTD), envisioned to create a vibrant mixed-use hub, including the relocation of the bus station, residential uses, a new hotel, and new NCTD headquarters at 235 S. Tremont Street. The relocation of NCTD's headquarters from its current location at 810 Mission Avenue to the OTC creates a second opportunity for mixed-income housing. In compliance with City Council Enhanced Notification Policy 300-14, a variety of opportunities have been available for interested parties to learn more about the project, ask questions and share their feedback.

On-Site Signage
All on-site signage is posted to the site in accordance with city policy.

Mail Notification

Introduction Letter
An introductory letter was sent to all addresses within the Expanded Radius on August 26, 2022 describing the proposed project and informing residents of the project information website, email address, and upcoming events (exhibit 1).

CEQA Noticing
All noticing required by the environmental review process (e.g. Notice of Preparation, Notice of Availability, etc.) will also utilize the Expanded Radius list.

Email: outreach@osidetransit.com
A community email address was established for the project; neighbors and community stakeholders are encouraged to submit their questions and comments.

Members of the community were also given the opportunity to join the project email list to receive updates on project milestones and be notified about engagement opportunities. As of September 19, 2023, there were 227 residents registered for the email list. The following emails have been sent:

- 1/18/23 – Project update, 2/1 Scoping Meeting save the date
- 2/15/23 – 2/22 Public meeting reminder, Scoping update
- 2/24/23 – 2/22 Meeting summary/follow up, 3/15 meeting save the date
- 3/11/23 – Project update, 4/26 meeting reminder
- 3/28/23 – 3/15 Meeting summary/follow up
- 4/17/23 – 4/26 Meeting reminder
- 4/28/23 – 4/26 Meeting summary/follow up
- An email is planned to announce the availability of the DEIR in October 2023.

* Pursuant to Policy 300-14, the notice of initial application mailing list included homeowners within a 1,500-foot radius and occupants within a 100-foot radius of the project site.

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Community Education and Engagement

Website: www.osidetransit.com
A project informational website was launched in August 2022. The site provides details of the plans and allows members of the community to RSVP for upcoming events and contact the team. The site also includes a Frequently Asked Questions (FAQs) page, which was updated as questions were submitted by the community. Summaries and exhibits from all public meetings are posted to the website.

Public Meetings
Six public meetings have been hosted for the project:

Public Meeting 1: September 15, 2022 – Introduction Meeting
A community open house was hosted on September 15, 2022, in the Civic Center Library Community Rooms. This meeting was the first opportunity to learn more about the proposed redevelopment of the Oceanside Transit Center and the Mission Avenue site, meet the team, ask questions, and provide feedback.

The invitation was shared with the community at-large through a variety of mediums including:

- An introductory letter sent on August 26, 2022 to 4,500 property-owners within the required 1500-foot radius
- Information on the community website (www.osidetransit.com)
- Multiple social media posts, including one on the City of Oceanside's Facebook page
- An e-newsletter to the Oceanside Coastal Neighborhood Association (OCNA)

Prior to the event, one on one meetings were held with members of the community to help get the word out to their networks.

There were 63 attendees who signed in at the check in table (exhibit 2). However, a number of neighbors opted to remain anonymous. We estimate that approximately 80 people attended the two-hour event.

The open house was organized into five stations (exhibit 3a) consisting of various exhibit boards (exhibit 3b). Members of the project team were positioned at each station to speak directly with attendees and review attendees' specific concerns. Because there was no formal presentation, attendees were encouraged to stop by between 6:00 – 8:00 p.m. to view the exhibits at their convenience. At the completion of the info meeting, attendees were asked to complete a comment card (exhibit 4) to garner a better understanding of what the key issues of concern are. These comments provided the focus for future outreach and communication pieces, as well as valuable feedback for the design team to refine the project where possible.





Public Meeting 2: February 1, 2023 – CEQA Scoping Meeting

Pursuant to CEQA, a public Scoping Meeting was hosted following the publication of the Notice of Preparation (NOP). A representative from Toll Brothers Apartment Living gave a brief project overview, and then the City's CEQA consultant reviewed the CEQA parameters (exhibit 5). The meeting was then opened to community members to add public comment on CEQA related project topics. The scoping period closed 2/13/23.



Public Meeting 3: February 22, 2023 – Transit and Mobility (Part 1)

In response to community feedback, the project team launched a series of thematic meetings to focus on the issues that were the most prevalent. The first was a virtual meeting specific to Transit and Mobility on February 22, 2023. Representatives from NCTD (figure 1) were present to share more about the agency's goals for regional transportation and how OTC fits within its long-term planning objectives.



Figure 1: 2/22/23 NCTD Panel

They also shared plans related to sustainability and the transition to zero-emission buses and trains. This meeting was the first in a two-part series focused on Transit and Mobility. Discussion culminated with a question/answer period with the project team (exhibit 6). A complete recording with Spanish translation was posted to the website (www.osidetransit.com/transit). The project FAQs were also updated to include new information about Transit operations (www.osidetransit.com/faqs).

Public Meeting 4: March 16, 2023 – Transit and Mobility (Part 2)

This meeting was the second part of a two-part series focusing on Transit and Mobility, hosted on March 16, 2023 in the Civic Center Community Rooms. The presentation focused on mobility elements and design features that enhance the transit experience and improve multi-modal circulation throughout the Transit Center. The project landscape architect and civil engineer were both present to answer questions. The team discussed the project modifications that have been made in response to community feedback, including wider sidewalks that exceed city requirements, enhanced pedestrian crossings, designated pick up and drop off areas, and mobility elements that improve the transit experience and encourage active transportation. Project modifications that relate to transit and mobility are in direct response to community feedback related to the need for a clear sense of arrival for the Transit Center, easy multi-modal navigation and circulation, mobility elements to support active transportation and parking management.

Presentation slides were posted to the website (https://www.osidetransit.com/transit) and are included as exhibit 7 in this report.

Public Meeting 5: April 26, 2023 – Aesthetics and Architecture

Aesthetics were the focus of the third thematic meeting (fifth public meeting) hosted by the project team. The presentation highlighted the design elements and architectural concepts featured throughout the project and provided examples of project modifications that respond to community input (exhibit 8). The project architect and landscape architect described the vision for the project as well as the approach and design process.



The project team announced the addition of a separate, standalone customer service center to provide a more traditional terminal experience. Attendees were then asked to provide feedback on a series of inspirational images using green (like) and red (dislike) stickers to indicate their preferences (exhibit 9). This feedback was instrumental in determining the design elements the community would like to see incorporated into the new building.



Public Meeting 6: June 13, 2023 – Small Business Luncheon

The small business luncheon was focused on business owners and managers in downtown. The meeting was hosted at Bliss Tea and Treats in partnership with owner Rushell Gordon. Mainstreet Oceanside assisted with the invitation process, sending the notice to its 2,000 email subscribers. Gordon also shared the information with colleagues and neighbors operating businesses near the Transit Center.

The presentation (exhibit 10) reiterated concepts shown at the 4/26/23 Aesthetics meeting and highlighted topics of concern for local business owners, specifically parking, circulation, security and construction impacts. We also provided a project update as many of the attendees had not attended previous meetings.





Community Stakeholder Meetings

Understanding that questions will arise outside of formal public meetings, members of our team have also been available for one-on-one or small group meetings. Members of the community have requested meetings through the project website or via email.

Additionally, the project team has and will continue to reach out to local stakeholder groups and nonprofits for project update presentations and briefings, including Mainstreet Oceanside, Oceanside Coastal Neighborhood Association, Oceanside Arts Commission, Oceanside Chamber of Commerce, Preserve Calavera, Buena Vista Audubon Society, Oceanside Museum of Art, Oceanside Historical Society, North County Economic Development Council, Circulate San Diego, Oceanside Bike and Pedestrian Committee, SANDAG, Circulate San Diego, and Oceanside Democratic Club.

Community Responsive Planning

While technical questions about air quality, noise and circulation are evaluated through the CEQA process and city application review, the project team sought to identify meaningful project modifications aimed at responding to community comments and suggestions, while meeting NCTD objectives to improve transit operations and establish a unique sense of place that knits into each site's existing community context. We believe the design for the reimagined Oceanside Transit Center aligns with the City's vision for a vibrant mixed-use hub that provides mixed income housing and improves an underutilized lot for the community's benefit.

The paragraphs below describe the topics we've heard the most about and how the project addresses each one.

1. **Desire for a "uniquely Oceanside" sense of arrival**
    - Feedback summary: Residents shared the importance of creating a place that makes it clear to visitors and locals that they've arrived somewhere special. Recognizing that a diverse mix of people will pass through the Transit Center, the redevelopment should be a welcoming environment that celebrates Oceanside's unique culture.

    - Response: The design team took inspiration from the nearby sights, sounds, sand, and surf to create the vision for the redevelopment of the Transit Center. Design elements like overhead gateway monumentation (figure 2), a central tower feature (figure 3), a redesigned Station Plaza, public art, and more will create a distinct yet complementary sense of place so each project site integrates into its existing context. (The tower will be designed through community workshops/public input at a future date. The tower is centrally located within the Station Plaza and integrated into the new Customer Service Center, creating a distinct landmark visible at the pedestrian-scale as people approach the Plaza.) At the 810 Mission site, the design creates pedestrian-friendly edges that tie the building to the existing civic and commercial activities in Downtown (figure 4).



Figure 2: OTC - Example overhead gateway monumentation



Figure 3: OTC - Example of iconic tower feature



Figure 4: Pedestrian-friendly edges at 810 Mission site

2. Standalone Customer Service Center

- Feedback summary: Outreach participants shared their preference for a more traditional terminal experience and requested that the customer service center be removed from the ground floor of the central residential building (figure 5).

- Response: It was announced at the April 2023 community meeting that the Station Plaza would be redesigned to accommodate a stand-alone customer service building (figure 2). The exterior of the building is being designed with feedback also collected at that meeting (exhibit 9). Through these conversations, we learned that people would like to see a Customer Service Center that includes a mix of materials, integrates natural light, and provides an indoor/outdoor experience with connection to the Station Plaza. These requests were then combined with NCTD operation and programming requirements for the interior. The new proposed location is conveniently located within the Station Plaza and easily accessible from those arriving on foot, bike, bus or by train.



Figure 5: Excerpt from original site plan shown at 9/15/22 public meeting.



Figure 6: Placeholder graphic based on modified site plan debuted on 3/16/23. Graphic used at 4/26/23 public meeting to discuss plans to relocate customer service center (exhibit 8)



Figure 7: Proposed relocation

3. Parking

- Feedback summary: Integration of public parking within the two residential buildings was not liked. People feared that it wasn't intuitive for members of the public to enter the residential space and thus those public spaces would be "lost". Feedback on parking management is conflicting yet falls within two distinct schools of thought:
    - Opinion 1 – Encourage alternative modes of transportation by discouraging the use of private automobiles. The project should implement a comprehensive parking management program that charges all users.
    - Opinion 2 – Surrounding residents and small businesses fear that charging for parking will make it more difficult for guests and patrons to come downtown. Parking can already be challenging at times so the project should consider this by providing ample parking.

- Response: The parking garages were redesigned to address the concern over public parking within the residential building. All public parking will now be within the public lot at Tremont and Topeka.

  Regarding Parking Management: The project must balance the request for reduced parking with wider community concern over the loss of public parking. There are 1,771 parking spaces included in the project. The city requirement is 1,743.
    - The new public parking structure at the OTC is designed to adapt to evolving travel patterns. The goal is to build a program that accommodates the needs of the market at the time the structure is built and into the future.
    - A parking structure design specialist was retained to design the public structure and provide recommendations on best practices to ensure necessary infrastructure, including wiring and conduit, is in place to support parking management needed for effective NCTD operations.
        - Preliminary design features include islands for future payment kiosks and gates.
        - The Designated Parking for Fuel Efficient Vehicles requirement in Cal Green Tier 1 is 35%. The project garage is currently designed for 40%.
- Following multiple conversations and review of information provided by local parking and climate advocates, the project team has determined that a one size fits all approach to parking management would not work due to the varying needs of the different user groups proposed for the Oceanside Transit Center. However, plans for a user-specific parking management program have been incorporated:
    - Residential – A total of 1.4 spaces per unit is included per City code. However, Toll Brothers will implement a modified unbundling program: each unit will receive one space. Additional parking spaces are available for a fee.
        - Typically, 2 parking spaces are included in the rent for 2- and 3-bedroom units.
        - Toll Brothers' usual parking allocation of 1.7 spaces per unit in this type of market would have resulted in an additional 165 parking spaces. This modified unbundling approach allows Toll to provide a reduction in parking while still meeting city requirements.
    - Hotel – A paid parking program will be developed for hotel guests that will capitalize on the accessibility of public transit as well as the proximity to Downtown Oceanside.
    - Public Parking Garage
        - Public - Feedback has been mixed on the need for paid vs. free parking. Our primary goal is to remove barriers to transit ridership and make the OTC as accessible as possible.
        - NCTD currently provides convenient free parking to transit riders in accordance with NCTD Ordinance #5.
        - Overnight and multi-night permits are available by contacting the NCTD Security Office. NCTD is procuring an electronic parking permit and management system that will allow parking permits to be

obtained via mobile device and online. The system will enable NCTD to create different permit types, charge for parking, and facilitate improved parking compliance tools and reporting. Once the system is installed and fully accepted, NCTD will have the option to charge for parking permits. A Parking fee schedule would need to be adopted by the Board via NCTD Ordinance #5. Parking violators are subject to citation or being towed off NCTD property.

- NCTD is currently studying parking management across all NCTD lots to better understand the impacts of paid vs. free. As structured parking is added to NCTD stations, additional parking management solutions will be explored to best serve NCTD customers.

- NCTD Employees – The employee parking area will be fenced and gated allowing NCTD to implement a parking management program that aligns with its internal TDM measures.

4. Incorporation of Public Art

- Feedback summary: Downtown Oceanside is one of fourteen cultural districts in California. The Transit Center was an integral part of achieving that designation and should include public art that celebrates Oceanside culture and history. Public art adds community character.

- Response: Following receipt of this suggestion at the 9/15/22 public meeting, the project team met with representatives from the Oceanside Art Commission, Oceanside Museum of Art, Mainstreet Oceanside, and Oceanside Historical Society, as well as other developers to better understand what a public arts program could look like at the Transit Center. The locations identified below were shown at the April 2023 public meeting. The public art locations will be integrated into the wayfinding and signage program so that they are interesting and functional. Further coordination is needed between NCTD, Toll Brothers Apartment Living and the various community stakeholder groups that are focused on bringing more public art to Oceanside, but we are excited to continue to move forward with this important initiative.



Figure 8: Proposed Public Art locations

5. Landscaping

- Feedback summary: The Station Plaza should provide a more park-like environment; reduce the amount of hardscaping. There should be more native and drought tolerant plant materials.

- Response: Our goal is to create new environments that work contextually within the built environment. The project includes an integrated, diverse mix of species, resulting in a water-wise landscape that will perform well in Oceanside's climate. The plant palette has been refined to minimize the use of palm trees in favor of more canopy trees. Further, the project was modified following the 9/15/22 open house (figure 9) to reduce the amount of hardscaping in the Station Plaza (figure 10). It was redesigned again to accommodate the stand-alone Customer Service Center (figure 11).



Figure 9: Station Plaza excerpt from site plan presented 9/15/22



Figure 10: Station Plaza excerpt from site plan presented 3/16/23



Figure 11: Draft concept for Station Plaza. Refined plan will be included in the next project submittal and shared with the community via email in Oct. 2023

6. Easy multi-modal navigation and circulation

- Feedback summary: The Transit Center should be easy to navigate no matter how a person arrives at the site. A robust wayfinding and signage program should be included. Branding and signage should be consistent with other branding efforts taking place downtown, including but not limited to Mainstreet Oceanside. The project should also improve the pedestrian experience on S. Tremont and consider off-site improvements.

- Response: A comprehensive wayfinding and signage program is underway. Design guidelines and strategic signage placement will be aimed at improving transit

operations and encouraging alternative modes of operations. The design of the signage program will complement the branding efforts in process for Downtown and satisfy NCTD operational signage needs. The tentative locations below were presented at the April 2023 public meeting. Conversations with local stakeholder groups are still in process.

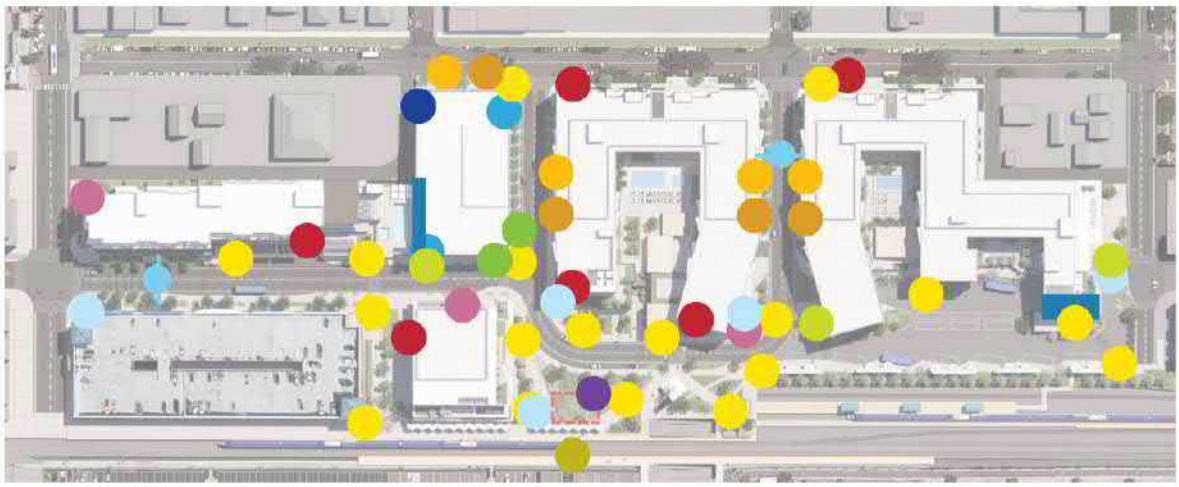


Figure 12: Proposed signage/wayfinding locations and typologies

Based on draft signage concepts. Subject to change.

Signage Summary

No.	Sign Type
1	Project Icon Sign
2	Project ID Wall Sign
3	Project ID Wall Mounted Blade
4	Project ID Gateway Sign
5	Branded Mural Art Super Graphic
6	Vehicular Directional Wall Mounted Blade
7	Vehicular Directional Sign
8	Pedestrian Directional Sign

No.	Sign Type
9	Parking Directional Wall Mounted Blade Sign
10	Parking Entry Signage
11	Building ID Wall Sign
12	Building ID Wall Mounted Blade

- The project team explored opportunities to incorporate a dedicated bike lane, however they ultimately weren't able to make it work. Cleveland will incorporate sharrows – or shared roadways – which is consistent with the existing experience on North and South Cleveland.
- The site was reconfigured to widen all sidewalks – allowing for an improved pedestrian experience and future activation/programing on Cleveland. The March 2023 public meeting discussed all project modifications related to pedestrian improvements (exhibit 7), including traffic calming elements, dedicated pick up and drop off areas, and enhanced/raised crossings.

Presented 9/15/22



Presented 3/16/23



- On Tremont, building components like stoops and balconies on the residential units help to break up the building facades and create visual interest. Landscaped parkways were also added to separate pedestrians from cars and improve the pedestrian experience.





- Offsite pedestrian crossings were added at the following locations:
  - Seagaze at Cleveland
  - Tremont at Topeka
  - Tremont at Michigan
  - Cleveland at Missouri

7. Mobility elements to support active transportation

- Feedback summary: The project should incorporate public amenities and features consistent with SANDAG's Mobility Hub catalogue. Elements should include ample bicycle parking and storage needs which are carefully planned to encourage use of alternative modes, safe pedestrian crossings, and a welcoming Station Plaza. There should be a bike sharing program.

- Response: Mobility elements which are consistent with SANDAG's recommendations for Mobility Hubs include enhanced transit waiting areas, dedicated pick up and drop off zones, wider sidewalks, traffic calming elements, enhanced pedestrian crosswalks within site, ample private and public bike storage and parking and collaboration with the Oceanside Bike and Pedestrian Committee on secure bike storage facilities, including SANDAG's bike locker program. Private bike storage and maintenance facilities for residents are also included.

  In 2023, the City of Oceanside approved extension of the GO'side shuttle program, a separate Micro-transit solution using low speed Neighborhood Electric Vehicles (NEV) with Circuit LLC. GO'side services the area around the Oceanside Transit Center and provides first and last mile as well as local circulation for Oceanside residents and tourists predominately west of Interstate 5. Discussion with the City is in process to designate parking and charging sites for the GO'Side fleet of NEVs within the OTC public parking garage.

NCTD executed a contract with Spare Labs to be the micro-transit platform provider at its April 2023 Board Meeting. A pilot program in Oceanside will evaluate several demand-response micro-transit service zones for initial implementation using a limited fleet of 10 vehicles. NCTD micro-transit will have a separate fare and will facilitate trip booking via mobile application/website or via phone, further enabling first/last mile connections.

Other micro-mobility options such as bike or scooter share services are coordinated directly via local municipalities. The project supports the addition of these programs at OTC. A designated area for bike sharing has been reserved in the Station Plaza but is contingent on the City of Oceanside finalizing an agreement with a service provider.

The 3/16/23 public meeting (Transit and Mobility – Part 2) focused on the specific design features related to mobility and circulation.

8. Affordable Housing

- Feedback summary: The project should provide more affordable housing. 100% if possible. Others have suggested 25%.

- Response: We recognize the value of incorporating affordable units into market-rate projects and are proud to be building these much-needed units on-site, instead of paying the in-lieu fee. The project **exceeds** Oceanside's Inclusionary Housing Ordinance by designating 15% of the units for affordable housing (the requirement is 10%). Project's affordable housing breakdown:
    - 10% of the total units, or 75, will be for low-income households
    - 5% of the total units, or 38, will be dedicated for moderate-income households

Increasing the number of affordable units further would hinder Toll Brothers Apartment Living's ability to provide the public benefits and improvements to the Transit Center associated with the project. Calculations indicated that even a 5% increase would make the project infeasible.

A mix of one-to-three-bedroom options will be available for rent. The affordable units will be integrated and commensurate with the market-rate units. All the residential will be developed and managed by Toll Brothers Apartment Living.

9. Coordination with Coast Hwy Master Plan and surrounding circulation

- Feedback summary: The project fails to consider the redevelopment of Coast Hwy. and redevelopment of the Regal Cinema center.

- Response: We are working closely with the City to ensure the project aligns with the redevelopment of Coast Hwy, and that any planned roundabouts are designed to accommodate bus turning radiuses. Coordination is on-going. The application to

redevelop the Regal center was submitted well after that of the OTC. That project is analyzed within the CEQA process for OTC as a cumulative impact. We are open to further coordination with the Regal development team.

10. Relocation of bus stalls and concern over bus circulation

- Feedback summary: The relocation of the bus stalls from Cleveland at Seagaze to Cleveland at Missouri is inappropriate for a residential area. The community should have been consulted prior to this decision being made. Street widths on Michigan and Missouri are narrower than Seagaze and therefore cannot support bus travel without having significant impacts to street parking and surrounding homes and businesses.

- Response: Improving transit operations is the primary project objective. The relocation of the bus bays is the result of multiple studies commissioned by NCTD. Early versions of these studies date back to 2008. Recent recommendations to relocate the bus bays were influential in preparing the initial RFP (2020) for the redevelopment of the Oceanside Transit Center. The RFP included specific project requirements that are key to transit prioritization and improving transit operations, including relocation of the bus bays.

  The proposed bus bay location provides direct line of site between bus bays and Sprinter and Coaster platforms, and significantly reduces connection times. NCTD is in the process of improving the train platforms in this area to further improve connectivity for riders. This concern was discussed at length during the 2/22/23 public meeting (Transit and Mobility – part 1).



Figure 13: Existing location of bus bays and connection times to Sprinter and Coaster platforms. Presented at 2/22/23 public meeting

NORTH COUNTY TRANSIT DISTRICT



Figure 14: Proposed project provides a direct connection and clear line of site between bus bays and Sprinter and Coaster platforms

Bus circulation routes have remained consistent throughout the outreach process. It was brought to our attention that an exhibit in an early draft of the Specific Plan had an incorrect circulation plan. This was rectified in a subsequent submittal.

The circulation route below was presented at the first public meeting on 9/15/22 and again at the Scoping meeting on 2/1/23.

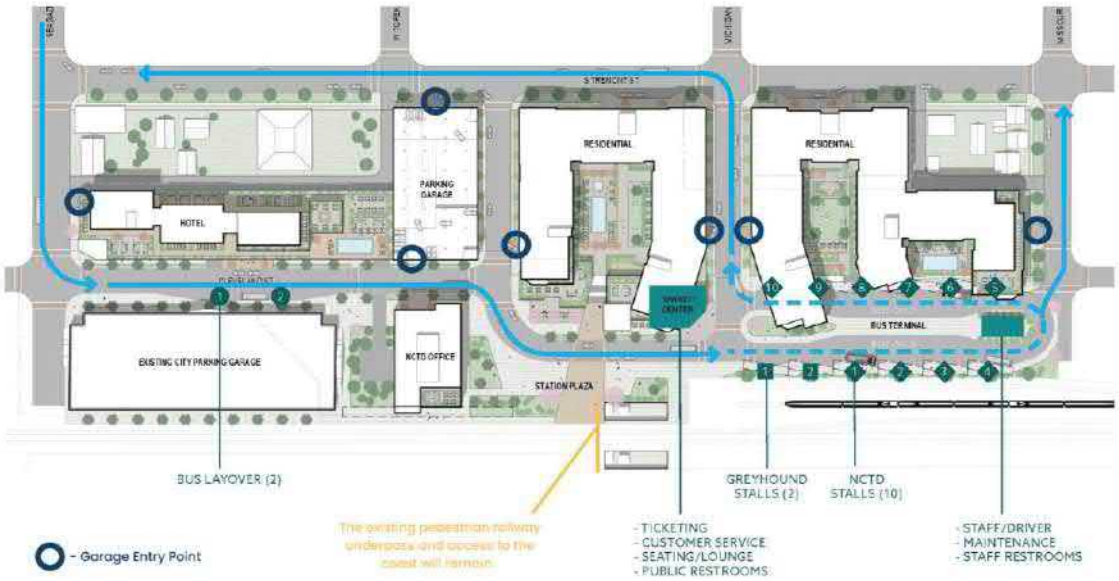


Figure 15: Proposed bus circulation presented at 9/15/22 public meeting and 2/1/23 Scoping Meeting

In response to suggestions by neighboring property owners requesting to restrict bus travel on Missouri and Michigan, a supplemental study was commissioned to further analyze bus operations and circulation. The study will evaluate transit vehicle movements within OTC and onto connecting roadways, including Seagaze, Topeka, S. Tremont,

Michigan and Missouri. It will consider factors such as BREEZE on-time performance, operational efficiency and feasibility, BREEZE routing direction and frequency, impact to BREEZE scheduling, local traffic and community impacts, the Coast Hwy Corridor project, and NCTD's BREEZE Speed and Reliability Study. The study is not yet complete.

We understand the frustration resulting from the project's inability to move the bus bays back to Seagaze. While we weren't able to accommodate this request, we have made other project modifications in response to community feedback. Changes include removal of the greenspace at the bus turnaround to minimize opportunities for loitering. The intersection was reconfigured, and green screening was added to shield bus operations. We also looked at other road reconfigurations that were suggested to us, but they proved unfeasible.



Figure 16: Modifications to bus bays in response to community feedback

11. Air quality and sustainable transit options

- Feedback summary: Residents are concerned about air quality living next to a Transit Station, especially with idling trains and buses. They would like the project to exceed green building codes and be a model for sustainability.

- Response: We are committed to exceeding Cal Green requirements when feasible. Toll Brothers has engaged a sustainability coordinator to help refine the plans and provide recommendations for final construction documents.

  We have also been in contact with a local microgrid consultant to identify opportunities to increase sustainability of buildings beyond what is required by Cal Green. Analysis is still in process.

Air quality and Greenhouse Gas Emissions are analyzed thoroughly through the CEQA process. At the date of submission of this report, the DEIR forecasts no significant impacts. Public circulation of the DEIR is anticipated to begin in October 2023. Those registered on the project's interest list will receive a notification email when the document is available. The community at-large will be notified pursuant to CEQA. Should the CEQA process determine the need for mitigation, design features would be added/enhanced.

NCTD is committed to cleaner air quality vehicles. NCTD is required by California State Law to convert its entire fleet to zero emission vehicles by 2042. Redevelopment and modernization of the OTC supports NCTD operations' long-term sustainability initiatives.

- Zero Emission Busses
  - In 2020, NCTD completed its Innovative Clean Transit Zero Emission Bus Rollout Plan
  - In 2020, NCTD was the recipient of a California Energy Commission grant that enabled construction of a hydrogen fueling facility at its Bus Operations West Facility in Oceanside, California
  - In 2022, NCTD took delivery of its first 6 battery electric buses and placed an order for 12 hydrogen fuel cell electric buses
  - In 2023, NCTD successfully applied for and received $29 million to purchase an additional 23 hydrogen fuel cell buses and to implement a workforce training program with Palomar College for an innovative apprenticeship program.
- Zero Emission Rail
  - On April 20, 2023, the NCTD Board of Directors approved a contract with DB Engineering to develop a Zero Emission Rail Fleet Strategy and provide financing, procurement, and technical support for a pilot program and full fleet transition.
- The COASTER fleet is currently comprised of Tier 4 locomotives, which is the cleanest technology available. NCTD will continue to explore opportunities to enhance operations as zero emission rail technology evolves.

12. Integration of community feedback

- Feedback summary: Community engagement should have started sooner. The project should integrate community feedback since this is public land.

- Response**:** We understand the opportunity and responsibility of redeveloping the Oceanside Transit Center and have sought to provide meaningful opportunities for interested parties to interact with the development team and provide feedback. Although we wish we could have started with a blank slate, there are site constraints, primarily the location of the train platforms, that dictate where certain project features could be. NCTD operational needs were central to all design decisions. Balancing those needs with community feedback was a crucial part of the process.

The first project application was submitted in August 2022 and was based on the initial RFP requirements. Community engagement began the same month. Since then, the project team has met with a variety of local and regional stakeholders, property owners, residents, City staff, business owners, artists, transit advocates, and more. All feedback is shared with NCTD and the design team to incorporate into the project application. All modifications have been shared with the public during public meetings and posted on the project informational page.

We believe this report demonstrates our commitment to community outreach and how the project has been improved through our conversations with the public. The project is better as a result of the feedback and concerns that have been shared with us. We trust that, if approved, the reimagined Oceanside Transit Center will be a vibrant and engaging hub that will serve the community for years to come. **Thank you for working with us.**

Figure Index

Figure 1 – 2/22/23 NCTD Panel

Figure 2: OTC - Example overhead gateway monumentation

Figure 3: OTC - Example of iconic tower feature

Figure 4: Pedestrian-friendly edges at 810 Mission site

Figure 5: Excerpt from original site plan shown at 9/15/22 public meeting.

Figure 6: Placeholder graphic based on modified site plan debuted on 3/16/23. Graphic used at 4/26/23 public meeting to discuss plans to relocate customer service center (exhibit 8)

Figure 7 – Proposed relocation of Customer Service Center

Figure 8 - Proposed public art locations

Figure 9: Station Plaza excerpt from site plan presented 9/15/22

Figure 10: Station Plaza excerpt from site plan presented 3/16/23

Figure 11: Draft concept for Station Plaza. Refined plan will be included in the next project submittal and shared with the community via email in Oct. 2023

Figure 12: Proposed signage/wayfinding locations and typologies

Figure 13: Existing location of bus bays and connection times to Sprinter and Coaster platforms. Presented at 2/22/23 public meeting

Figure 14: Proposed project provides a direct connection and clear line of site between bus bays and Sprinter and Coaster platforms

Figure 15: Proposed bus circulation presented at 9/15/22 public meeting

Figure 16: Modifications to bus bays in response to community feedback

Exhibit Index

Exhibit 1 – 8/26/22 Introduction Letter

Exhibit 2 – 9/15/22 Introduction Meeting: Check In List

Exhibit 3 – 9/15/22 Introduction Meeting

3a. Open House Station Overview
3b. Display Boards

Exhibit 4 – 9/15/22 Introduction Meeting: Comment Cards

Exhibit 5 – 2/1/23 Scoping Meeting: Presentation Slides

Exhibit 6 – 2/22/23 Transit and Mobility (Part 1): Questions

Exhibit 7 – 3/16/23 Transit and Mobility (Part 2): Presentation Slides

Exhibit 8 – 4/26/23 Aesthetics and Architecture: Presentation Slides

Exhibit 9 – 4/26/23 Aesthetics and Architecture: Design Feature Boards

Exhibit 10 – 6/13/23 Small Business Luncheon: Presentation Slides

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 1
8/26/22 Introduction Letter

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center Redevelopment Update

August 26, 2022

Dear Neighbors and Interested Community Members,

We are writing to share information about the plans to revitalize the Oceanside Transit Center (OTC) at 235 S. Tremont Street. With so much interest from the community, we are hosting a neighborhood open house later in the coming weeks. This meeting will be your first opportunity to learn more about the project, meet the team, ask questions, and provide feedback on the plans. We hope you will join us!

You're invited to a Neighborhood Open House

Thursday, September 15, 2022 from 6:00 p.m. - 8:00 p.m.

Location - Civic Center Library: 330 N. Coast Hwy

RSVP at www.OsideTransit.com

Please note: There is no formal presentation at this open house so please join us at your convenience.

The North County Transit District (NCTD) provides public transportation services to North San Diego County for more than 10 million passengers each year. In 2016, the NCTD Board of Directors adopted a policy to pursue development of some of its real estate holdings, including the OTC, with a goal of reducing automobile reliance, increasing transit ridership, and creating jobs and affordable housing.

The NCTD Board selected Toll Brothers Apartment Living® through a competitive proposal process to develop and implement the vision for the OTC. Toll Brothers Apartment Living is one of the nation's leading builders of luxury residential communities. Toll Brothers Apartment Living brings the highest standards for quality, luxury, and service to each of its exceptional rental and mixed-use communities, making Toll Brothers one of Fortune Magazine's World's Most Admired Companies.

This collaborative partnership is a unique opportunity to create a welcoming and engaging community gathering place; envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation.

Additionally, the NCTD offices will be relocated from their current location at 810 Mission Avenue to the new OTC at 235 S. Tremont. As a result, the Mission site will also be redeveloped to create additional mixed-income housing opportunities. (See reverse for project site locations)

This Project is still very early in the process, so we encourage you to join us on the 15th to share your feedback. If you are unable to attend, you can always email us and a member of the Project team will be in touch (email address below). We are also available for one-on-one or small group meetings. By providing meaningful opportunities for you to participate, we are confident this can be a positive and productive experience for us all.

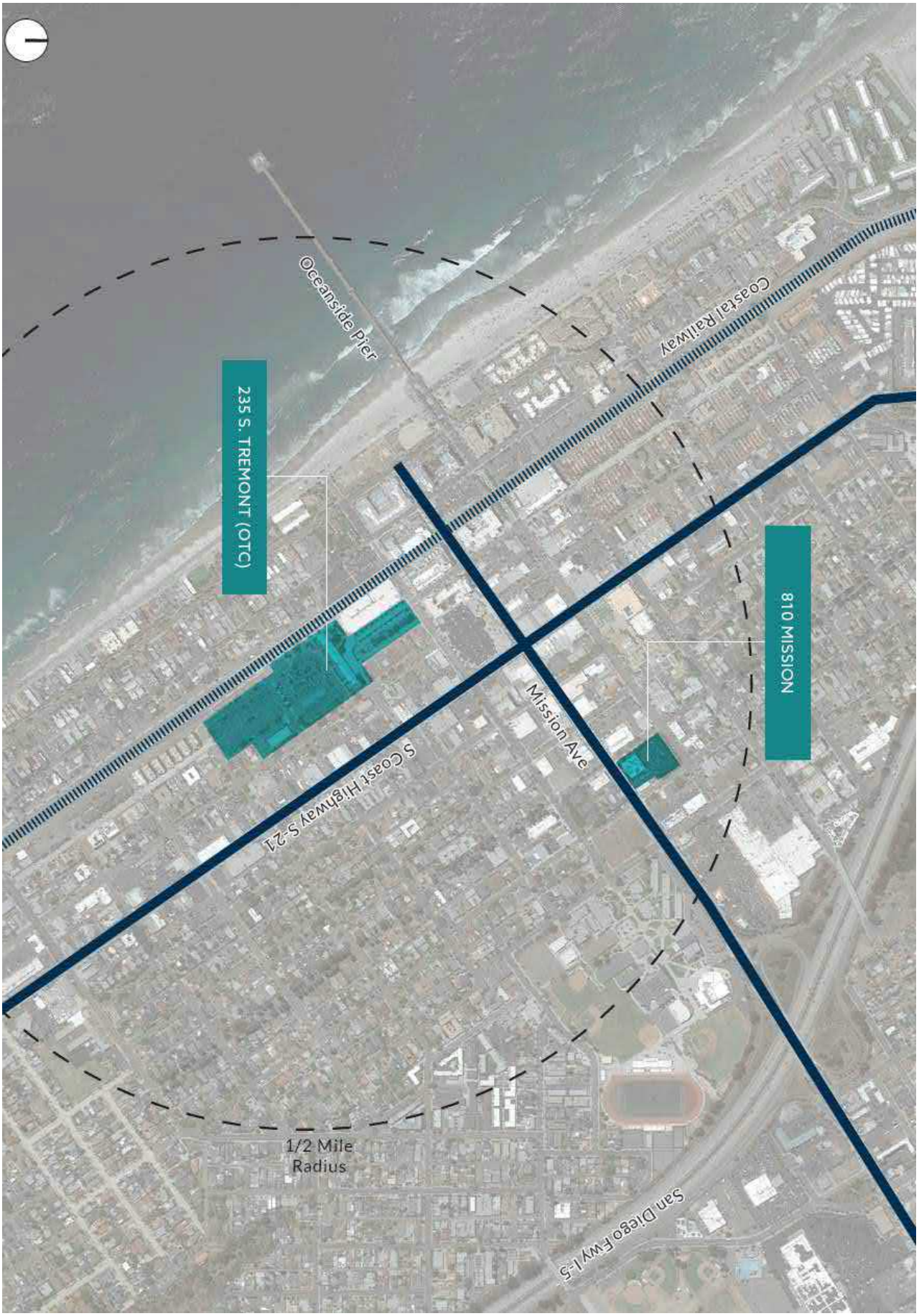
Thank you, and we look forward to meeting you!

Tracy Foster
Chief Development Officer
North County Transit District

Michael McCann
Regional Director of Acquisitions and Development
Toll Brothers Apartment Living

outreach@OsideTransit.com

Reverse side of Intro Letter - Project Location



(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 2
9/15/22 Introduction Meeting: Check In List

Attendee #	First	Last	Email	City
49	Dirk	Ackema	dir	
	Allen	Adem	alle	Oceanside
12	Patrick	Alford	pja	Oceanside
	Randy	Atkinson	rar com	Oceanside
	Mary	Balderrama	mb	Oceanside
36	Brenda	Batali	bre	oceanside
35	Bogart	Bockman	bo d.com	oceanside
37	Joan	Bockman		
11	Jean	Booth	jeb	
	Terry	Brown	tbr rg	Oceanside
	Mike	Bullock	mi .net	Oceanside
16	Steve	Burchianti	bu	
19	John	Burwell	jwl n	Carlsbad
	Melissa	Burwell	mj n	Oceanside
22	Curt	Busk	cu	Oceabsude
51	Kelly	Cannister	kel	
32	John and Christy	Carson	jca	OCEANSIDE
	Jose	Cervantes	jos com	Oceanside
10	Nick	Content	nic	oceanside
1	John	Daley	sm m	Oceanside
13	Andra	Davis	ad	
2	Tom	DeMooy	tor mail.com	
	April	Durrant	Ap om	Oceanside
31	Amanda	Emmons	an il.com	
8	Gumaro	Escarcega	gu anside.com	
	TYLER	FARRAR	ty n	Oceanside
	Alex	Foster	af	Oceanside
45	Tom	Frankum	tfr	Oceanside
27	Joe	Gallagher	jos @mail.mil	oceanside
38	Catharine	Garcia	lov om	
	Rushell	Gordon	rus com	Oceanside
40	Adrianne	Hakes	ah	
	ROBBIE	HASS	rob om	Oceanside
24	David	Heffernan	da il.com	
	Sean	Herriott	she n	Oceanside
	Tom	Hicks	ht	
	Kim	Hunt	kin n	Oceanside
33	Ron	Hunt	ro	
	Kevin	Jackson	ke nail.com	Oceanside
9	Marc	Jacobs	mj m	san diego
	Kristen	Johnson		
46	William	Junge	be n	
23	Cait	Kelly	ck	
15	Jane	Kenny	ja om	
18	Angela	Keshavan	an	Oceanside
	jeff	kramer	kr	OCEANSIDE

Info Redacted for Attendees Privacy

	kari	kramer	ka	com	OCEANSIDE
	Sarah	LaCroix	sa	.com	Oceanside
50	Thomas	LaCroix	th	l.com	Oceanside
	Terri	Lamke			
42	Thomas	Lichterman	tli		Oceanside
21	Nick	Limson	ni		
	Chuck	Lowery			
14	Diane	Macie	Ma		Oceanside
	Shari	Mackin	bz		Oceanside
17	Daniela	Marshall	da	et	Oceanside
	Jane	Marshall	jm		
	Matt	Mathis	fir		Oceanside
52	Michael	Mitchell	im	oo.com	oceanside
	Diane	Nygaard	dn		OCEANSIDE
53	Amy	Papacek	am		
	Patrick	Papacek			
20	Flo	Pappas	flo		Oceanside
28	Brigid	Parsons	hq		
39	Marilyn	Petersen	ma	.com	Oceanside
	Ron	Petersen	ma	.com	Oceanside
	Tina	Pham			
	NANCY	PHILLIPS	NP	OM	OCEANSIDE
	Tim	Pirkey	tin	om	Encinitas
47	Todd	Quinn	qu	om	
29	Salli	Salem	sal		
	Ellie	Showalter	sh	com	Oceanside
	JEFFREY	SIMMONS	jef	oo.com	Oceanside
4	Donna	Smith	sm	m	
55	Jessica	Smith	inf	ject.com	Oceanside
48	Steve	Soo	ste		
6	Michael	Stephens	mi	cinationhotels.com	
25, 26	Lane, Shelley	Stewart			
30	William	Strenger	ws	com	Oceanside
43	Wendy	Sullivan	jak		
	Karla	Swatek Davidson	ka	n	CARLSBAD
7	Maryann	Thiem	ma		oceanside
44	Pat	Tirona	pti		
	Arturo	Vasquez	ce	m	San Diego
41	Mark	Wall	ma	com	
	Harry	Way			
3	Patricia	Way	wa		
5	John	Whitman	elz		
	Janiece	Wieland	jw	m	Oceanside
54	Ashley	Wilborn	as	om	carslbad
	Rick	Wright	oc	om	Oceanside
	Steve				

Info Redacted for Attendees Privacy

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 3

9/15/22 Introduction Meeting

3a. Station Overview

3b. Display Boards

Exhibit 3a - Open House Overview

OTC Redevelopment Open House Overview

Sept. 15, 2022 | Civic Center Library. 6:00 – 8:00p.m. (Arrive by 5:30)

Click here to download exhibits.

Station (Host)	Exhibits/Board	Messaging/focus
1 – Welcome (Molly) Attendees to receive comment card and overview handout	1. Project Rationale 2. Project Milestones 3. Location and context	• The new OTC is a public-private partnership between NCTD and TBAL aimed at supporting local, regional and statewide goals for reducing Californians' reliance on single-occupancy vehicles by improving public transit offerings. • We're early in the process. There will be ample opportunities to engage and provide feedback.
2 – Tremont (Mike W., Eugene, McCullough, Ted)	4. Vision and Community Character 5. Tremont Site Overview 6. Northern View 7. Southern View 8. Lifestyle elements 9. Hotel/retail rendering 10. Hotel amenities	• The improved OTC is envisioned as a vibrant, mixed-use hub for visitors and long-time locals alike. The Project will mix lifestyle elements with a modernized and efficient transit center, including bus and train connections and improved bicycle and pedestrian circulation. • The project is based on a thorough review of the site constraints and opportunities, and mindful of the surrounding uses. • The city of Oceanside began its General Plan update process, known as Onward Oceanside, in 2020. The OTC project is uniquely positioned to align with the key themes outlined in the Plans vision section, including support of multi-modal mobility, provision of housing, and mixed-use, infill development in an urban setting.
3 – Transit Offerings (NCTD or Arlene)	11. New NCTD office 12. Circulation 13. Parking	• It's not every day a transit center of this size is redeveloped. This is an opportunity to create a world-class facility that will support NCTD operations and position OTC to continue to serve tens of millions of riders each year, now and in the future.
4 – Housing (Grace, McCullough, Arlene)	14. Housing overview, with affordable 15. Mission Site overview	• The project includes market-rate and affordable housing close to existing shops and services. Combined with the convenient access to public transit, these new apartments are uniquely situated to meet the city's housing needs.
5 – Conclusion (Mike M.)	16. Summary of Benefits	• The OTC project is uniquely positioned to align with the key themes outlined in the City's General Plan, including support of multi-modal mobility, provision of housing, and mixed-use, infill development in an urban setting. • Improved efficiency will make public transit more convenient for people resulting in reduced car dependency; a reduction in green house gas emissions; and more resilient communities, who can access numerous amenities by walking or biking.

Revitalizing the Oceanside Transit Center

The redevelopment of the OTC is an opportunity to create a welcoming and engaging community gathering place, with a mix of shops and dining options that fit the community character.

Planning Goals

- Support local, regional and statewide goals for reducing Californians' reliance on single-occupancy vehicles by improving public transit offerings.
- Redevelop an underutilized site to provide affordable housing and create jobs.
- Increase the efficiency of operations of the existing Oceanside Transit Center.
- Align with the City of Oceanside's vision to "focus on creating vibrant, walkable, visually attractive and engaging mixed-use communities centered along Coast Highway and the major east-west commercial corridors, around Sprinter Stations, and in the Downtown District."
  Onward Oceanside, General Plan Update Draft Vision Statement
- Create pedestrian-friendly connections that welcome visitors, commuters, and existing neighbors to new shops and social gathering places.






Meet the Team

The OTC redevelopment is a collaborative partnership between the North County Transit District (NCTD) and Toll Brothers Apartment Living.

Since its inception in 1975, NCTD has been helping people get where they need to be. NCTD provides public transportation services to North San Diego County for millions of passengers each year. Services include:



Toll Brothers Apartment Living is one of the nation's leading builders of luxury residential communities. Toll Brothers Apartment Living brings the highest standards for quality, luxury, and service to each of its exceptional rental and mixed-use communities, making Toll Brothers one of Fortune Magazine's World's Most Admired Companies.

Project Milestones

We will be offering opportunities to provide feedback, ask questions, and learn more about the Project at each phase of the process. We encourage you to be part of the conversation. Our team is available for one-on-one and small group meetings or you can reach us by email at outreach@osidetransit.com. We look forward to hearing from you!

phase 1. Planning and Design

Proposal Review Process
2020

The NCTD Board selected Toll Brothers Apartment Living through a competitive proposal process to develop and implement the vision for this important regional transit hub.

Planning and Design
2021

After selection, the Project Team began working closely with NCTD and City Staff to further refine the vision for the OTC.

Application Submittal
Aug. 2022

Community Engagement Begins

8/15/22 Launch of Project Info Website
8/29/22 Introductory Letter to Community
9/15/22 Community Open House

Refine Vision

Community feedback and City Comments on the application will be used to refine the Project.

Amend Application
(As Needed)

This is an iterative process that often includes multiple revisions of the application.

phase 2. Environmental Review

CEQA Scoping Period
Early 2023

In compliance with the California Environmental Review Act (CEQA), the public will have 30 days to provide comments to influence the scope of the Environmental Impact Report.

A public Scoping Meeting will be held during the Scoping Period.

Inform and Update

Join our email list to receive Project updates!

Public Review of DEIR
Summer 2023

The Draft EIR will be available for public review and comment.
All comments are responded to in the Final EIR.

Inform and Update

phase 3. Public Hearings

Respond to Comments

Finalize EIR

Inform and Update

Oceanside Planning Commission

Oceanside City Council
Late 2023

CA Coastal Commission

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

CEQA Environmental Review

Opportunity for public comment

Oceanside Transit Center Redevelopment

Community Context

The project is based on a thorough review of the site constraints and opportunities, and mindful of the surrounding uses.



Existing Condition: 810 Mission Ave



The NCTD offices will be relocated from their current location at 810 Mission Avenue to the new OTC at 235 S. Tremont. As a result, the Mission site will also be redeveloped to create additional mixed-income housing opportunities.

Existing Condition: OTC at 235 S. Tremont



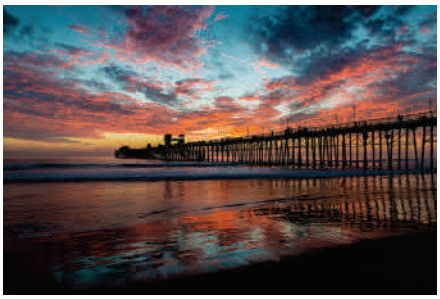
Vision and Community Character

Examining a proposed development site's context is extremely important to successful design. Understanding its benefits, limitations, points of interest, walkability, proximity to neighboring attractions, retail, transportation and the like is paramount to capturing the essence of the community and surrounding region.



SENSE OF PLACE

The team took inspiration from the nearby sites, sounds, sand and surf to create a distinct yet complementary sense of place so the new OTC would integrate into the existing context.



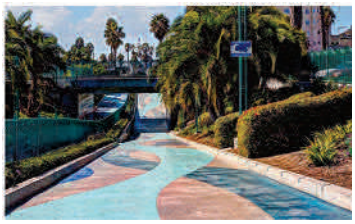
ARTS AND CULTURE

The project aims to reflect the coastal vibes and Southern California lifestyle through a mix of textures, colors, and materials that elicit joy.





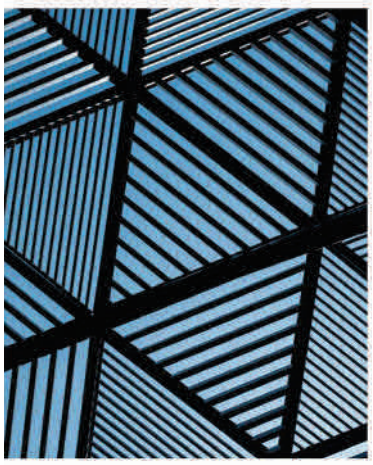




LEARNING FROM NATURE

Similar to how the canopies of palms come together to form a natural pergola that shades outdoor areas for comfort, the trellises and canopies within the Project create beautiful patterns that are functional and visually unique.





LIGHT, SHADOW AND COLOR

Early Mediterranean and Spanish influences can be seen in the clean lines and white stucco of the Project's architecture. These create a striking contrast against the blue sky and portrays the fascinating play of light and shadow on the building surfaces that change throughout the day. The selective introduction of color become vibrant additions against white backdrops.



CAPTURING THE HORIZON

Many buildings in Southern California in the tradition of the Mid-century modern architecture sought to dramatically capture the sky and the endless horizons in between the two horizontal planes of floor and ceiling, resulting in the deep eaves and balconies that accentuates the strong horizontal lines on the exterior.





S. Tremont Street Site

The revitalized Oceanside Transit Center is envisioned as a vibrant, mixed-use hub for visitors and long-time locals. The Project will mix lifestyle elements with a modernized and efficient transit center, including bus and train connections and improved bicycle and pedestrian circulation.



Did you know?
The city of Oceanside began its General Plan update process, known as Onward Oceanside, in 2020. The OTC project is uniquely positioned to align with the key themes outlined in the Plans vision section, including support of multi-modal mobility, provision of housing, and mixed-use, infill development in an urban setting.

The Tremont site will consist of

- 547 Mixed-income residential apartments, including 15% designated for affordable housing, and associated indoor and outdoor amenities;
- 165-key boutique hotel and amenities;
- 23,800+ square feet of shops and dining options
- 60,000 gross square foot NCTD headquarter building;
- Nearly 4,000 square foot modern intermodal Transit Center for train and bus travelers;
- multiple parking structures with approximately 1,800 spaces to accommodate private and public uses, including 560 replacement spaces for transit purposes currently located on the site;

Northern Aerial View

Key Map – Northern Half of Project





Southern Aerial View

Key Map – Southern Half of Project





Lifestyle Elements

The redevelopment of OTC is an opportunity to create a vibrant and engaging place, with a mix of shops and dining options that fit the community character.



CREATIVE RETAIL

Working with local businesses, artists and vendors that have a different take on what retail can be.





SUCCULENT FOOD & BEVERAGE

Anchoring the area with the best restaurants, artisan pallets carts, and no-frills coffee shacks and expressing the best of the local culinary scene's unique twist on flavors.

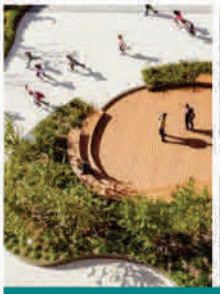




FUN & CASUAL KIOSKS & CARTS

Iconic small structures and kiosks will be positioned at strategic locations working to anchor the development with memorable, highly visible moments.



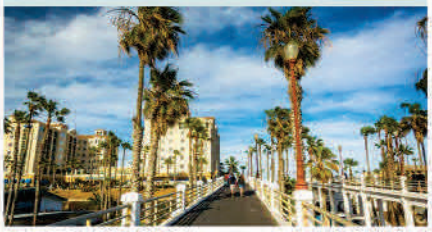






LOCAL & CASUAL PROMENADES / PARKS/ PLAZAS

As a reflection of the casual & comfortable Southern Californian lifestyle, the public spaces leading up to, and surrounding the Oceanside transit station will be designed to compliment beach town attitude.





COASTAL TRANSIT FRESH & LIGHT

Fostering and promoting the power of a transportation hub as a community and destination. Implementing a fresh and light approach to the design elements to engage the sunlight and shadow as texture and wayfinding.







MEMORABLE & ICONIC PLACEMAKING

A memorable and an iconic tower that is visible from a distance or from the train station is an important identifier for the project.





Boutique Lifestyle Hotel and Creative Retail

165-key boutique hotel and amenities atop a mix of retail and dining options create a welcoming extension of Downtown.

Key Map - View from Cleveland and Seagaze





Hotel Amenities and Features

Guests will enjoy ocean views, a rooftop lounge, swimming and walkable access to the shops, restaurants and activities in Downtown Oceanside. They'll also be able to board the Coaster to experience more of what San Diego has to offer.





Key Map - View from Cleveland and Seagaze



A Modernized and Efficient Transit Center

It's not every day a transit center of this size is redeveloped. This is an opportunity to create a world-class facility that will support NCTD operations and position the OTC to continue to serve tens of millions of riders each year, now and in the future.

New NCTD Headquarters

The new NCTD Headquarters will be relocated to the OTC from 810 Mission Ave. The approximately 61,000 sq. ft. facility will include updated working spaces, collaborative meeting centers and cascading roof decks to allow for outdoor access for workers on every floor.



Did you know?

This is the fourth redevelopment of the Oceanside Transit Center in the station's history.

The first station was built in 1886. Then was rebuilt in 1946 and again in 1984.

Key Map - View from W. Topeka





Key Map - View from train tracks



Updated Station Plaza

The centrally located Station Plaza is the focal point of the master plan, designed to foster social interaction, movement and connection throughout the day.



New Transit Center

Ticketing for both trains and buses will be centralized within a new Transit Center in the middle of the site which will make it easier for people to take advantage of all the high-performing transit options available at the OTC.

Key Map - Northerly View of Cleveland St.

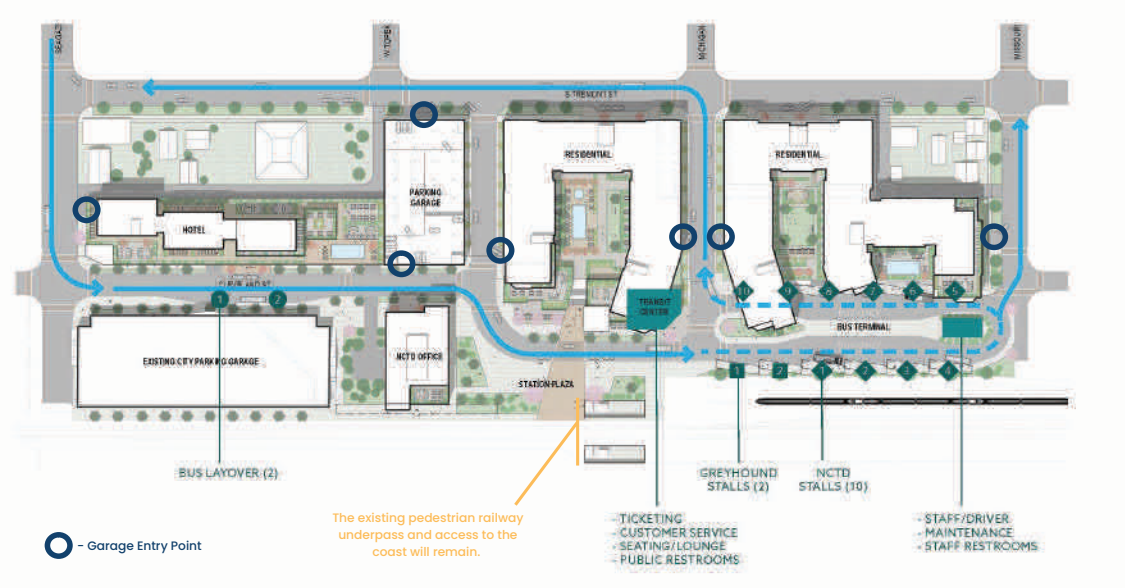


A Modernized and Efficient Transit Center

It's not every day a transit center of this size is redeveloped. This is an opportunity to create a world-class facility that will support NCTD operations and position the OTC to continue to serve tens of millions of riders each year, now and in the future.

Improved Circulation

The redesign of the bus terminals will improve circulation through the site. Passengers will have easy pedestrian access from the new Transit Center, which is just north of the shaded waiting area.





Aligned Transit Services

Improved efficiency will make public transit more convenient for people resulting in reduced car dependency; a reduction in green house gas emissions; and more resilient communities, who can access numerous amenities by walking or biking.

Key Map - Southerly view of Cleveland St.





Multi-Modal Services

The site will close the first mile/last mile gap, by facilitating ride share, EV charging, micro-mobility services, and more.

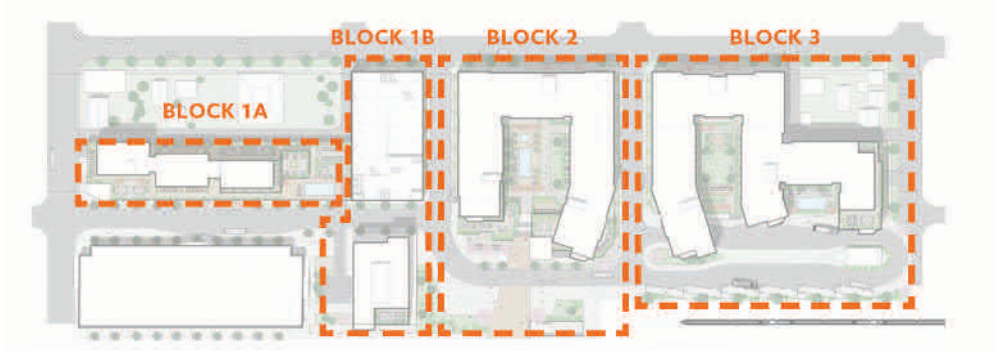
Key Map - View from Missouri Ave.



Parking

Parking is included throughout the site, including two levels of subterranean parking, to accommodate the various uses. The parking spaces outlined below are in addition to the existing parking structure on Seagaze.

Tremont Site





BLOCK 1A

- 170 Parking spaces
- Boutique hotel
- 11,000 SF of ground retail



BLOCK 1B

- 630 Parking spaces
- NCTD Headquarters



BLOCK 2

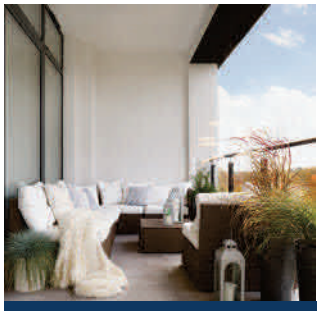
- 480 Parking spaces
- 250 Apartments
- 12,800 SF of ground retail
- 4,000 SF Transit Center
- 18,000 SF Public Plaza



BLOCK 3

- 500 Parking spaces
- 297 Apartments
- 12 Bus bays

Mission Site



BLOCK 1

- 260 Parking spaces
- 206 Apartments

Mixed Income Housing

Providing market rate and affordable housing in transit-rich areas and close to existing shops and services is a key priority for local, regional and statewide policy makers.

The OTC redevelopment is uniquely situated to support this effort.







Housing Breakdown

Each site will have mixed-income housing and resident exclusive amenities.

- Tremont - 547 units (82 affordable)
- Mission - 206 units (31 affordable)

(Pictured Left) The ground floor of Block 2 will have additional retail space that opens up to the Station Plaza.

The homes will be developed and managed by Toll Brothers Apartment Living.

A mix of one - three bedroom options will be available for rent.

Affordable Housing

We recognize the value of incorporating affordable units into market-rate projects and are proud to be building these much-needed units on-site, instead of paying the in-lieu fee.

- 10% of the total units, or 75, will be for low-income households
- 5% of the total units, or 38, will be dedicated for moderate-income households

Affordable Housing qualifications are defined by the Department of Housing and Urban Development's (HUD) annual assessment of an area's median household income (AMI) and fair market rent of that area.

For example, a single person making $72,900 - $89,800 would qualify. This includes teachers, nurses, and police officers. See complete HUD income chart below.

Number of Persons in Household:		1	2	3	4	5	6	7	8
San Diego County Area Median Income: $106,900	Acutely Low	11250	12850	14450	16050	17350	18600	19900	21200
	Extremely Low	27350	31250	35150	39050	42200	45300	48450	51550
	Very Low Income	45550	52050	58550	65050	70300	75500	80700	85900
	Low Income	72900	83300	93700	104100	112450	120800	129100	137450
	Median Income	74850	85500	96200	**106900**	115450	124000	132550	141100
	Moderate Income	89800	102650	115450	128300	138550	148850	159100	169350

Source: https://www.hcd.ca.gov/docs/grants-and-funding/inc2k22.pdf



The Project exceeds Oceanside Affordable Housing requirements.

15% of the homes at each site will be designated affordable housing.

Mission Avenue Site

810 Mission Avenue is currently home to the NCTD headquarters. Relocating these ofices to the OTC makes it possible to provide more mixed-income housing to serve Oceanside's local need.

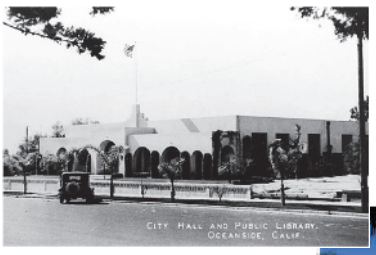


The redesigned site will be comprised of 206 mixed-income residential apartments, including 15% designated for affordable housing, tenant-focused amenities, and on-site parking.



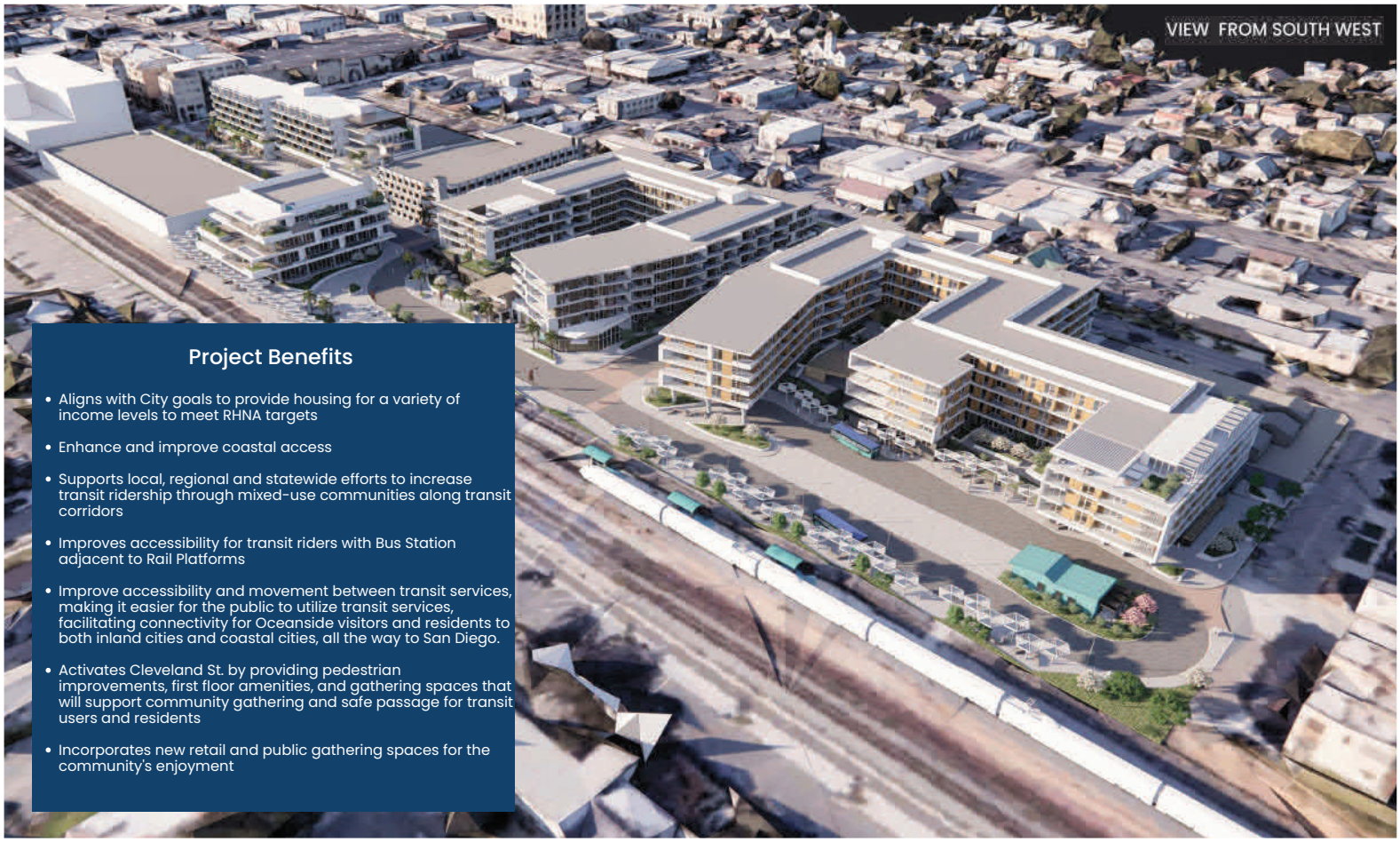
Thoughtful Planning and Design

- Inspired by Irving Gil, the architect of the historic Oceanside City Hall (now the Oceanside Museum of Art), the design incorporates Spanish and Mission style architecture through its use of materials, colors, and arched porticoes and indoor-outdoor spaces, such as patios, porches, and courtyards.
- Color blocking, balconies and roof top decks help break up the building's facade.
- Deeper setbacks allow for landscape buffers for the ground floor units.
- Multiple garage entries are provided for improved resident and guest circulation.









Project Benefits

- Aligns with City goals to provide housing for a variety of income levels to meet RHNA targets
- Enhance and improve coastal access
- Supports local, regional and statewide efforts to increase transit ridership through mixed-use communities along transit corridors
- Improves accessibility for transit riders with Bus Station adjacent to Rail Platforms
- Improve accessibility and movement between transit services, making it easier for the public to utilize transit services, facilitating connectivity for Oceanside visitors and residents to both inland cities and coastal cities, all the way to San Diego.
- Activates Cleveland St. by providing pedestrian improvements, first floor amenities, and gathering spaces that will support community gathering and safe passage for transit users and residents
- Incorporates new retail and public gathering spaces for the community's enjoyment

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☒ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

Has the change in traffic patterns, increased auto & foot & bus traffic, been fully studied?

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 4
9/15/22 Introduction Meeting: Comment Cards

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☑ I need more information. Email me at CKelly711@gmail.com.
- ☐ I do not support this vision.

Likes	*Dislikes*
• We need more affordable housing • brings opportunity to underutilized space • office space could bring in innovative businesses • increased use of public transit, ideally?	• relocation of transit bus stop to a ~~more~~ residential area • money moving to outside developer instead of local developer who knows areas / current needs & could put a more realistic plan together for • No more coffee & pilates shops needed.

Are there other benefits you'd like to see incorporated?

+ clean energy use throughout developments
+ green space w/ urban garden ~~f~~useful plants that don't suck up limited water to look pretty
+ What are the successful projects that Toll Bros previously completed?

What else would you like us to know?

There needs to be a plan for safety and health standards at the bus stop, especially if moving closer to residents. The plan shouldn't include blocking residential beach access, or increasing current citizens walk to beach.

How did you hear about this evening's meeting:

☐ Notice letter ☒ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☒ I need more information. Email me at DavidLeeHeffernan@gmail.com
- ☐ I do not support this vision.

Likes	*Dislikes*
• Fills an unused space with opportunity • Housing is greatly needed • Brings Jobs • Brings more transit riders	• Bus Route plan up Mission St. • owned by outside company • tenant/Landlord model for Business or units for sale? • Money flows out of community?

Are there other benefits you'd like to see incorporated?

- Community Park area
- Please, No More Coffee Shops :)

What else would you like us to know? • Will train frequency increase?

- Concerned about bus stop security moving closer to existing residential
- Energy Plan? I saw solar will it be 100% renewable?

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation. working w/ ARLENE

- ☑ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*

Are there other benefits you'd like to see incorporated?

ELECTRICAL HOOK-UP FOR TRAINS - TURN OFF APU WHILE TRAINS ARE STABLED

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☑ Other Source: ARLENE

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list. HQ.PARSONS@GMAIL.COM
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.
- ☒ IT'S OK BUT WE WOULD LIKE TO SEE CHANGES

Likes	*Dislikes*
IRVING GILL INSPIRED ELEMENTS IN MISSION AVE BLDG LOW INCOME HOUSING	6 STORIES - too tall, suggest 4 TOO MUCH DENSITY

Are there other benefits you'd like to see incorporated?

DOG PARK, GRASSY AREAS, SCULPTURE PARK, LESS HARDSCAPING, MORE COMMUNITY SPACE, USEABLE COMMUNITY ART/CULTURE PROGRAMMING SPACE LIKE FOR TROLLEY DANCE / PROGRAM; ARCHITECTURAL STYLE MORE CONSISTENT WITH OCEANSIDE, SOME IRVING GILL/ARCHED ELEMENTS. LYFT/UBER ACCESS AREAS

What else would you like us to know?

MORE TERRACED WALLS, VERSUS STRAIGHT VERTICAL WALLS

~~Less Hardscaping~~
CAN BUS TRAFFIC BE DISTRIBUTED AMONGST MULTIPLE STREETS, NOW ALL UP SEACAVE

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list. mestvohl@hotmail.com
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☒ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
-parking better than similar projects ↳ already @ detroit - could use more -general design is nice	-concerned about resident traffic flow. Tremont @ const hwy overwhelmed -concerned about height

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

cleveland street resident

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☒ I do not support this vision. part of it okay...

Likes	*Dislikes*
potential for amenities (But I worry about increase in volume)	- loosing open space → will there be more parks? or dog park area? - Bus Route coming out on Cleveland Street

Are there other benefits you'd like to see incorporated?

- more open/public space - grass, pools, tennis (does the public have access?)
- > what is the plan for parking on the west side of tracks... more green is needed
- contained Bus Routes off of residential streets (Cleveland, Michigan, Tremont)
- whats the plan for homeless/transient population?

What else would you like us to know? - how much parking per unit? what is off street?

W
- would like access to platform from Wisconsin ~~Street~~ Ave

> our street parking is already getting crunched on tremont & cleveland!
- what will be the traffic signal updates ~~on~~ Between PCH & the freeway / egress / ingress to accomidate increase population???

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source: _____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☒ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
1) Moving the bus station 2) More shops 3) Under ground parking 4) Leaving homes and existing apartment un touched.	1) Need more greenery 2) Hotel party noise and bar noise levels. 3) ~~Going to need more~~ security and not enough and inforcement.

Are there other benefits you'd like to see incorporated?

yes, the sinking of power lines on tremont st,

What else would you like us to know?

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☒ I need more information. Email me at RONHUNT888ATT.NET
- ☐ I do not support this vision.

Likes	*Dislikes*
Seems to be a well thought out plan.	transit center farther from downtown center

Are there other benefits you'd like to see incorporated?

LOTS of green space. The current transit center is the closest thing we have to a park

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☒ Other Source: Notice in bldg.

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☑ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☑ Add me to the email list.
- ☑ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☑ I need more information. Email me at bogart.hochman@gmail.com
- ☑ I do not support this vision.

Likes	*Dislikes*
See mollys photos	

Are there other benefits you'd like to see incorporated?

See Mollys photos

What else would you like us to know?

See Mollys photos

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☑ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☒ I need more information. Email me at brenda@batali.com
- ☐ I do not support this vision.

Likes	*Dislikes*
• Clean up of transit area • Removal of bus stop away from Seagaze. Currently a gathering space for homeless	Would like to see maximum of 5 stories

Are there other benefits you'd like to see incorporated?

More open park areas for visiting or waiting for train.
More open air dining

What else would you like us to know?

• We worry about density of Seagaze traffic – one of few exits from beach area
• Too bad existing transit parking garage (filthy, unsafe for cars + people, source of street racing) could not be removed + replaced by park. OCEANSIDE DOES NOT HAVE A NICE PARK.

Brenda B Batali

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Joan Beckman

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
	will be like Miami Beach – a wall

Are there other benefits you'd like to see incorporated?

No Palms
Parkways planted on all streets as much as possible
Real trees-canopy
Must have Skyline –

What else would you like us to know?

Use the Mission panel better.
Build Marina Towers South. It is in Downtown
We must have places not just continuous

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source: Searched city after someone mentioned it

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- [x] I'd like to meet one-on-one with a member of the outreach team.
- [ ] I am interested in hosting a small group meeting in my home.
- [ ] Add me to the email list.
- [ ] I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- [x] I like what I see so far.
- [ ] I need more information. Email me at _____.
- [ ] I do not support this vision.

Likes	*Dislikes*
The Develeopment of the new buildings.	The Changes of Oceanside

Are there other benefits you'd like to see incorporated?

The new transit station.

What else would you like us to know?

The Design of new buildings of Oceanside.

How did you hear about this evening's meeting:

- [ ] Notice letter
- [ ] Friend/Neighbor
- [x] Social Media
- [ ] Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
Better Transit Center	Much More Traffic

Are there other benefits you'd like to see incorporated?

Please provide small, local entrepreneurial opportunities for limited income folks. – Carts etc.

What else would you like us to know?

Appreciate the open house

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☒ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☑ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☑ I like what I see so far.
- ☑ I need more information. Email me at Michael.Stephens@Destinationhotels.com.
- ☐ I do not support this vision.

Likes	*Dislikes*

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC. Maryannt@cox.net

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☒ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*

Are there other benefits you'd like to see incorporated?

High end grocery store

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☑ Other Source: Main Street Oceanside

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☑ I am interested in hosting a small group meeting in my home. @ Main Street Oceanside
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☑ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
New ideas. Something is getting done.	Building has no synergy On Transit st. Need more green space. Cleveland St., make it a through Street.

Are there other benefits you'd like to see incorporated?

Art projects - Small community outdoor meeting space
Better flow.

What else would you like us to know?

It's a great start. My opinion, needs more work to flow with Downtown lifestyle.

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☑ Other Source: City/Gov.

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at mjacobs8285@gmail.com
- ☐ I do not support this vision.

Likes	*Dislikes*
Overall development.	The proximity of the bus turn-around to S. Cleveland St. and its current tranquility

Are there other benefits you'd like to see incorporated?

Move the bus turn-around further north of its current location and addition of significant screening of some sort relative to S. Cleveland St.

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☒ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☑ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
Designs look good and very nice. Excited to see upscale development	Buses and bus turnaround very close to homes on Cleveland St. Need a barrier BADLY!

Are there other benefits you'd like to see incorporated?

Just the barrier/landscaping to protect Cleveland St residents in brand new homes from the busses and bus travelers/homeless

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☒ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☒ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☒ I need more information. Email me at jebramky@hotmail.com
- ☐ I do not support this vision.

Likes	*Dislikes*
Affordable housing.	Based on Missouri Increase Traffic on S. Cleveland Bus Noise in S. Cleveland Missouri Area Height of apartments – too high!

Are there other benefits you'd like to see incorporated?

Supermarket with produce – not a convenience store in retail area.

What else would you like us to know?

Is Toll Bros, or NCTD going to provide sanitation + security? Sanitation currently w/in the transit center is quite bad.
- How many buses will travel on Missouri and ~~what does~~ how is the new controlled intersection laid out?
When will be completed? How long for construction?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☒ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☒ I need more information. Email me at pjalford@outlook.com.
- ☐ I do not support this vision.

Likes	*Dislikes*
	No grocery store!

Are there other benefits you'd like to see incorporated?

Area needs a small grocery store!

What else would you like us to know?

Allow for online comments.

How did you hear about this evening's meeting:
☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list. adav@SAN.RR.com
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☒ I do not support this vision.

Likes	*Dislikes*
	Too much Development Density is too high Buildings are too High

Are there other benefits you'd like to see incorporated?

More Greenspace
Add a Tesla Super Charging Station

What else would you like us to know?

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
- some of the ideas - underground flex - Parking garage - some of the design	not green space buildings too high for neighborhood Too many units

Are there other benefits you'd like to see incorporated?

would like to see more/some green space

What else would you like us to know?

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☑ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☑ I need more information. Email me at janeann kenny@gmail.com
- ☐ I do not support this vision.

Likes	*Dislikes*
Clean up area encourage public transport	density - increase in cars on already busy 101 - 560 cars added to Oceanside would prefer ownership. of part of project.

Are there other benefits you'd like to see incorporated?

raised walkway bridge to accomodate the increase in foot/bike traffic. Reduced # of units.
Clean up tunnel currently to beach. long term leases

What else would you like us to know?

Streets area do not have stop signs

What other projects have they done?
How many buses go through the area?
adding walking/buses/pickup drop off/visitors.
~~Homeless encampments~~. Bus pollution.

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☒ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
	Parking concerns

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

Worried parking will overflow to current residential neighborhoods especially Ditmar. Hoping for some limits added to current resident parking streets such as 2hr except for permit parking.

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☒ I do not support this vision.

Likes	*Dislikes*
	DESIGN - LACK OF PUBLIC SPACE, NOT ENOUGH GREEN

Are there other benefits you'd like to see incorporated?

A DESIGN THAT BENEFITS THE RESIDENTS OF COASTAL OCEANSIDE - A WALKABLE COMMUNITY - ONE PASEO INSTED OF CEMENT AND MORE CEMENT

What else would you like us to know?

REDESIGN ~~THE~~ PROJECT.

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☒ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☒ I do not support this vision.

Likes	*Dislikes*
None	Height of Hotel Road Infrastructure does not support this project

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

I am very unhappy with this project. You are ruining my view.

How did you hear about this evening's meeting:

☐ Notice letter ☒ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- [x] I'd like to meet one-on-one with a member of the outreach team.
- [x] ~~I am~~ interested in hosting a small group meeting ~~in my home.~~ at the Oceanside BIKE & PED COMMITTEE
- [x] Add me to the email list.
- [ ] I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

TOM LICHTERMAN

- [ ] I like what I see so far.
- [ ] I need more information. Email me at tlichterman@cox.net
- [x] I do not support this vision.

Likes	*Dislikes*
NONE	1. Current OTC has 17 Bus Stalls. Proposal has 12. Why? (OVER)

Are there other benefits you'd like to see incorporated?

see back side

What else would you like us to know?

see back side

How did you hear about this evening's meeting:

- [x] Notice letter
- [ ] Friend/Neighbor
- [x] Social Media
- [ ] Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

2. Bus-rail integration needs to be as easy as possible. Vista Transit Center is a good example of one that works. It is hard to tell how this plan accomplishes that.

3. Transit users, esp. those that arrive by bike or foot, seem to have little attention in this plan and MUST weave through massive building on heavily-used roads.

4. active transportation users get little attention in this plan. The plan needs to have safe & secure bike parking for:

1) every-day commuters
2) Bike share e-bikes
3) Casual-use visitors

5) Parking for cars should be shared!

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list. ptirona@gmail.com
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☒ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
USE LOCAL BUSINESSES CONSOLIDATION OF TRANSIT TYPES IN ONE AREA PEDESTRIAN FRIENDLY	

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☒ I need more information. Email me at TOMPRANKUM@AOL.COM.
- ☐ I do not support this vision.

Likes	*Dislikes*
RESIDENTIAL	CIRCULATION

Are there other benefits you'd like to see incorporated?

SECURE PARKING FOR ACTIVE COMMUTES ETC
E BIKES

What else would you like us to know?

GROUND FLOOR RETAIL IS DICEY
SLR TRANSIT CTR IN EAST O'SIDE HAS MUCHO RETAIL SPACE ALL EMPTY FOR YEARS

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☒ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☒ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
Good looking architecture, lots of parking	Putting discount housing at the beach. Create lower cost housing inland

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☒ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☑ I am interested in hosting a small group meeting in my home. — Bike committee meeting.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
Everything looks wonderful, Vission Board	Looks similar to college Compase ~~Not enough~~ ~~enough~~ Move trees, Move Bike Paths

Are there other benefits you'd like to see incorporated?

Would like to see bike ~~Racks~~ Racks, in sight of stores and Bars.

What else would you like us to know?

Improvement on Oceanside Blvd
No street Lights!! ~~Traffic~~
need safe Bike path/Lane Oceanside Blvd.

How did you hear about this evening's meeting:
☑ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☐ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

How did you hear about this evening's meeting:

☐ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- [x] I'd like to meet one-on-one with a member of the outreach team.
- [x] I am interested in hosting a small group meeting in my home.
- [x] Add me to the email list.
- [x] I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- [x] I like what I see so far.
- [ ] I need more information. Email me at _____.
- [ ] I do not support this vision.

Likes	*Dislikes*
I like that it's mixed-use and adding housing stock	It's a great destination, but it doesn't come across as a transit center. I'd like to see more planning specific to pedestrians/micromobility.

Are there other benefits you'd like to see incorporated?

I'd like to see the transit center be its own building. The developer, Toll Brothers is lucky to be granted rights to level up such a large project in partnership with the city. Make sure we're not giving up the primary function of this site: transit

What else would you like us to know?

How did you hear about this evening's meeting:

- [x] Notice letter
- [ ] Friend/Neighbor
- [ ] Social Media
- [ ] Other Source:_____

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- [x] I'd like to meet one-on-one with a member of the outreach team.
- [ ] I am interested in hosting a small group meeting in my home.
- [x] Add me to the email list.
- [x] I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- [ ] I like what I see so far.
- [x] I need more information. Email me at michael.mitchell (760)717-0797
- [x] I do not support this vision.

Likes	*Dislikes*
Transit oriented development	Do not like the transit center. should be a seperate building should be like santa Fe Depot or ~~Kyoto~~ station or grand central station do not like the currents apt. configuration

Are there other benefits you'd like to see incorporated?

Architecture should be Modern Irving Gill with smooth Santa ~~Barbara~~ Barbara style stucco/plaster, large clear story window / floor to ceiling windows
- Destination style transit center building that is not incorporated into the apartment building

What else would you like us to know?

- Not in favor of how the buildings are flat and now shaded dark the side streets are
- seperate destination transit center
  Development feels very developer friendly over the benefits to the public

How did you hear about this evening's meeting:

- [ ] Notice letter
- [ ] Friend/Neighbor
- [x] Social Media
- [ ] Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☒ I like what I see so far.
- ☐ I need more information. Email me at PPapacek@yahoo.com
- ☐ I do not support this vision.

PATRICK PAPACEK
438 S CLEVELAND # 107

Likes	*Dislikes*
	PLEASE NO TRAFFIC TO GO SOUTH ON CLEVELAND, NEED TO KEEP HEAVY TRAFFIC OUT OF NEIGHBORHOOD

Are there other benefits you'd like to see incorporated?

What else would you like us to know?

SEEMS LIKE POTENTIALLY TOO MANY APARTMENTS. I HAVE SOME CONCERNS THAT THE PROPERTY BE PROFESSIONALLY MANAGED

How did you hear about this evening's meeting:

☐ Notice letter ☒ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☑ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☑ I like what I see so far.
- ☐ I need more information. Email me at _____.
- ☐ I do not support this vision.

Likes	*Dislikes*
the housing look really nice	

Are there other benefits you'd like to see incorporated?

more opport for small bus/

What else would you like us to know?

doing a great job!

How did you hear about this evening's meeting:

☐ Notice letter ☑ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

Oceanside Transit Center
Community Open House | September 15, 2022

Thank you for attending the Community Open House for the OTC redevelopment project (9/15/22)! We're grateful for your time and look forward to hearing your feedback.

The land use planning process is lengthy, we hope you'll be part of the conversation.

- ☐ I'd like to meet one-on-one with a member of the outreach team.
- ☐ I am interested in hosting a small group meeting in my home.
- ☒ Add me to the email list.
- ☐ I want to learn how I can support the new OTC.

The new Oceanside Transit Center is envisioned as a vibrant, mixed-use hub where visitors and locals can live, play, and connect. The Project will mix lifestyle elements, including new mixed-income apartments, hospitality, office and a mix of shopping and dining options, with a modernized and efficient transit center, including improved pedestrian and bicycle circulation. How do you feel about the preliminary vision?

- ☐ I like what I see so far.
- ☒ I need more information. Email me at info@CADENCEDANCEPROJECT.com.
- ☒ I do not support this vision.

Likes	*Dislikes*
11	- CREATES BIGGER HOMELESS/TRANSIET PROBLEM - PARKING PROBLEM, TRAFFIC CONGESTION - PUSHING TRANSIT/BUS STATION CLOSER TO RESIDENTIAL NEIGHBORHOODS - NEGATIVE IMPACT ON LOCA BUSINESS THAT ARE ALREADY STRUGGLING W/ PARKING - IMPACT ON COMMUNITY, DISPLACEMENT AND TRAFFIC DURING CONSTRUCTION PROCESS - DANGEROUS TO HAVE RESIDENTS LIVING ABOVE BUS AND TRANSIT CENTER

Are there other benefits you'd like to see incorporated?

- MORE PARKING
- LEAVE TRANSIT/BUS TERMINAL ON STAGNATE (YOU ARE CURRENTLY PUSHING HOMELESS PROBLEM INTO RESIDENTIAL NEIGHBORHOODS

What else would you like us to know?

- WOULD LIKE TO CONNECT W/ PEOPLE WHO OPPOSE THIS PLAN.

How did you hear about this evening's meeting:

☒ Notice letter ☐ Friend/Neighbor ☐ Social Media ☐ Other Source:_____

Toll Brothers APARTMENT LIVING NORTH COUNTY TRANSIT DISTRICT

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 5
2/1/23 Scoping Meeting: Presentation Slides

Oceanside Transit Center Redevelopment



PUBLIC SCOPING MEETING

February 1, 2023

Tonight's Agenda



Purpose of the Scoping Meeting



Overview of the Proposed Project



Environmental Review Process



Topics to be Analyzed in the EIR



Public Input

PURPOSE OF THE SCOPING MEETING

- INFORM THE PUBLIC OF THE PROPOSED PROJECT AND THE CITY'S INTENT TO COMPLETE A PROJECT-LEVEL EIR
- REVIEW TOPICS TO BE ADDRESSED IN THE EIR
- PRESENT AN OVERVIEW OF THE ENVIRONMENTAL REVIEW PROCESS
- RECEIVE PUBLIC COMMENTS REGARDING ENVIRONMENTAL TOPICS AND ISSUES OF CONCERN

Community Context

The project is based on a thorough review of the site constraints and opportunities, and mindful of the surrounding uses.



Existing Condition: OTC at 235 S. Tremont





Project Overview

The revitalized Oceanside Transit Center is envisioned as a vibrant, mixed-use hub for visitors and long-time locals. The Project will mix lifestyle elements with a modernized and efficient transit center, including bus and train connections and improved bicycle and pedestrian circulation.



Boutique Lifestyle Hotel and Creative Retail





A Modernized and Efficient Transit Center

Ticketing for both trains and buses will be centralized within a new Transit Center in the middle of the site which will make it easier for people to take advantage of all the high-performing transit options available at the OTC.





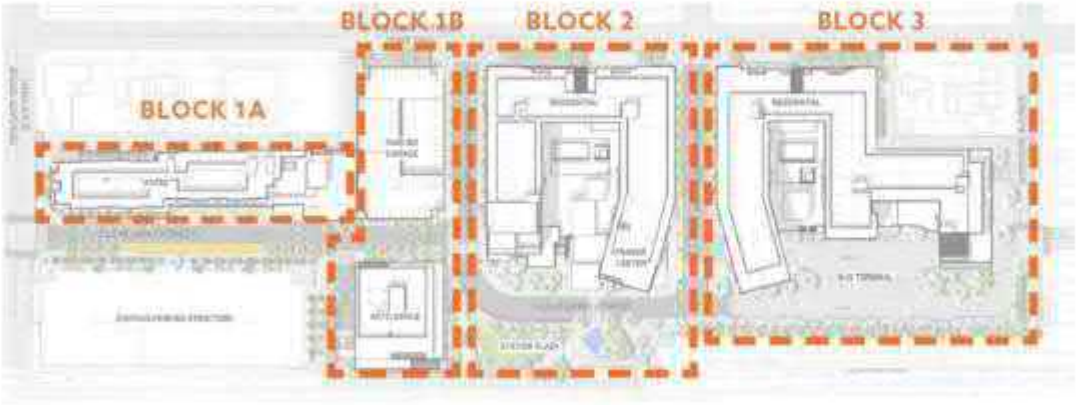
Circulation



Parking

Parking is included throughout the site, including two levels of subterranean parking, to accommodate the various uses.

The parking spaces outlined below are in addition to the existing parking structure on Seagaze.





BLOCK 1A

- **170 Parking spaces**
- Boutique hotel
- 11,000 SF of ground retail



BLOCK 1B

- **630 Parking spaces**
- NCTD Headquarters



BLOCK 2

- **480 Parking spaces**
- 250 Apartments
- 12,800 SF of ground retail
- 4,000 SF Transit Center
- 18,000 SF Public Plaza



BLOCK 3

- **500 Parking spaces**
- 297 Apartments
- 12 Bus bays

New NCTD Headquarters

This is an opportunity to create a world-class facility that will support NCTD operations and position the OTC to continue to serve millions of riders each year, now and in the future.



Mixed-Income Housing

Housing Breakdown

Of the 547 proposed units, 82 will be designated for affordable housing

Affordable Housing

- 10% of the total units will be for low-income households
- 5% of the total units will be for moderate-income households

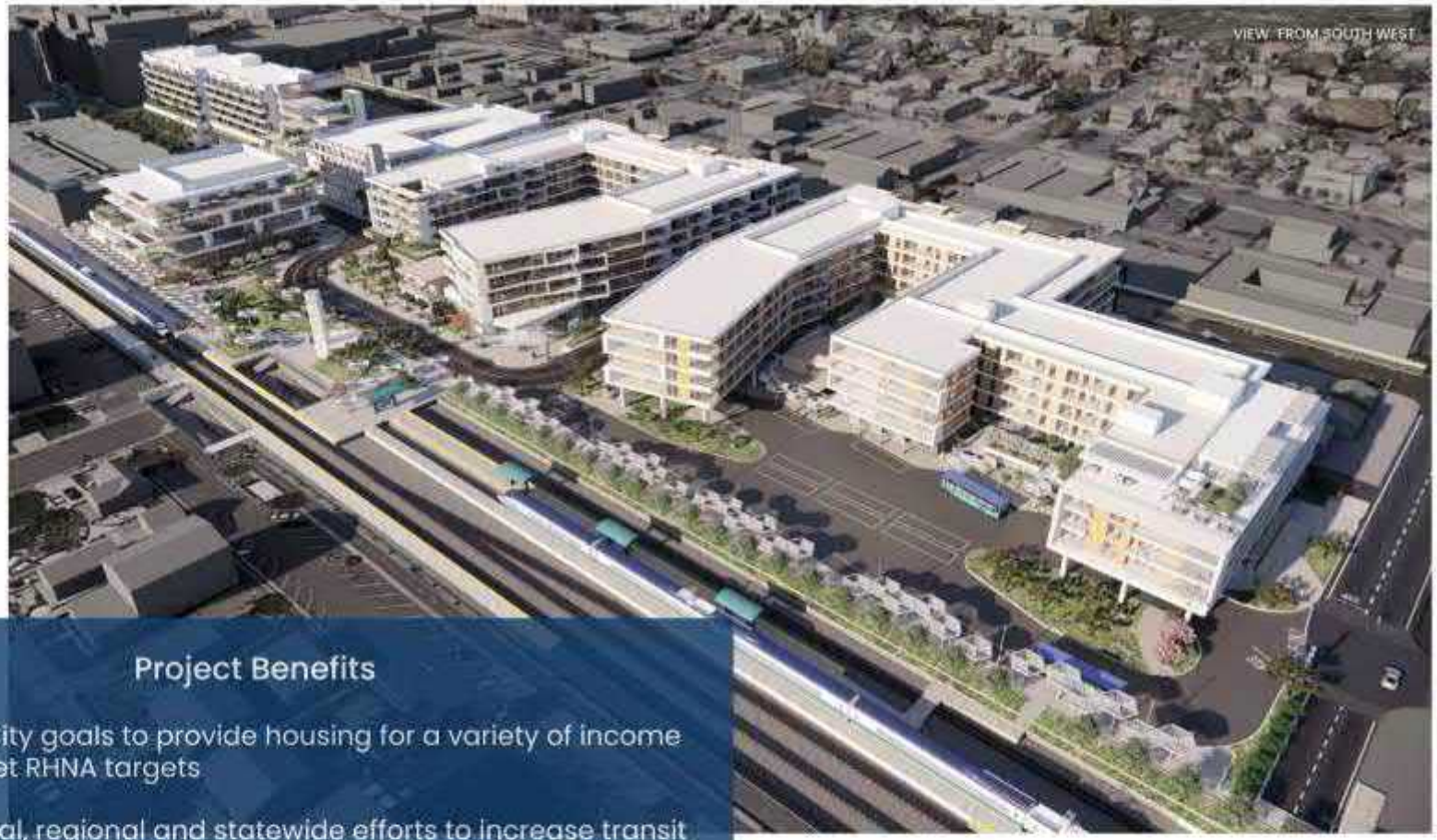


The Project exceeds Oceanside Affordable Housing requirements.

15% of the homes at each site will be designated affordable housing.

Number of Persons in Household:		1	2	3	4	5	6	7	8
San Diego County Area Median Income: $106,900	Acutely Low	11250	12850	14450	16050	17350	18600	19900	21200
	Extremely Low	27350	31250	35150	39050	42200	45300	48450	51550
	Very Low Income	45550	52050	58550	65050	70300	75500	80700	85900
	Low Income	72900	83300	93700	104100	112450	120800	129100	137450
	Median Income	74850	85500	96200	**106900**	115450	124000	132550	141100
	Moderate Income	89800	102650	115450	128300	138550	148850	159100	169350

Source: https://www.hcd.ca.gov/docs/grants-and-funding/inc2k22.pdf



Project Benefits

- Aligns with City goals to provide housing for a variety of income levels to meet RHNA targets
- Supports local, regional and statewide efforts to increase transit ridership
- Improves accessibility and movement between transit services, making it easier for the public to utilize transit services, facilitating connectivity for Oceanside visitors and residents to both inland cities and coastal cities, all the way to San Diego.
- Activates Cleveland St. by providing pedestrian improvements, first floor amenities, and gathering spaces that will support community gathering and safe passage for transit users and residents

REQUIRED ENTITLEMENTS

- General Plan Amendment
- Change of Zone
- Adoption of the Oceanside Transit Center (OTC) Specific Plan
- Local Coastal Plan Amendment
- Development Agreement
- Coastal Development Permit
- Vesting Tentative Tract Map
- Subsequent grading/building permits

PURPOSE OF CEQA

TO <u>DISCLOSE</u> INFORMATION ABOUT POTENTIALLY SIGNIFICANT ENVIRONMENTAL EFFECTS OF A PROJECT



TO IDENTIFY WAYS TO <u>AVOID OR MITIGATE</u> SIGNIFICANT ENVIRONMENTAL IMPACTS



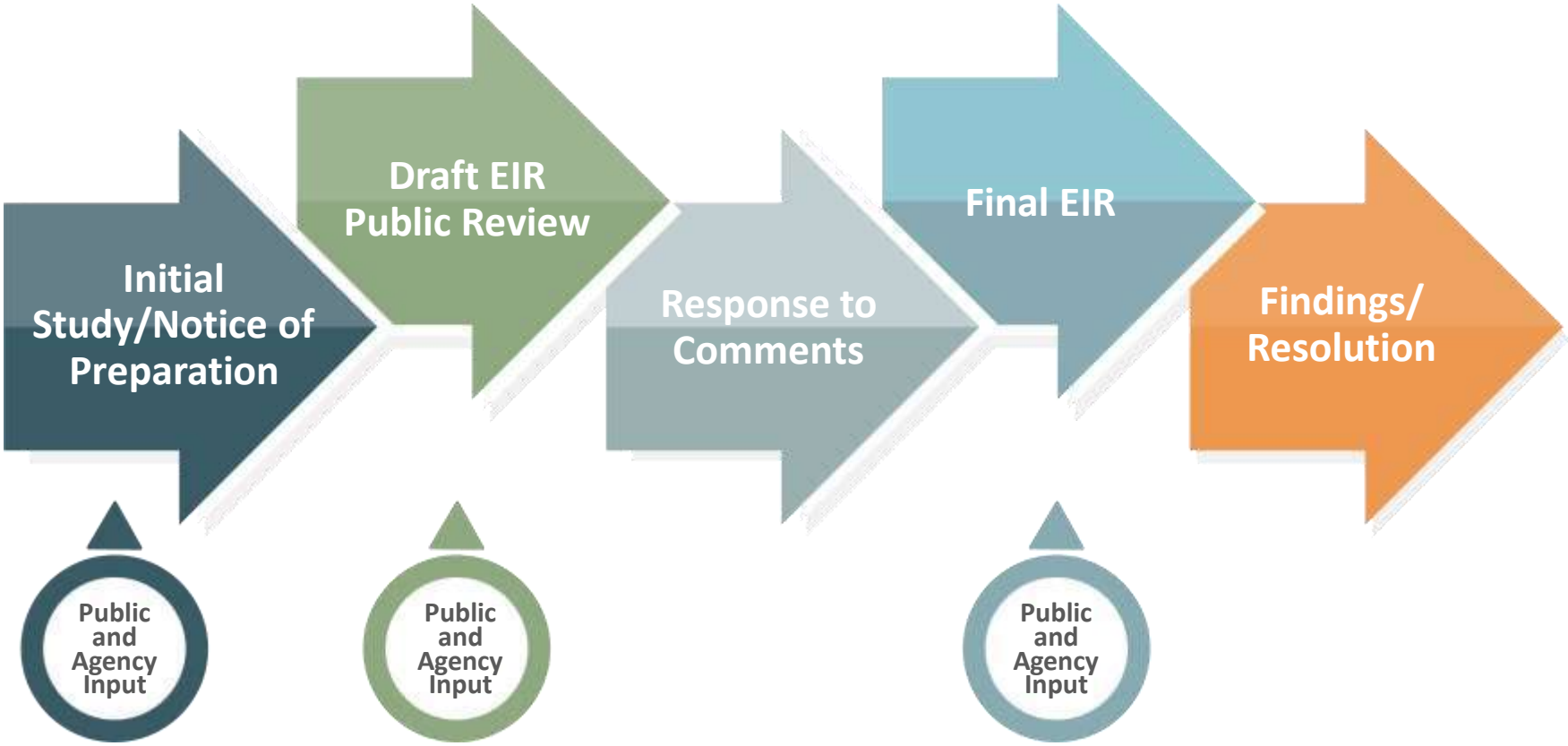
TO ENHANCE <u>PUBLIC PARTICIPATION</u> IN THE PLANNING PROCESS



TO FOSTER INTERAGENCY <u>COORDINATION</u> IN THE REVIEW OF PROJECTS



OVERVIEW OF THE CEQA PROCESS



TOPICS TO BE ANALYZED IN THE EIR

- Land Use
- Aesthetics/Light and Glare
- Biological Resources
- Tribal and Cultural Resources
- Geology/Soils
- Hydrology/Water Quality
- Hazards/Hazardous Materials
- Transportation
- Air Quality
- Greenhouse Gas Emissions
- Energy
- Noise
- Population/Housing
- Public Services/Recreation
- Utilities/Service Systems
- Cumulative Effects
- Alternatives

EIR SCHEDULE

Notice of Preparation 30-Day Public Review Period	Draft EIR 45-Day Public Review Period	Planning Commission/City Council Public Hearings
January 13, 2023 through February 13, 2023	Spring 2023 (tentative)	Summer 2023 (tentative)

Public Comments

Send Written Comments to:

Mr. Rob Dmohowski, AICP,

Principal Planner

City of Oceanside

300 N. Coast Hwy

Oceanside, CA 92054

rdmohowski@oceansideca.org

Public Comment Period Closes:

February 13, 2023

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 6
2/22/23 Transit and Mobility (Part 1): Questions

Question	Asker Name	Asker Email	Follow up/Written Response
Hi, interperation does not look to be set up :) Could you fix it?	Alla Valdespino	all ail.com	We apologize for this technical glitch. We are currently adding Spanish subtitles to the video and will post to the website soon.
Is it anticipated that the new ZEB buses will be assigned to OTC?	Mary		There are 6 battery electric buses that are primarily going to be used out of Escondido. There are 12 hydrogen fuel cell busses that will be used out of Oceanside. Those 12 hydrogen fuel cell busses represent about 13% of NCTD's fleet.
Does the current design plan presented today include the changes you have made based on City and community input since the September 2022 meeting?	Kevin Ham	Ke om	Yes - the current site plan reflects several plan changes that have been made in reponse to community feedback. Changes include wider sidewalks, relocation of the NCTD operations building, increased greenscreening at Clevelnad and Missouri. Full details will be discussed during Transit and Mobillity - Part 2 on 3/16.
Wich of the best practices bus terminal examples were located near high density housing areas?	Cait Kelly	ck m	The examples shown during the meeting were chosen because the were easier to see. However, Portland has several stations that are in high density areas with condos and apartments built around them. The station at North Temple in Salt Lake City is another example that started out as a commuter station where high density apartments were later built.
The three best practices you have shown did not show existing high density ground level residential nearby. Do you have any examples where there is similar residential nearby your best practices suggestions prior to relocation	Kevin Ham	Ke om	Examples will be added to the project website.

Info Redacted for Attendees Privacy

NCTD Board Policy 33 section 3c calls for “Design Rigor. Projects shall demonstrate a high quality of design that is both sensitive to community context and enhances the surrounding community.” How does this project and the relocation of the bus stalls meet this goal?	Kevin Ham	Ke	om	The proejct enhances the surrounding community by developing what is largely a surface-level parking lot into a welcoming and engaging community hub complete with public art, dining and retail, and a centralized ticketing and customer service center for transit riders. + The relocated bus stalls improve the transit experience by creating a direct line of site between the modes and reducing the distance between the bus and train platforms.
What obstacles do you all anticipate?	Polly Rose	po	com	We are early in the process and are still working to balance NCTD requirements, city expectations and neighborhood requests/concerns to create a revitalized Oceanside Transit Center that will services local and regional riders for decades to come. By providing meaningful opportunities to learn more and provide feedback, we believe this can be a positive and productive process.
Will the additional parking garage created be a paid garage or free parking?	David	da	gmail.com	A parking management system hasn't been contemplated for the public parking at OTC. Research shows that paid parking actually decreases transit use. We share the community's desire to encourage active transportation and are exploring collaborative solutions with the city of Oceanside to create a network of connectivity.
Is there a planned location for bike parking and how many bikes will it accomodate?	Alla Valdespino	alla	ail.com	Yes - mobility elements are included in the plans. We look forward to sharing more detail at the 3/16 meeting.

Info Redacted for Attendees Privacy

Is the style of shade covering for the bus island be disclosed in the aesthetics meeting? Because for example, the Vista Transit Center shade covering is really poor at covering anything.	Alla Valdespino	all	ail.com	Yes. Providing shade is an important part of improving the rider experience. In addition to built shade coverings, we're also adjusting the landscape plans to include a lusher tree canopy.
How does the project provide pedestrian and bicycle access to and from the downtown area? How is it a gateway to downtown?	John MacDowell	jo	@gmail.com	The redesigned Oceanside Transit Center extends Cleveland Street through the site. Public art, monumentation and clear wayfinding will create a sense of arrival and help visitors on all modes easily navigate the Transit Center. Widened sidewalks and safe pedestrian crossings are included throughout the site.
With the current issues of erosion along the coast will there be a movement of the tracks (amtrack/san clemente , coaster/del mar) built into the project plans as track closure has impacted rail service lately	Jane Kenny	ja	ail.com	This particular issue does not apply to OTC due to the configuration of the tracks and topography of the site.
What infrastructure upgrades are planned for the roadway arteries to/from 76, 78, 5, PCH, Mission ave, Oceanside blvd, etc to support the increase residential apartment population? Traffic signal upgrades, etc?	Andrew Emmons	an	gmail.com	Highway improvements are outside the perview of this project. A complete traffic study will be included in the Draft Environmental Impact Report which will be available for public review early this summer. Any offsite traffic mitigation will be included in that report.
For an EIR of this magnitude, this seems like a very short time from EIR scoping to Final EIR, what is the latest date you think this may be completed?	Kevin Ham	Ke	com	A 30-day scoping period is standard for CEQA. The public review period for the DEIR will be 45-days.
Sorry- I joined very late. When will the recording of this session be available?	Diane Nygaard	dr	com	The video recording has been posted to the website.
What was the answer to this question? "Does the current design plan presented today include the changes you have made based on City and community input since the September 2022 meeting?"	Jane Marshall	jm		Yes.
Thank you for your time and information today.	Kevin Ham	Ke	com	You're welcome!

Info Redacted for Attendees Privacy

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 7

3/16/23 Transit and Mobility (Part 2): Presentation Slides

Oceanside Transit Center Redevelopment

Transit and Mobility - Part 2. Mar. 16, 2023











Toll Brothers
APARTMENT LIVING

NORTH COUNTY
TRANSIT DISTRICT

Transit & Mobility - Part 2
March 16, 2023



Meeting Format:

Transit & Mobility - Part 1 review

Project overview

Feedback summary

Review of project modifications and mobility elements

Next steps

Q & A

Revitalizing the Oceanside Transit Center

The redevelopment of the OTC is an opportunity to create a welcoming and engaging community gathering place, with a mix of shops and dining options that fit the community character.

Planning Goals

- Support local, regional and statewide goals for reducing Californians' reliance on single-occupancy vehicles by improving public transit offerings.
- Redevelop an underutilized site to provide affordable housing and create jobs.
- Increase the efficiency of operations of the existing Oceanside Transit Center.
- Align with the City of Oceanside's vision to "focus on creating vibrant, walkable, visually attractive and engaging mixed-use communities centered along Coast Highway and the major east-west commercial corridors, around Sprinter Stations, and in the Downtown District."
  Onward Oceanside, General Plan Update Draft Vision Statement
- Create pedestrian-friendly connections that welcome visitors, commuters, and existing neighbors to new shops and social gathering places.









Community Context

The project is based on a thorough review of the site constraints and opportunities, and mindful of the surrounding uses.

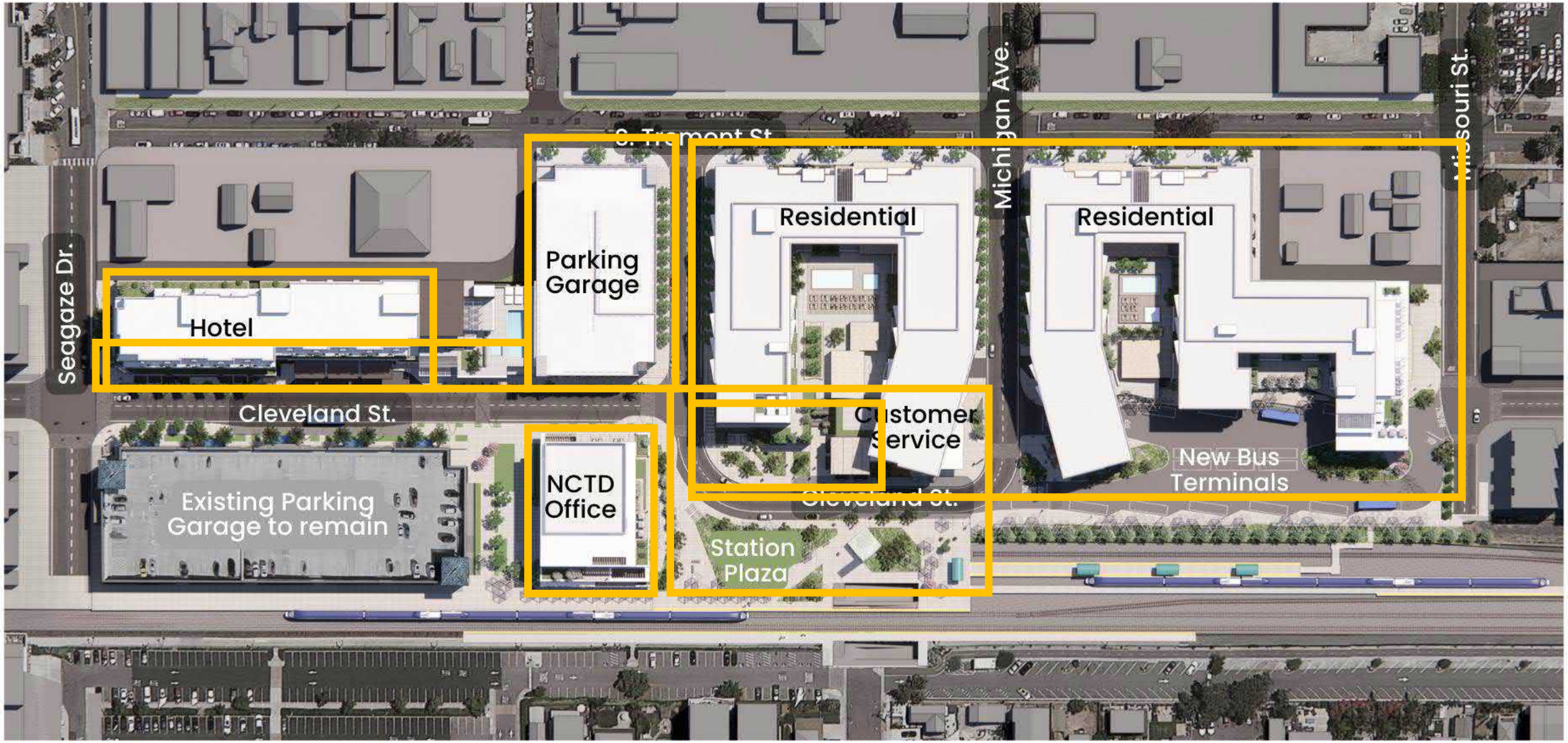


Existing Condition: OTC at 235 S. Tremont





Oceanside Transit Center Project Overview



Project Milestones

In 2016, the NCTD Board of Directors adopted a policy that would pursue development of some of its real estate holdings. The redevelopments are intended to reduce automobile reliance, increase transit ridership, and create jobs and affordable housing.

- Proposal Review Process — 2020
- Planning and Design — 2021
- Application Submittal — Aug. 2022
- Community Engagement Begins
- Refine Vision
- Amend Application — (As Needed)
- CEQA Scoping Period — 1/13 - 2/13/23
- Transit + Mobility Part 1 — 2/22/23
- Transit + Mobility Part 2 — 3/16/23
- Aesthetics
- Public Review of DEIR — Summer 2023
- Inform and Update
- Respond to Comments
- Finalize EIR
- Inform and Update
- Oceanside Planning Commission
- Oceanside City Council — Late 2023
- CA Coastal Commission

Email Outreach@OsideTransit.com

CEQA Environmental Review

Opportunity for public comment

Community Responsive Planning



What we've heard:

Sense of arrival for the Transit Center

Easy multi-modal navigation and circulation

Mobility elements to support active transportation

Parking management

Integration of community input

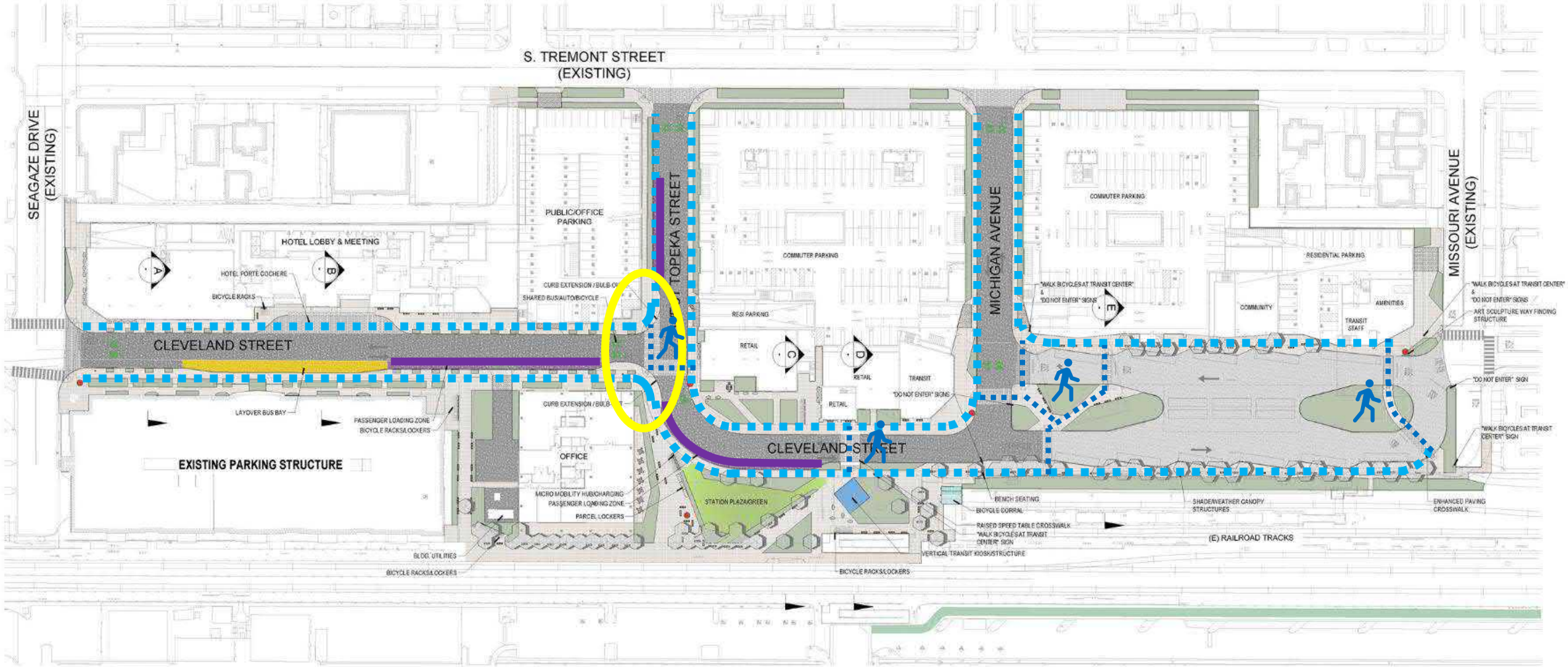
NOTE: Feedback included is specific to Transit & Mobility

Improved Pedestrian Circulation

Goals Met:
Easy multi-modal navigation and circulation
Mobility elements to support active transportation

Project Modifications:

- Wider sidewalks



Community Responsive Planning

9/15/22



STATION PLAZA AND DROP-OFF AREA

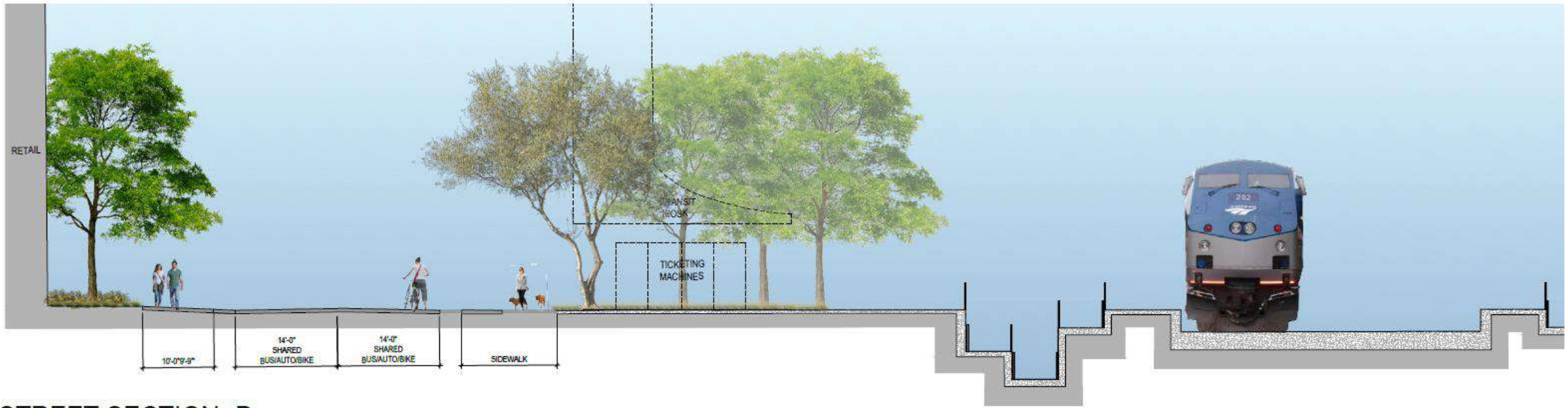
3/16/23



STATION PLAZA AND DROP-OFF AREA



KEY MAP
SCALE: 1=100'-0"



STREET SECTION -D
SCALE: 1=10'-0"

Enhanced Transit Experience

Goals Met:
Easy multi-modal navigation and circulation
Sense of arrival

Project Modifications:

- Wider sidewalks
- Dedicated pick up/drop off zones
- Enhanced crossings
- Traffic calming elements

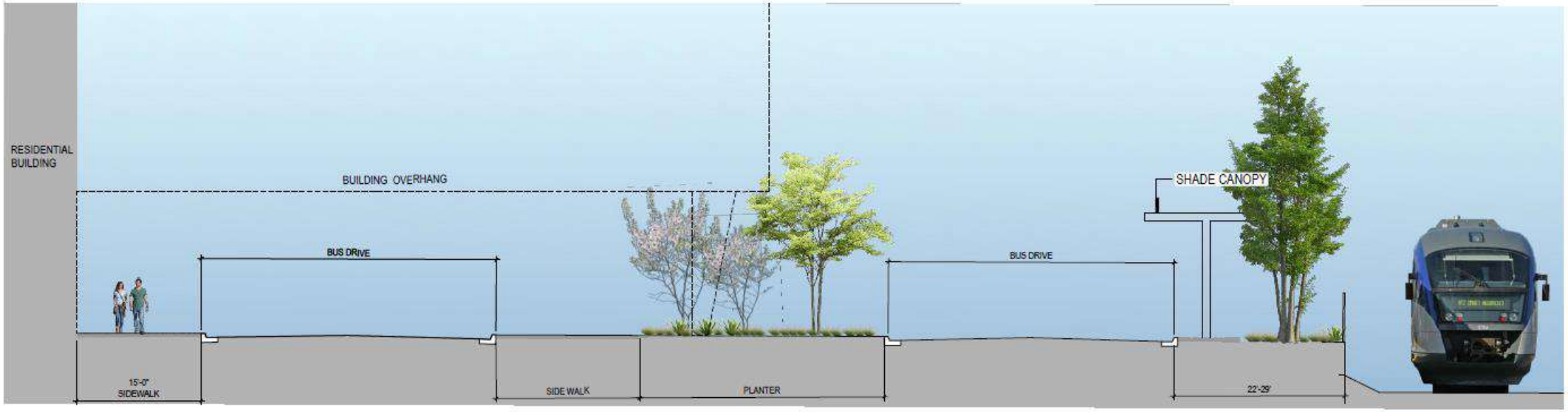




Best practices in the transit industry provide for a clear line of site between rail and bus areas, between all bus boarding platforms, and from the COASTER central control/security office to all the transit boarding areas."



KEY MAP
SCALE: 1=100'-0"



STREET SECTION -E
SCALE: 1=10'-0"

Enhanced Transit Experience

Goals Met:
Mobility elements to support active transportation
Sense of arrival



Project Features:

- Improved connectivity to train platforms
- Clear visibility to all modes
- Landscaped Station Plaza

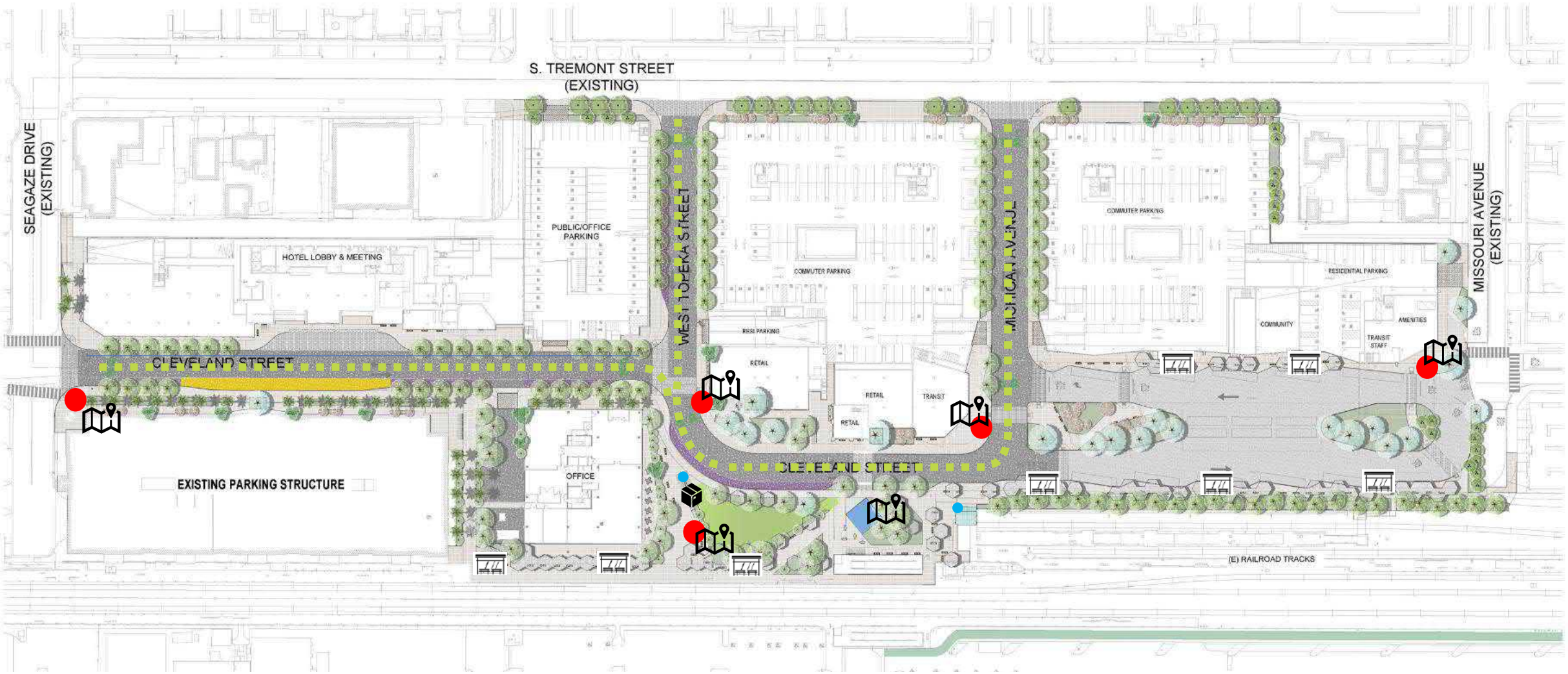
In Process:

Exploring potential to relocate Customer Service center



Mobility Elements

Goals Met:
Mobility elements to support active transportation
Easy multi-modal navigation and circulation



Potential Art Location

Wayfinding

Package Delivery

Drinking Fountain/Bottle Filling Station

Enhanced Transit Waiting

Shared Bus/Auto/Bicycle

Mobility Elements

Goals Met:
Mobility elements to support active transportation
Easy multi-modal navigation and circulation

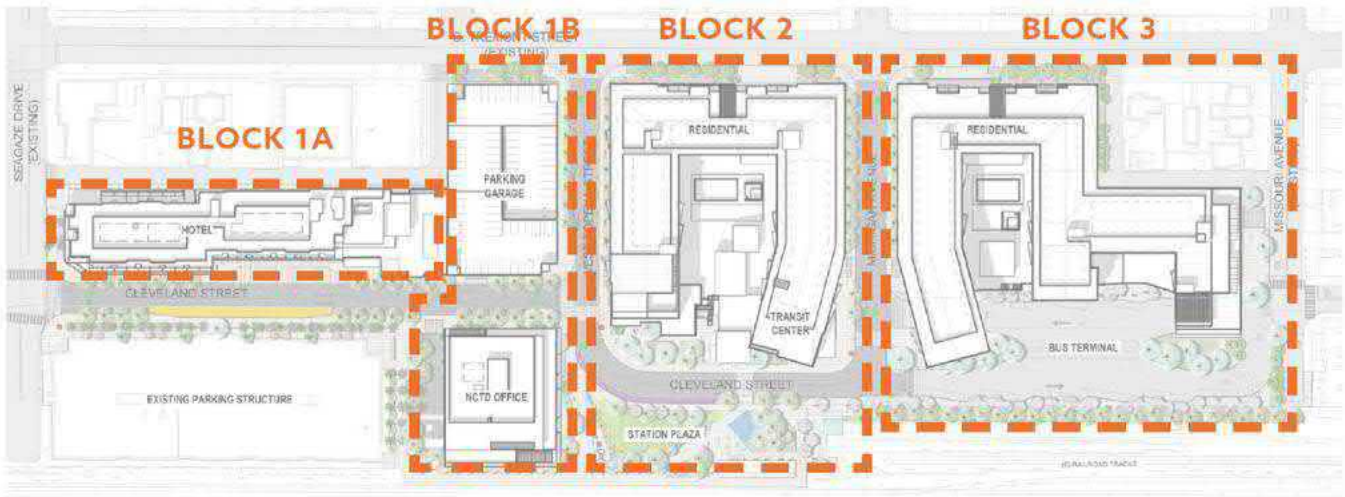


Parking

Goal of reducing reliance on single-occupancy vehicles by improving public transit offerings

- Providing 1,771 parking spaces to satisfy city requirements
  - Replaces existing parking
  - Additional parking to accommodate proposed uses

- Community Feedback:
  - Implement a parking management program for the public parking garage
  - Incentivize residents that don't have a car/don't need parking
  - Don't want new residences taking up already limited street parking
  - Don't include public parking in the residential buildings











Summary and Next Steps



- Creates a vibrant and engaging hub that draws people in, increases ridership and improves efficiency.
- Incorporates mobility elements that encourage alternative modes of transportation.
- Responds to community feedback through project modifications. Additional modifications are still being studied.
- Exploring additional project modifications related to the centralized customer service area and public parking
- Next Thematic Meeting: Aesthetics (4/26)
- Public Circulation of DEIR (Early Summer)

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 8

4/26/23 Aesthetics: Presentation Slides

Oceanside Transit Center Redevelopment

Aesthetics - April 26, 2023











Toll Brothers
APARTMENT LIVING

NORTH COUNTY
TRANSIT DISTRICT

Oceanside Transit Center Redevelopment

Aesthetics - April 26, 2023



Meeting Format:

Project overview and milestones

Feedback summary

Landscaping

Wayfinding & Signage

Architecture

Next steps

Q & A

Project Milestones

In 2016, the NCTD Board of Directors adopted a policy that would pursue development of some of its real estate holdings. The redevelopments are intended to reduce automobile reliance, increase transit ridership, and create jobs and affordable housing.

- Proposal Review Process — 2020
- Planning and Design — 2021
- Application Submittal — Aug. 2022
- Community Engagement Begins
- Refine Vision
- Amend Application — (As Needed)
- CEQA Scoping Period — 1/13 - 2/13/23
- Transit + Mobility Part 1 — 2/22/23
- Transit + Mobility Part 2 — 3/16/23
- Aesthetics — 4/26/23
- Public Review of DEIR — Summer 2023
- Inform and Update
- Respond to Comments
- Finalize EIR
- Inform and Update
- Oceanside Planning Commission
- Oceanside City Council — Late 2023
- CA Coastal Commission

CEQA Environmental Review

Opportunity for public comment

Project Milestones

In 2016, the NCTD Board of Directors adopted a policy that would pursue development of some of its real estate holdings. The redevelopments are intended to reduce automobile reliance, increase transit ridership, and create jobs and affordable housing.

- Proposal Review Process — 2020
- Planning and Design — 2021
- Application Submittal — Aug. 2022
- Community Engagement Begins
- Refine Vision
- Amend Application — (As Needed)
- CEQA Scoping Period — 1/13 - 2/13/23
- Transit + Mobility Part 1 — 2/22/23
- Transit + Mobility Part 2 — 3/16/23
- Aesthetics — 4/26/23
- Public Review of DEIR — Summer 2023
- Inform and Update
- Respond to Comments
- Finalize EIR
- Inform and Update
- Oceanside Planning Commission
- Oceanside City Council — Late 2023
- CA Coastal Commission

CEQA Environmental Review

Opportunity for public comment

Project Milestones

In 2016, the NCTD Board of Directors adopted a policy that would pursue development of some of its real estate holdings. The redevelopments are intended to reduce automobile reliance, increase transit ridership, and create jobs and affordable housing.

- Proposal Review Process — 2020
- Planning and Design — 2021
- Application Submittal — Aug. 2022
- Community Engagement Begins
- Refine Vision
- Amend Application — (As Needed)
- CEQA Scoping Period — 1/13 - 2/13/23
- Transit + Mobility Part 1 — 2/22/23
- Transit + Mobility Part 2 — 3/16/23
- Aesthetics — 4/26/23
- Public Review of DEIR — Summer 2023
- Inform and Update
- Respond to Comments
- Finalize EIR
- Inform and Update
- Oceanside Planning Commission
- Oceanside City Council — Late 2023
- CA Coastal Commission

Email Outreach@OsideTransit.com

CEQA Environmental Review

Opportunity for public comment

Community Context

The project is based on a thorough review of the site constraints and opportunities, and mindful of the surrounding uses.



Existing Condition: 810 Mission Ave



Existing Condition: OTC at 235 S. Tremont



Community Context

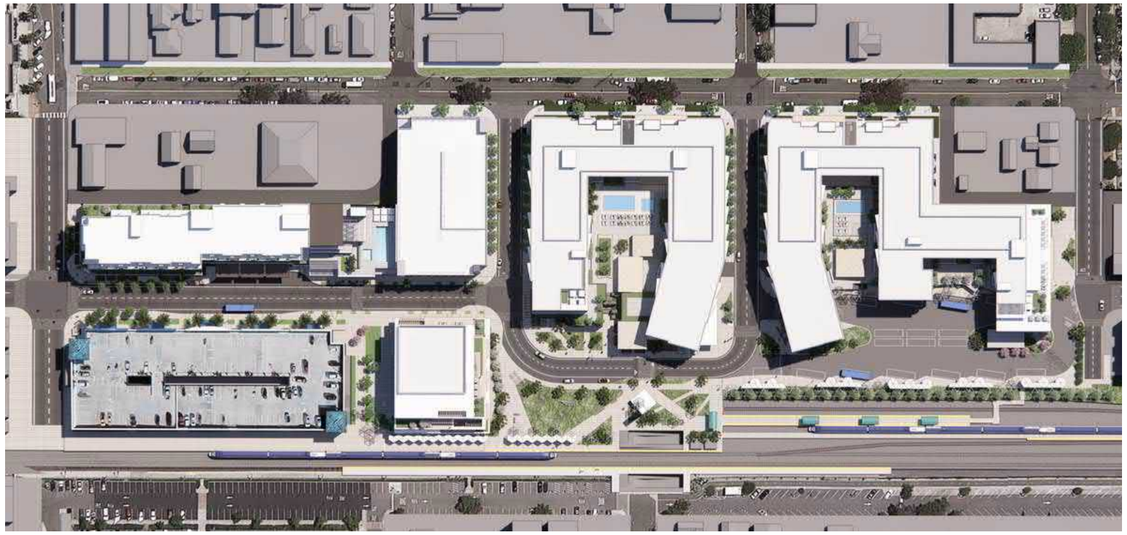
The project is based on a thorough review of the site constraints and opportunities, and mindful of the surrounding uses.



Proposed: Mission Ave



Proposed: OTC at Tremont



The NCTD offices will be relocated from their current location at 810 Mission Avenue to the new OTC at 235 S. Tremont. As a result, the Mission site will also be redeveloped to create additional mixed-income housing opportunities.

Community Responsive Planning



What we've heard:

"Uniquely Oceanside" Sense of arrival

Enhance community character

Public art

Consistency with Downtown

Native Landscaping

Integration of community input

NOTE: Feedback included is specific to Aesthetics

Landscaping Approach

Goals Met:
Native, Regionally Appropriate Landscaping
Enhanced Community Character

Visual Interest

Provides color, texture, and celebrates seasonality.

Community Character

Goal to create **new environments that work** contextually within the areas they are built.

Water-Wise Landscaping

An **integrated, diverse mix of species** is included, resulting in a water-wise landscape that will perform well in this climate.













Landscaping Improvements

Goals Met:
Native, Regionally Appropriate Landscaping
Enhanced Community Character

Project Modifications

- Reduction in hardscaping

Presented 9/15/22



Community Responsive Planning

Landscaping Improvements

Goals Met:
Native, Regionally Appropriate Landscaping
Enhanced Community Character

Project Modifications

- Reduction in hardscaping

Presented 3/16/23



Station Plaza redesign in process.

Community Responsive Planning

Landscaping Improvements

Goals Met:
Native, Regionally Appropriate Landscaping
Enhanced Community Character

Project Modifications

- Reduction in hardscaping
- Redesign of Station Plaza to create a more parklike atmosphere



Station Plaza redesign in process.

Community Responsive Planning

Landscaping Improvements

Goals Met:
Native, Regionally Appropriate Landscaping
Enhanced Community Character

Project Modifications

- Reduction in hardscaping
- Redesign of Station Plaza to create a more parklike atmosphere
- Replace palm trees with canopy trees

Presented 9/15/22



Presented 3/16/23



Subject to change.

Landscaping Improvements

Goals Met:
Native, Regionally Appropriate Landscaping
Enhanced Community Character

Project Modifications

- Reduction in hardscaping
- Redesign of Station Plaza to create a more parklike atmosphere
- Replace palm trees with canopy trees
- Increase green screening on Missouri to reduce noise and visual impacts

Presented 9/15/22



Presented 3/16/23



Subject to change.

Community Responsive Planning

Wayfinding + Public Art

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival

Plans for a comprehensive wayfinding and signage program are in process.

The signage program will be enhanced with public art to create a unique sense of place.



Wayfinding + Public Art

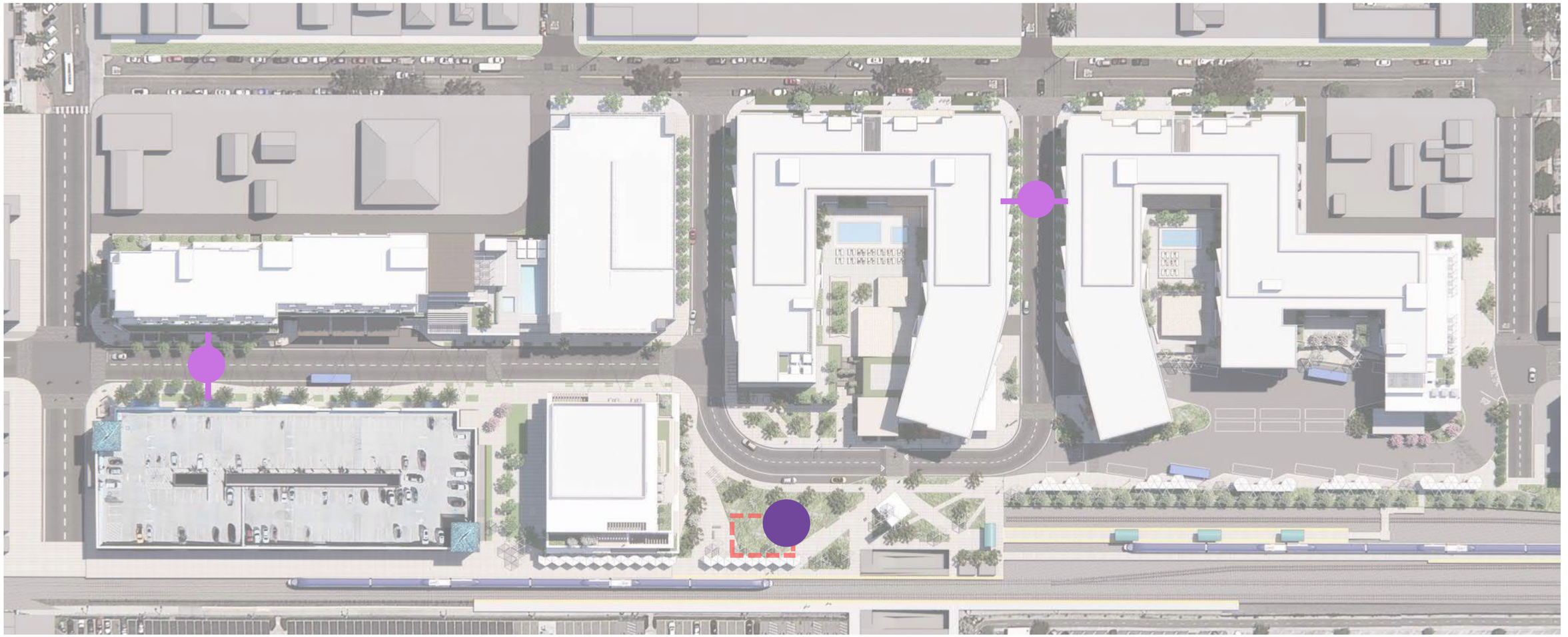
Project Icon

Gateway Signage

Signage Categories:

- Monumentation

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

Wayfinding + Public Art

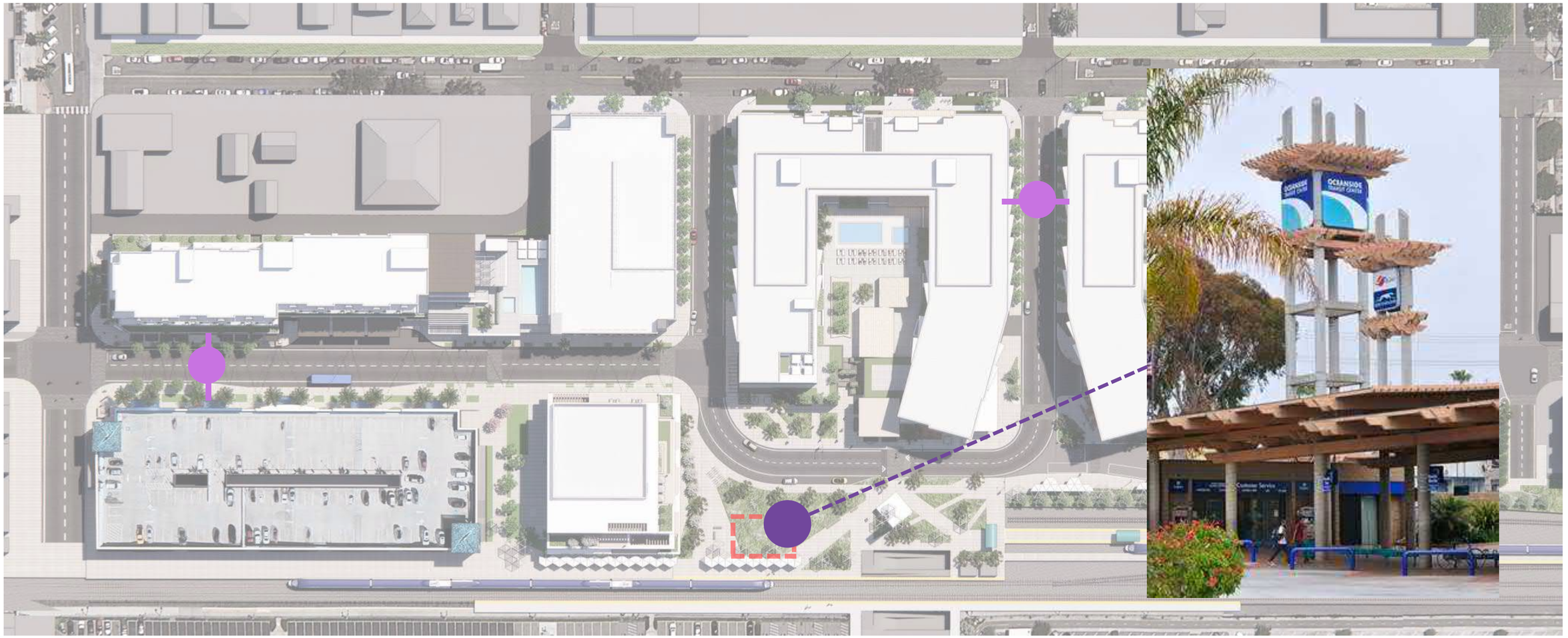
Project Icon

Gateway Signage

Signage Categories:

- Monumentation

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

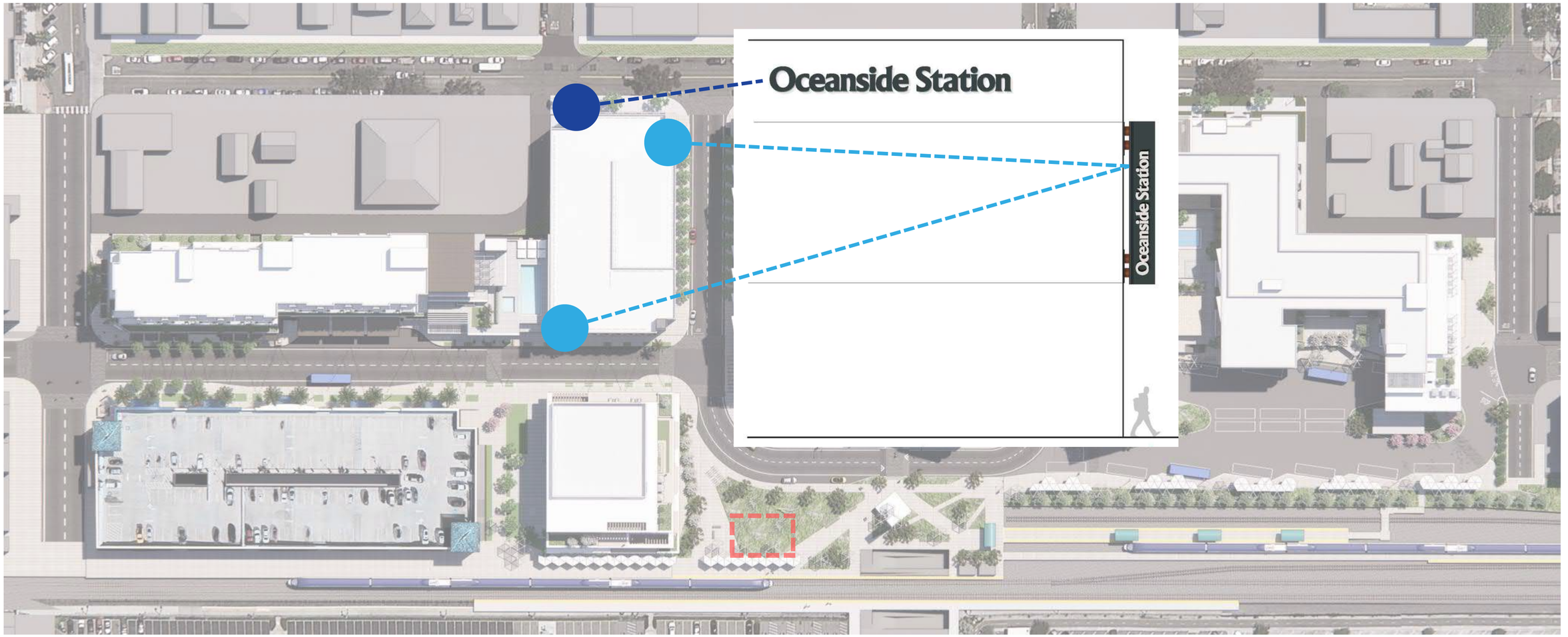
Wayfinding + Public Art

- Project ID Wall Sign
- Wall Mounted Blade

Signage Categories:

- Monumentation
- Identification

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

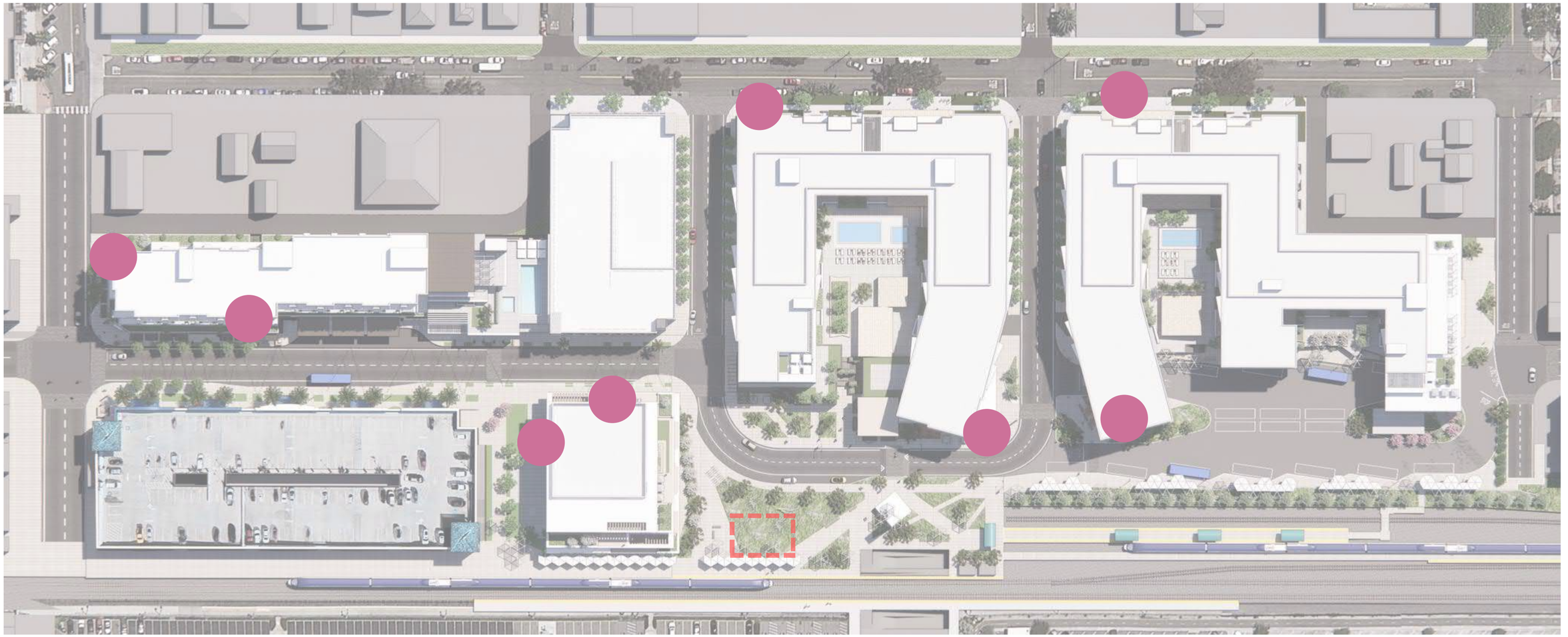
Wayfinding + Public Art

Building ID

Signage Categories:

- Monumentation
- Identification

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

Wayfinding + Public Art

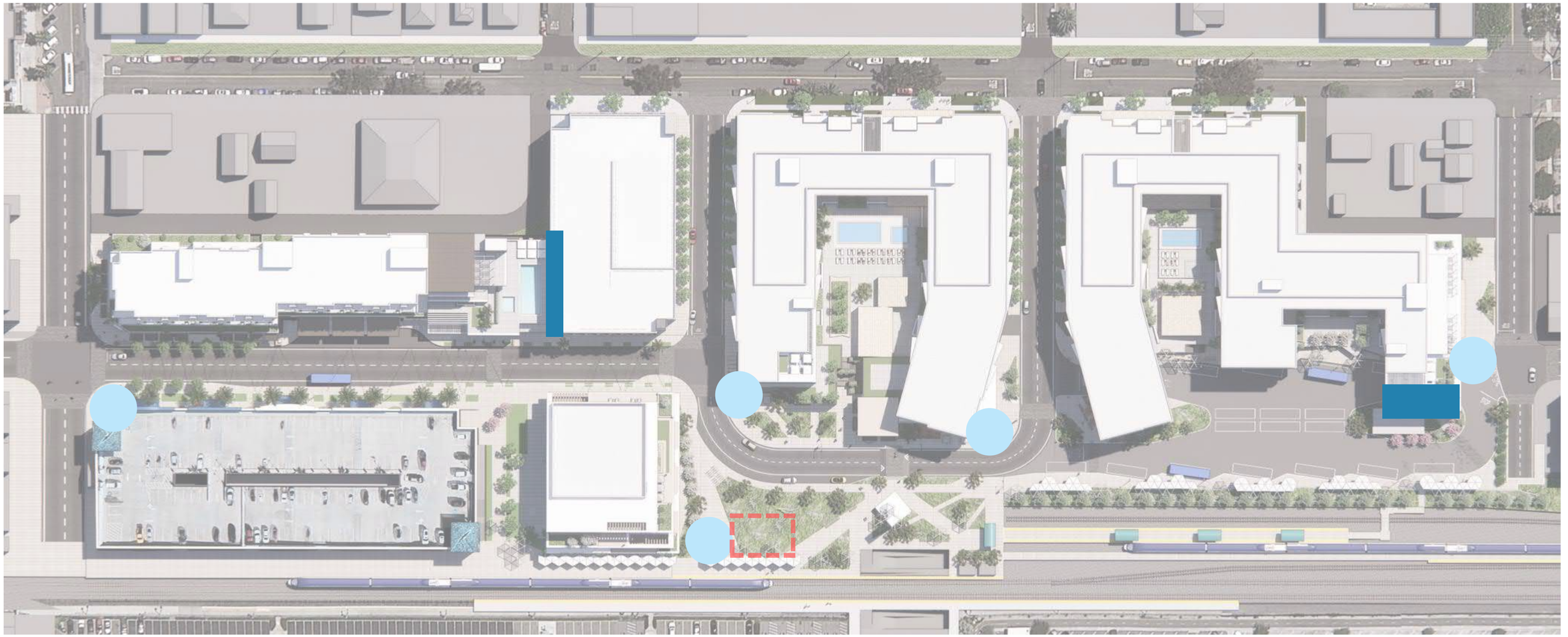
Potential Mural Location

Wall Public Art

Signage Categories:

- Monumentation
- Identification
- Public Art

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

Wayfinding + Public Art

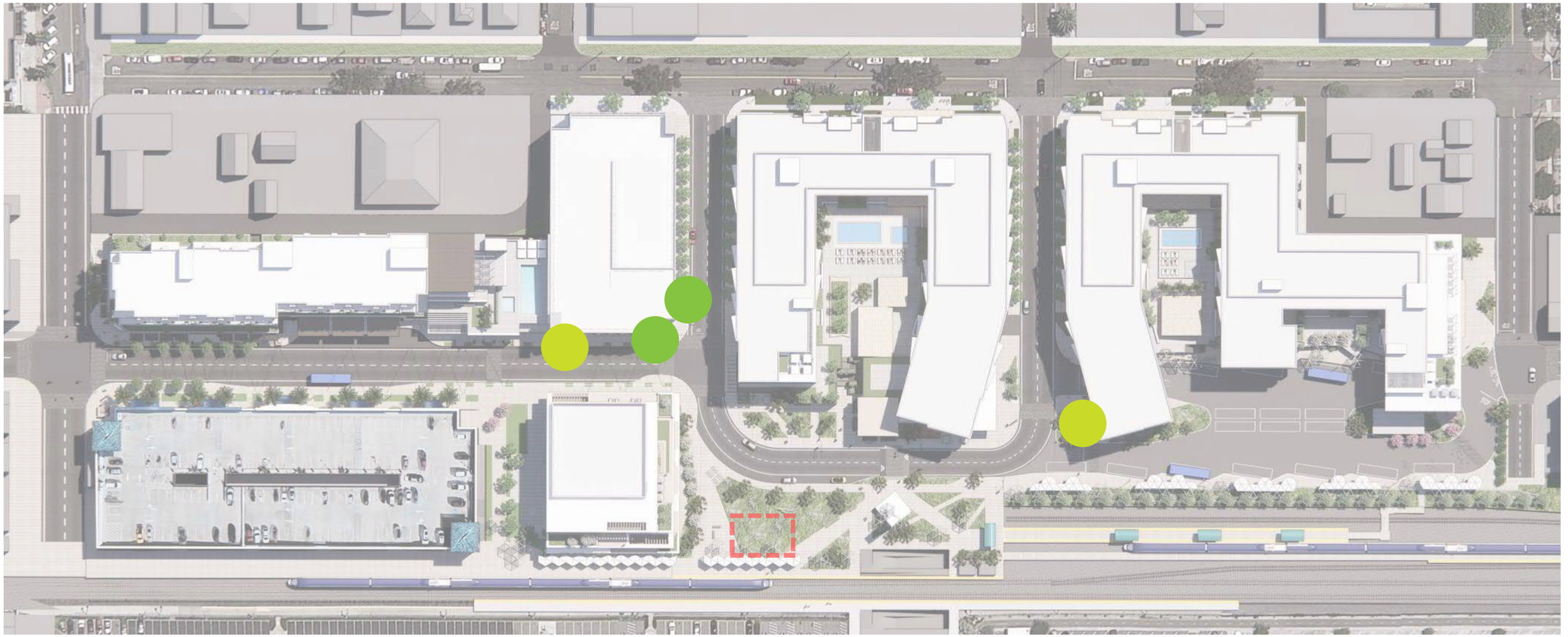
Directional: Wall Mounted Blade

Directional Signage

Signage Categories:

- Monumentation
- Identification
- Public Art
- Vehicular Wayfinding

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

Wayfinding + Public Art

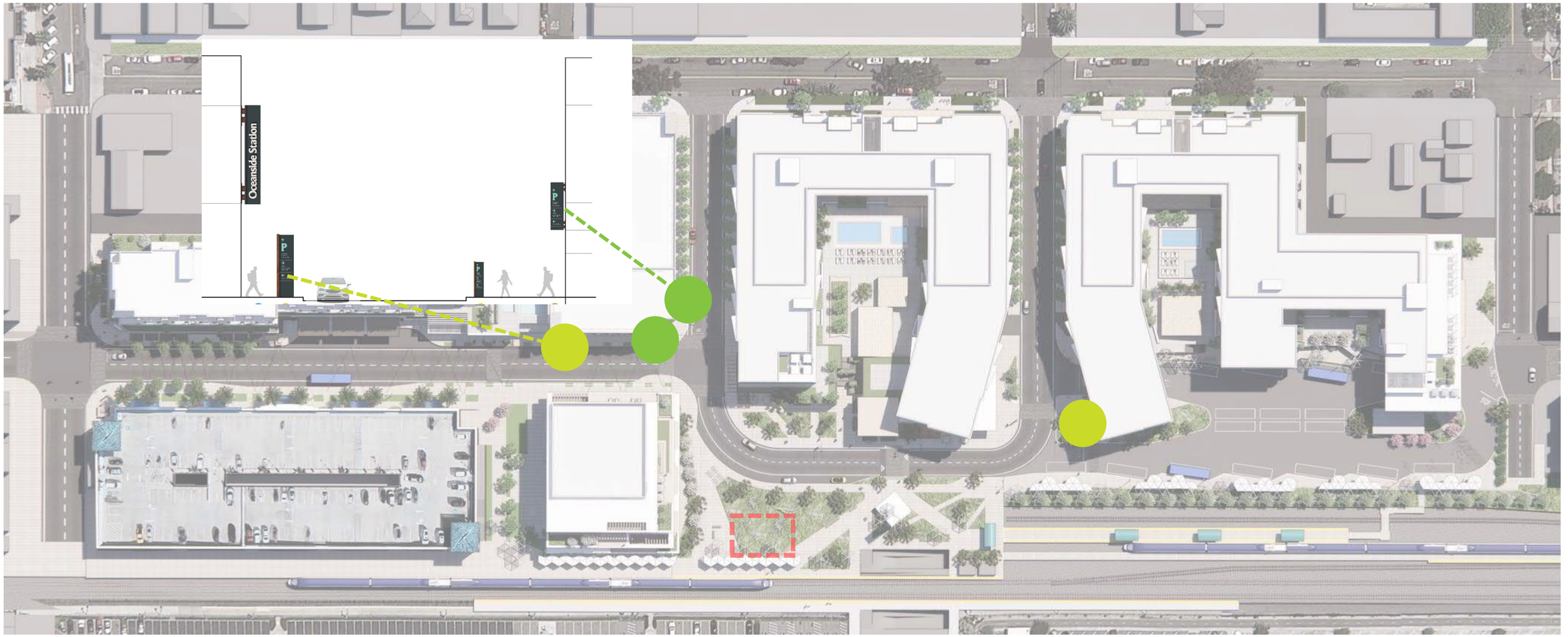
Directional: Wall Mounted Blade

Directional Signage

Signage Categories:

- Monumentation
- Identification
- Public Art
- Vehicular Wayfinding

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

Wayfinding + Public Art

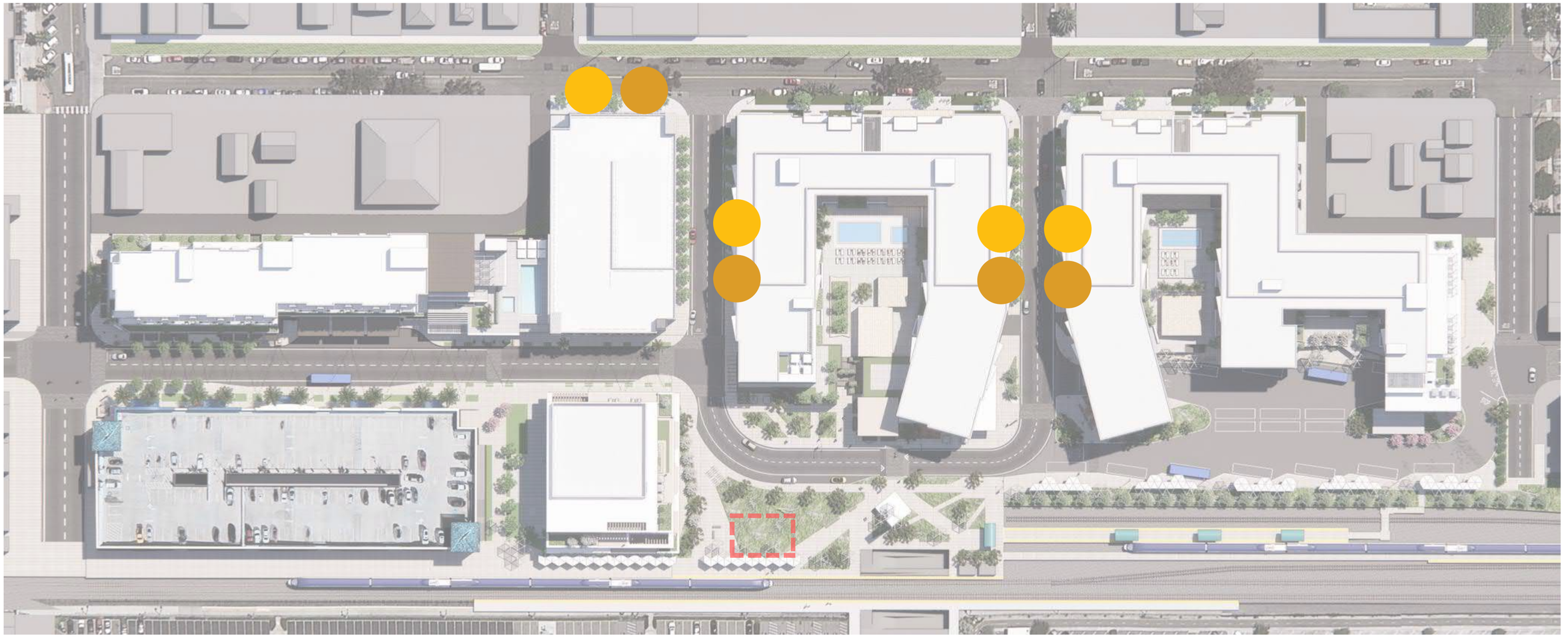
Parking Directional

Parking Entry Signage

Signage Categories:

- Monumentation
- Identification
- Public Art
- Vehicular Wayfinding
- Parking

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

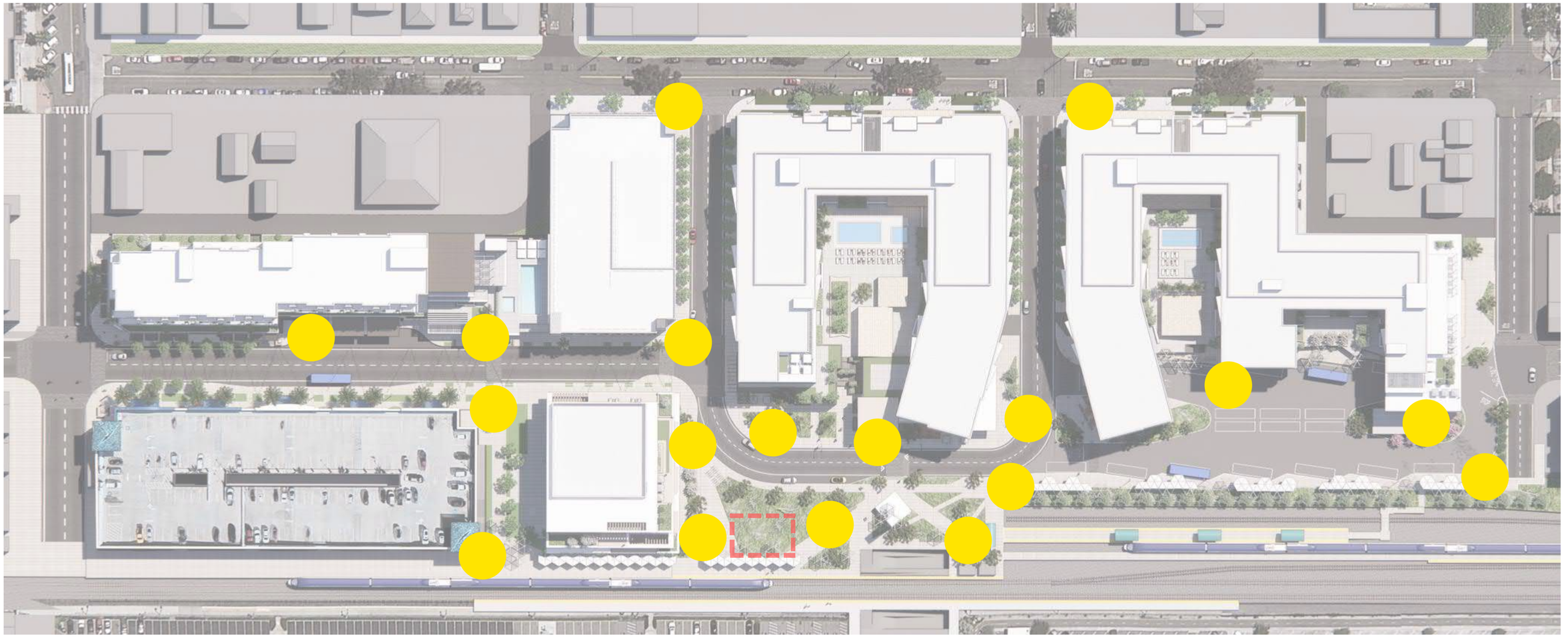
Wayfinding + Public Art

Pedestrian / Cyclist Directional

Signage Categories:

- Monumentation
- Identification
- Public Art
- Vehicular Wayfinding
- Parking
- Ped & Bike

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

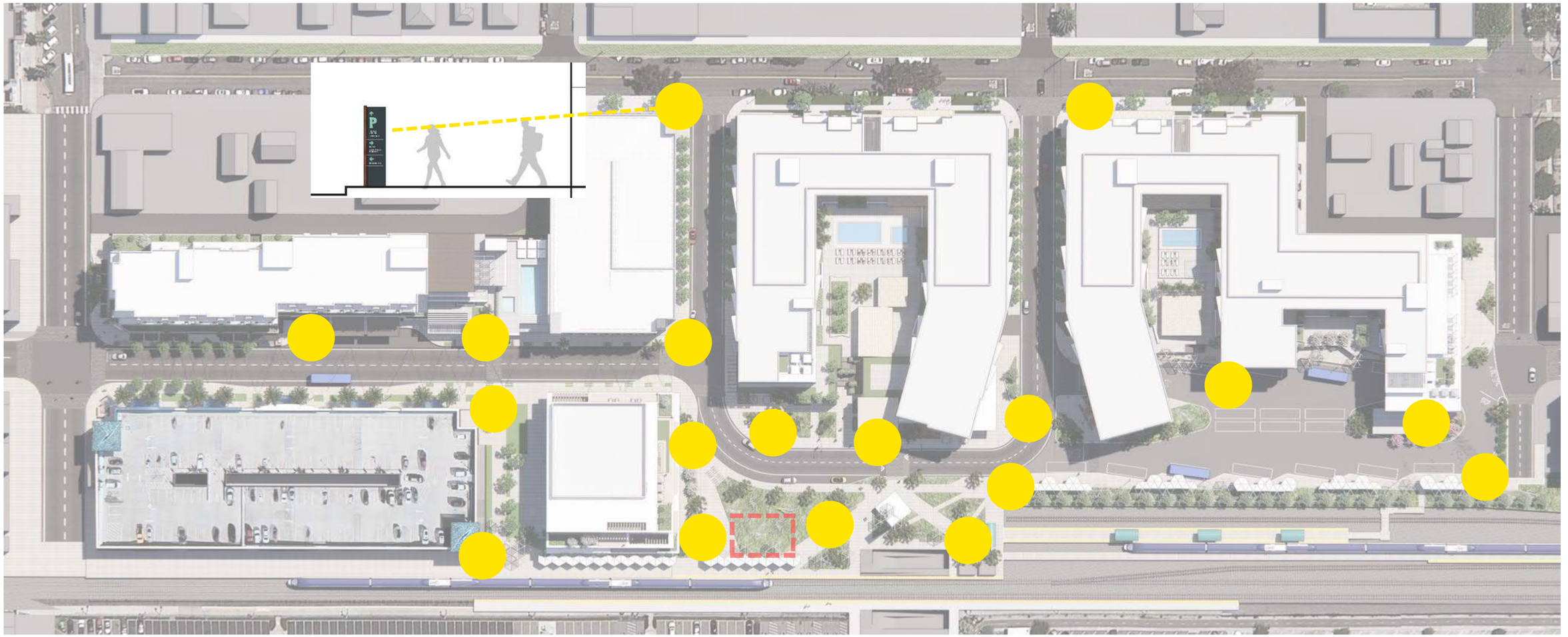
Wayfinding + Public Art

Pedestrian / Cyclist Directional

Signage Categories:

- Monumentation
- Identification
- Public Art
- Vehicular Wayfinding
- Parking
- Ped & Bike

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



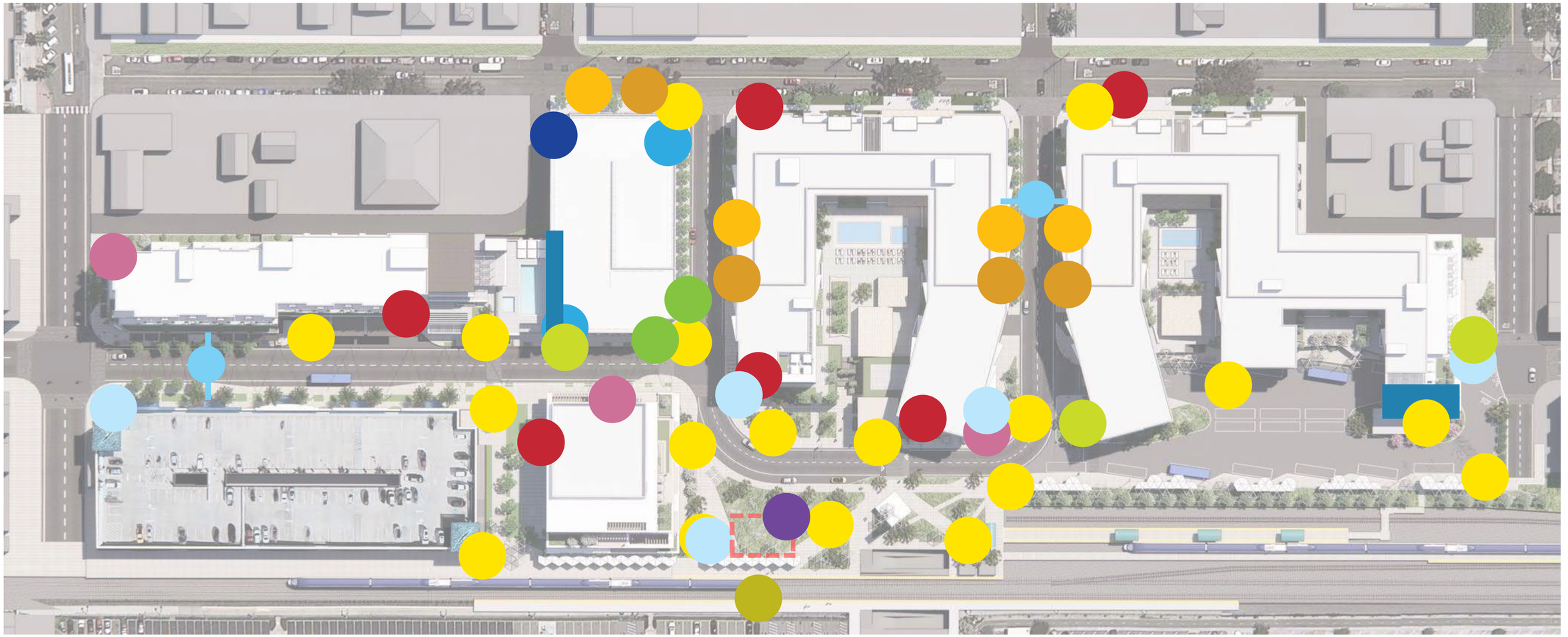
Based on draft signage concepts. Subject to change.

Wayfinding + Public Art

Signage Categories:

- Monumentation
- Identification
- Public Art
- Vehicular Wayfinding
- Parking
- Ped & Bike

Goals Met:
Enhance transit experience
Easy multi-modal circulation
Enhanced Community Character
Create a sense of arrival



Based on draft signage concepts. Subject to change.

Vision and Community Character

Creating a Sense of Place

The team took inspiration from the nearby sights, sounds, sand and surf to create a distinct yet complementary sense of place so each site would integrate into the existing context.





















Vision and Community Character

Architectural Concepts

LIGHT, SHADOW + COLOR













OF SKY + HORIZON





The revitalized Oceanside Transit Center is envisioned as a vibrant, mixed-use hub for visitors and long-time locals that mixes lifestyle elements with a modernized and efficient transit center

Vision and Community Character

Architectural Concepts







FORM + FUNCTION









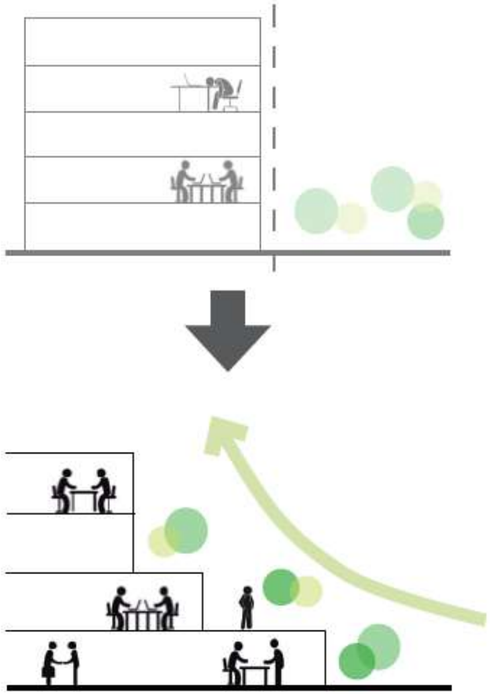
LEARNING FROM NATURE

The revitalized Oceanside Transit Center is envisioned as a vibrant, mixed-use hub for visitors and long-time locals that mixes lifestyle elements with a modernized and efficient transit center

Planning Concepts

Scale and Massing

Goals Met:
Enhanced Community Character
Complement Downtown



BRINGING NATURE CLOSER

Landscape and open space extends onto the building creating multilevel terraces and roof decks



Hotel Amenity Wing

Conceptual Rendering



NCTD Office Building

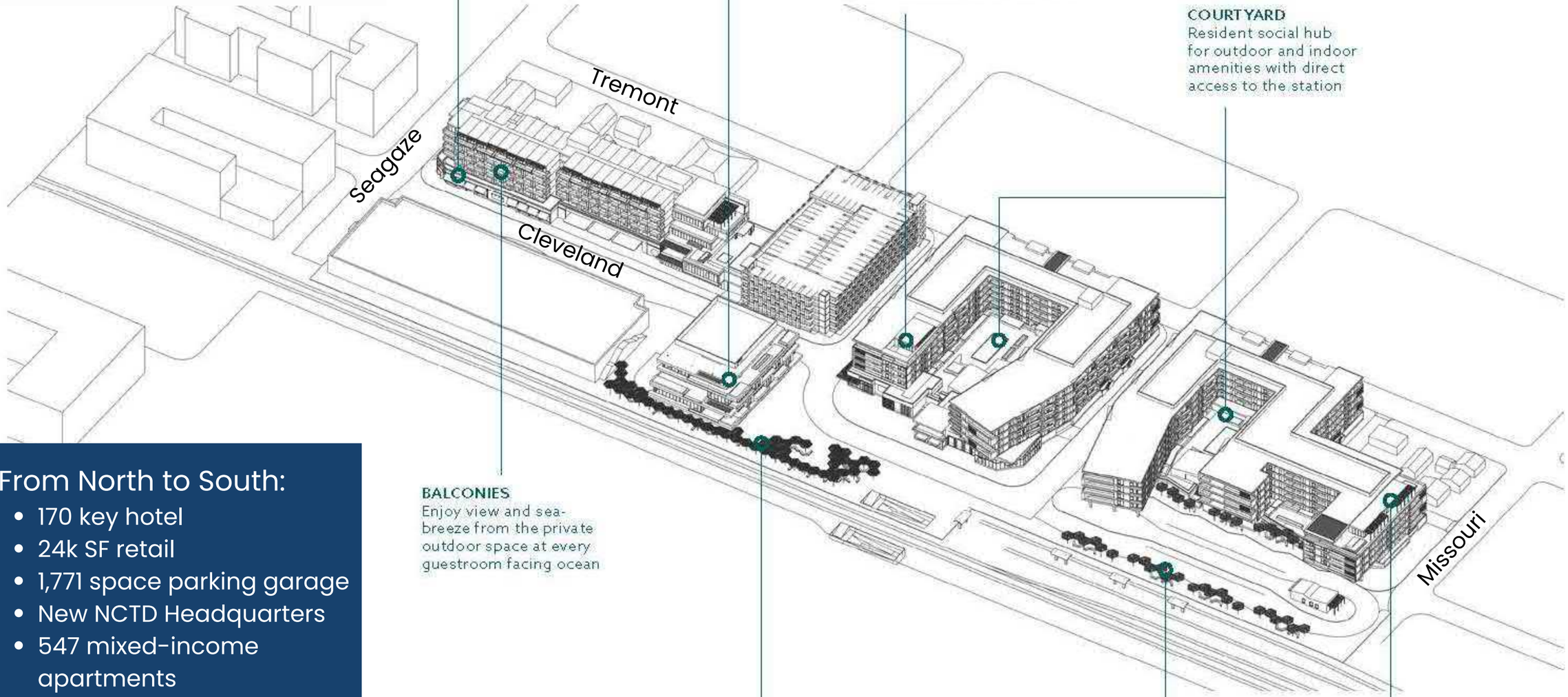
Conceptual Rendering



NCTD OFFICE FROM W TOPEKA

Tremont Site

Project Components



From North to South:

- 170 key hotel
- 24k SF retail
- 1,771 space parking garage
- New NCTD Headquarters
- 547 mixed-income apartments

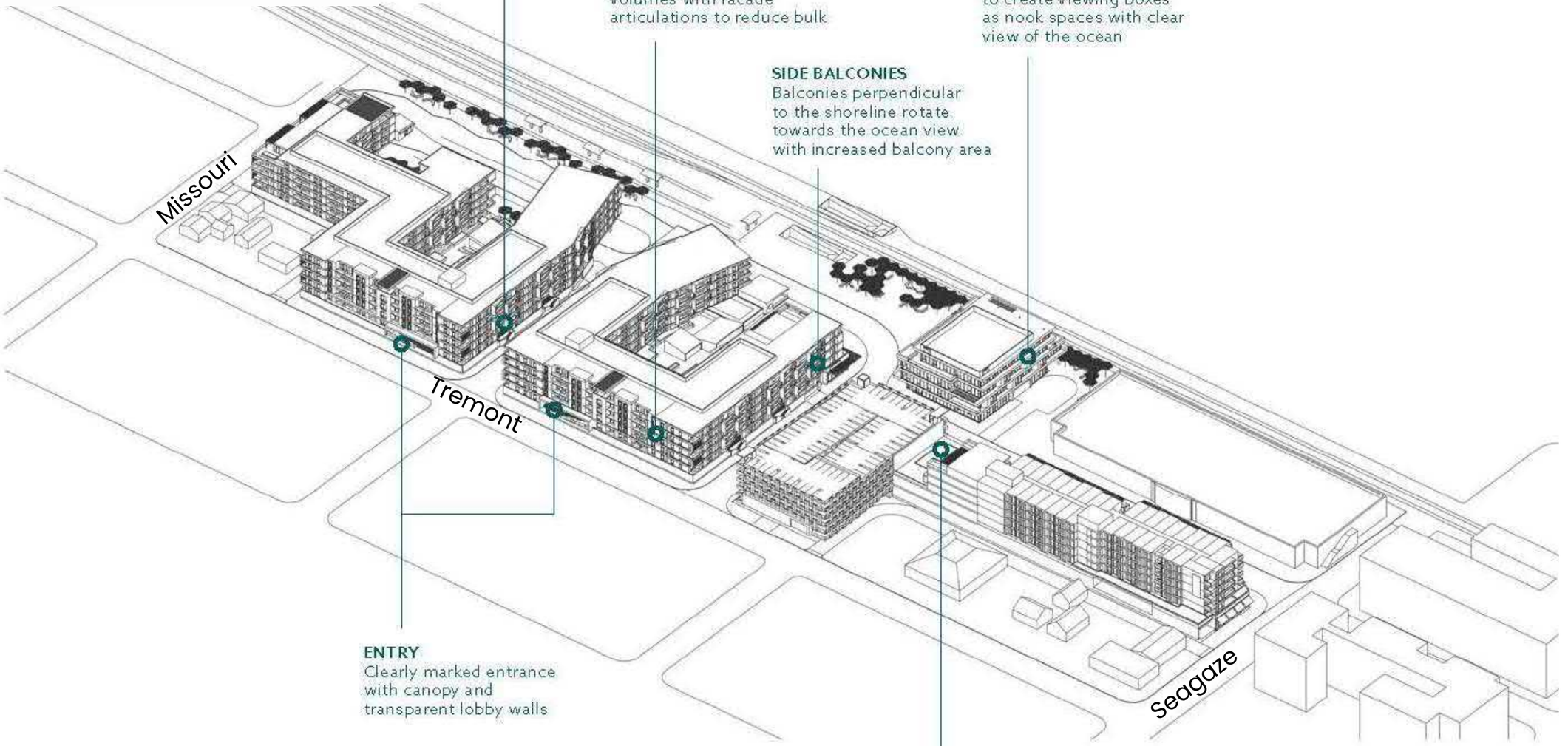
Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT


Boulangerie

Tremont Site

Project Components

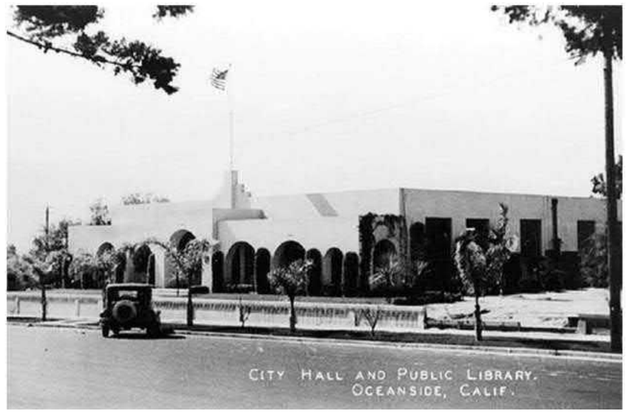






Mission Site

Project Components



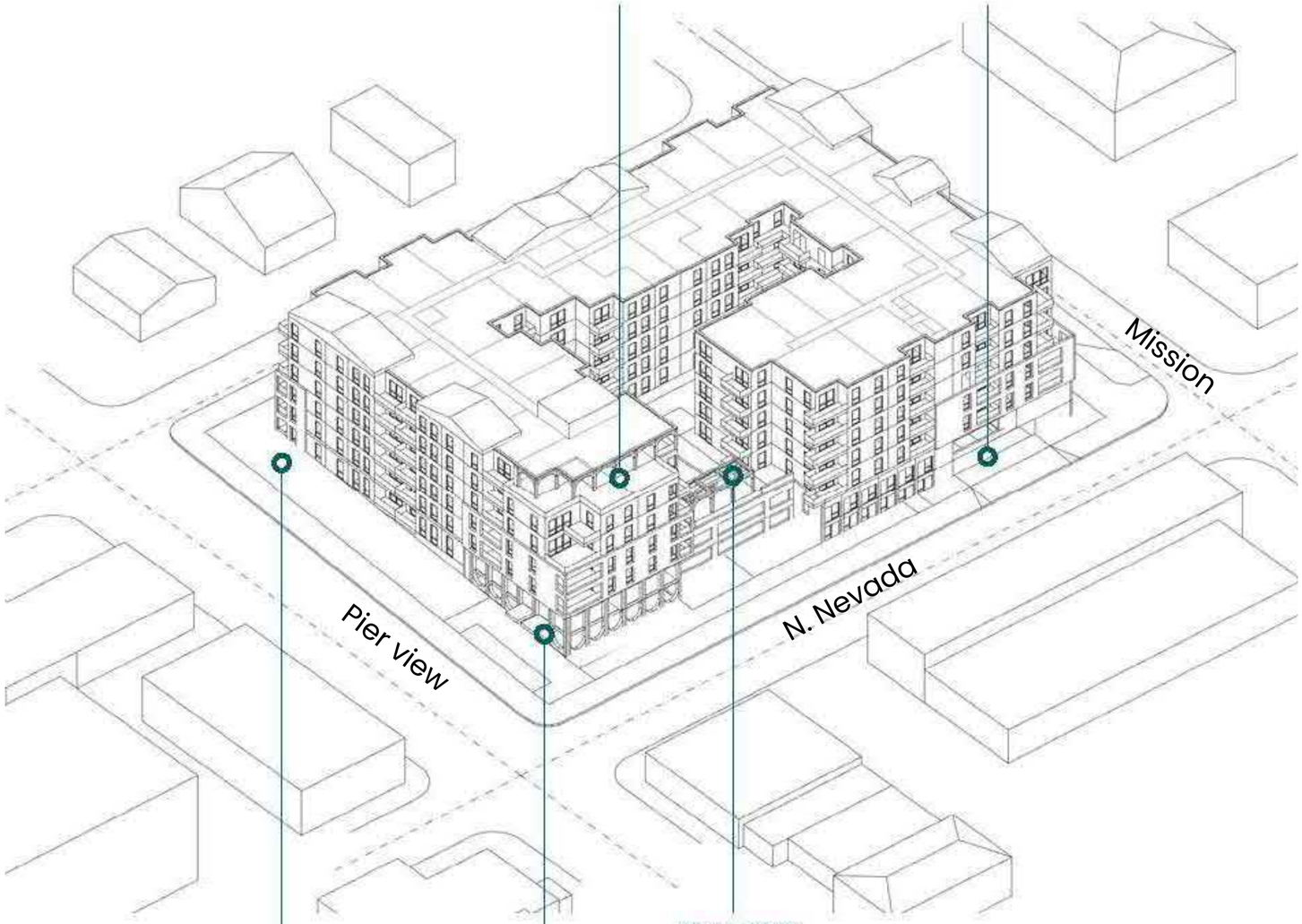


INSPIRED BY IRVING GILL'S
INFLUENCE IN OCEANSIDE

IRAL

ROOF DECK
Ocean view deck and top floor amenity

GARAGE ENTRY
Nevada entry for garage



POOL DECK
Outdoor amenity deck for residents

SETBACK
Deeper setback allows for landscape buffer for the ground floor units

MAIN ENTRY
Corner lobby and amenity volume towards corner

Toll Brothers APARTMENT LIVING

NORTH COUNTY TRANSIT DISTRICT

Mission Site

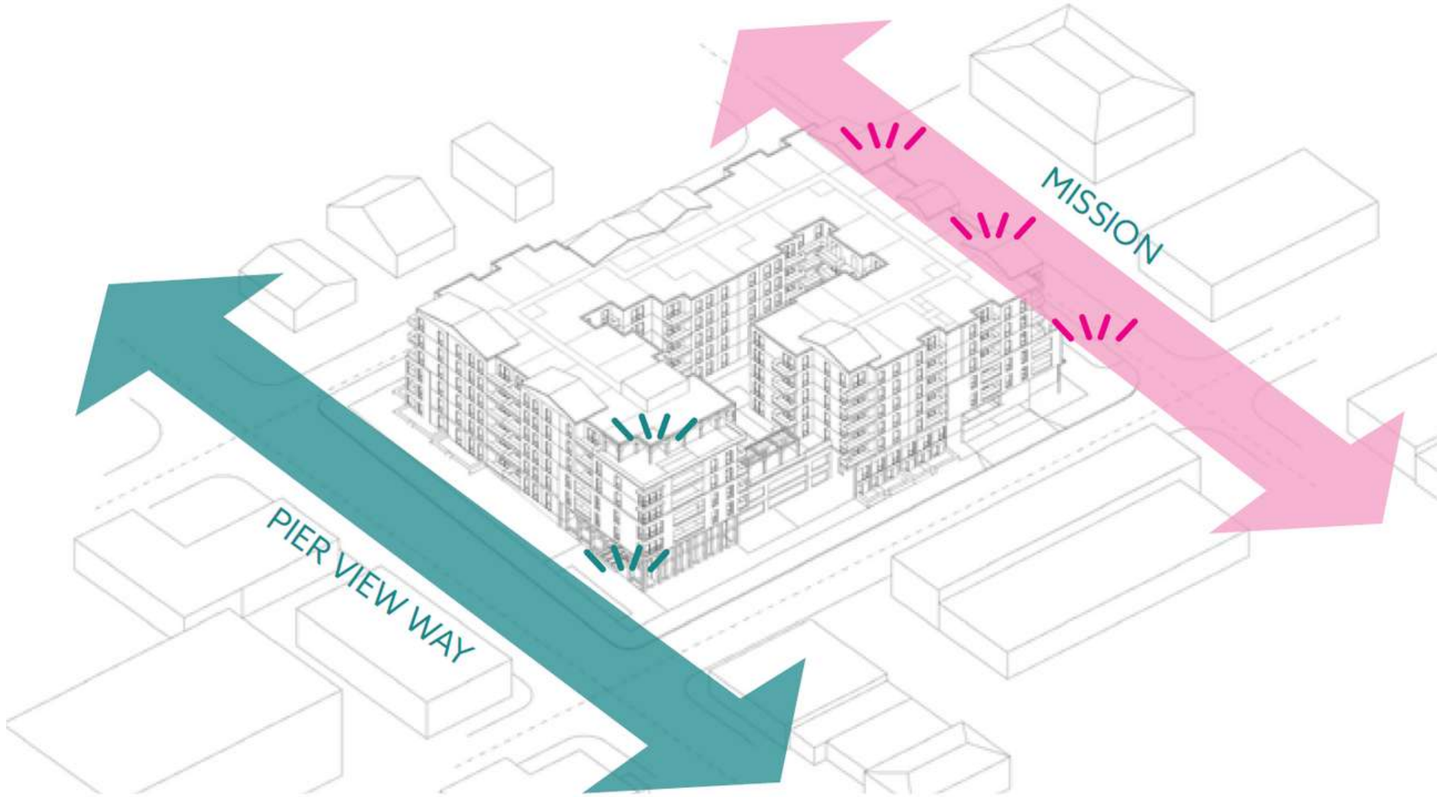
Project Components

Goals Met:
Enhanced Community Character
Complement Downtown
Improved pedestrian experience

CITY CONNECTIONS

Creates Pedestrian-friendly edges that tie the building to the existing civic and commerical activities in Downtown







Enhancing the Transit Experience

Re-envisioning the Customer Service Center

Goals Met:
Enhance transit experience
Traditional Terminal Experience





In response to community feedback, we are currently exploring potential to relocate Customer Service Center

Enhancing the Transit Experience

Re-envisioning the Customer Service Center

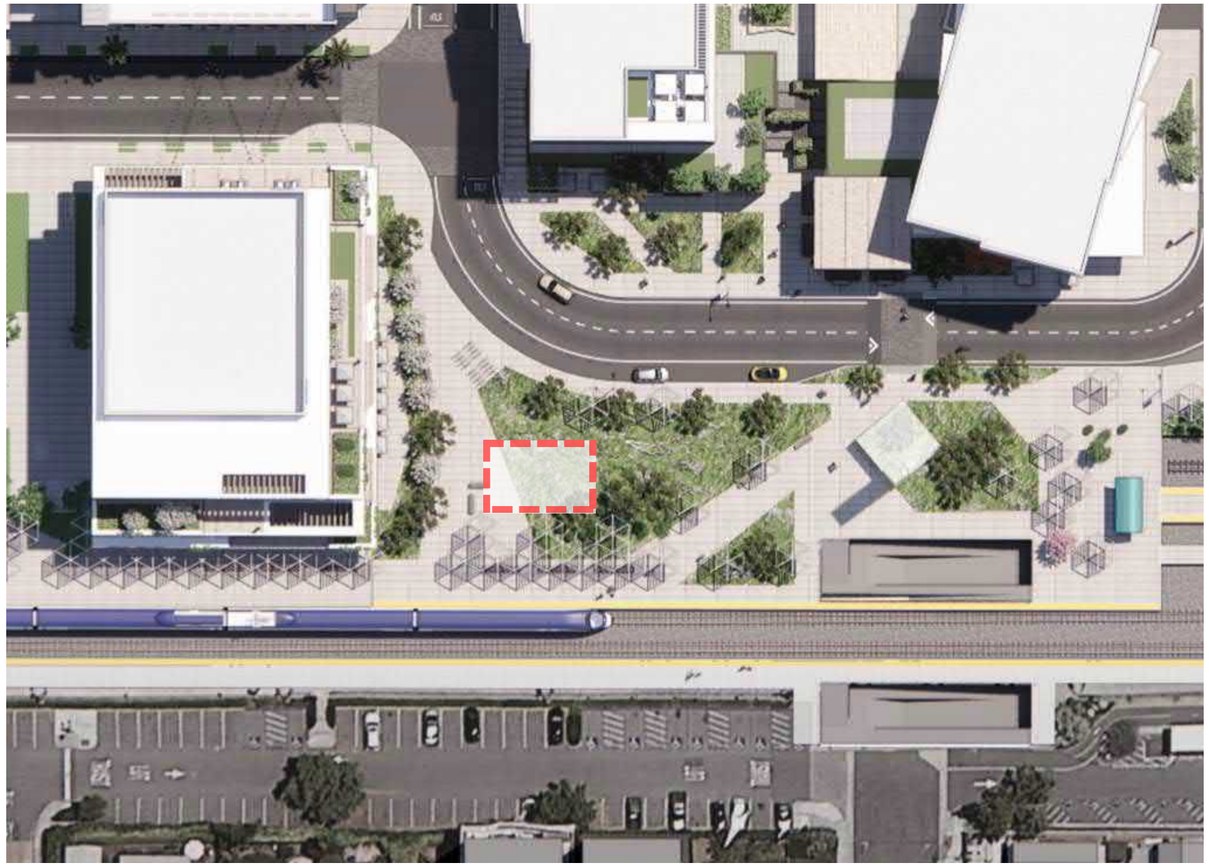
Relocation of the Customer Service Center requires a redesign of the Station Plaza, which is still in process.

Objectives:

- Streamline operations and improve customer experience
- Create a sense of arrival that is uniquely Oceanside
- Maintain location in heart of master plan
- Increase visibility
- Respond to community feedback

DESIGN ELEMENTS

Provide input on what design elements you'd like to see incorporated into the new Customer Service Center.



Location TBD. Redesign in process.

Summary and Next Steps

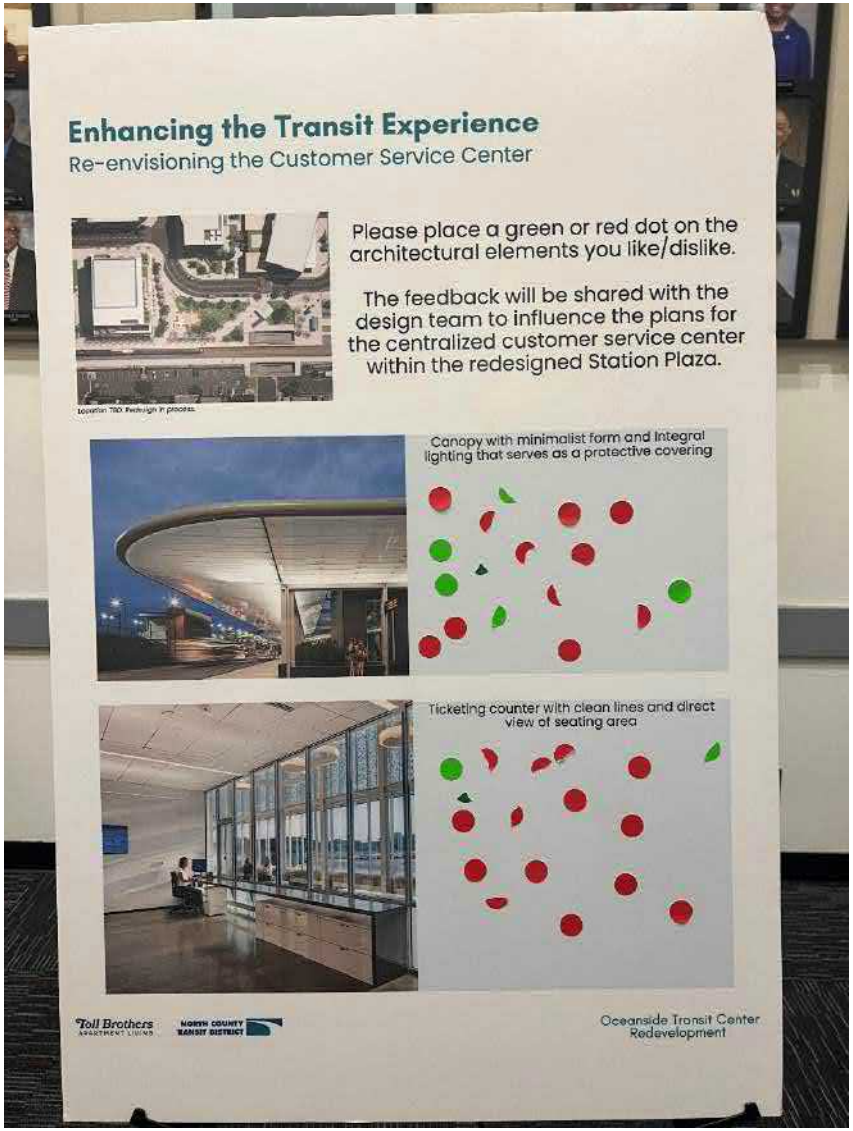


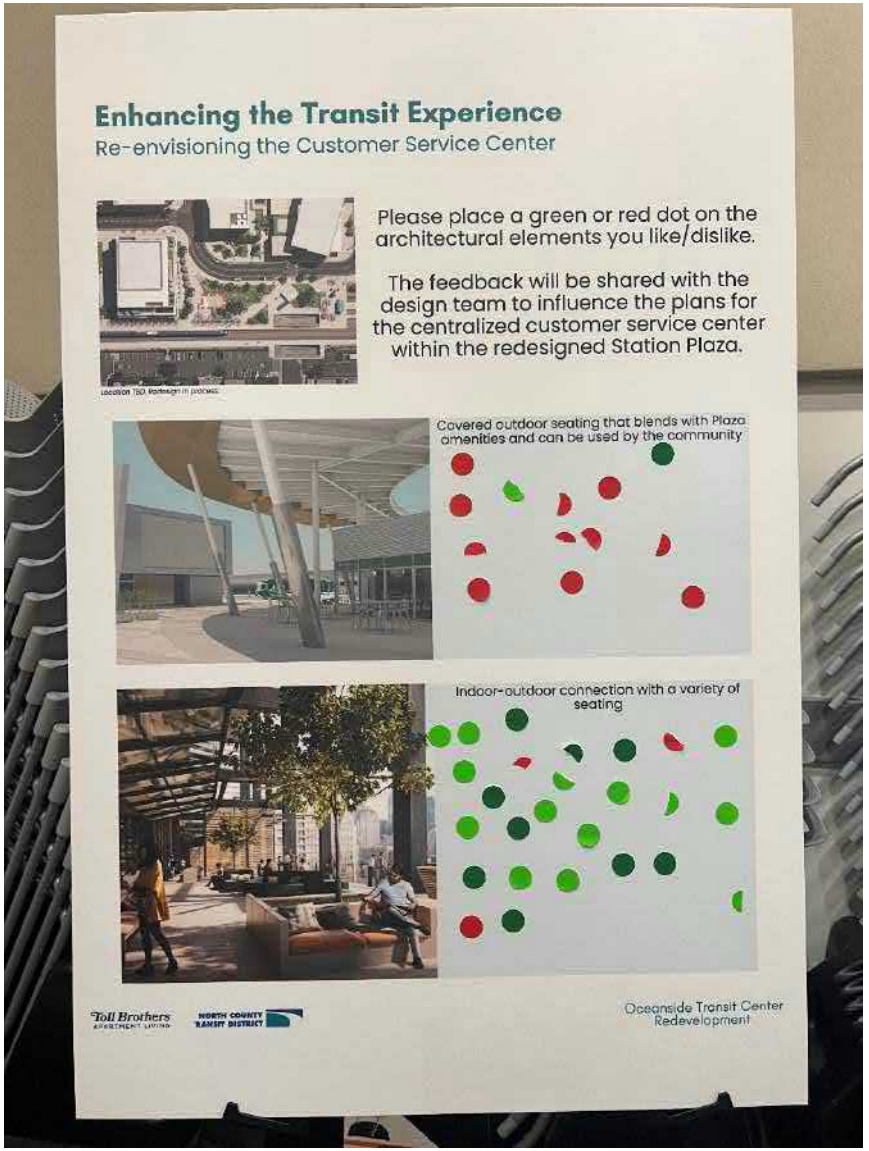
- Creates a vibrant and engaging hub that draws people in, increases ridership and improves efficiency.
- Aligns with city objectives and Incorporates mobility elements that encourage alternative modes of transportation.
- Responds to community feedback through project modifications. Additional modifications are still being studied.
- Public Circulation of DEIR (Early Summer)

(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

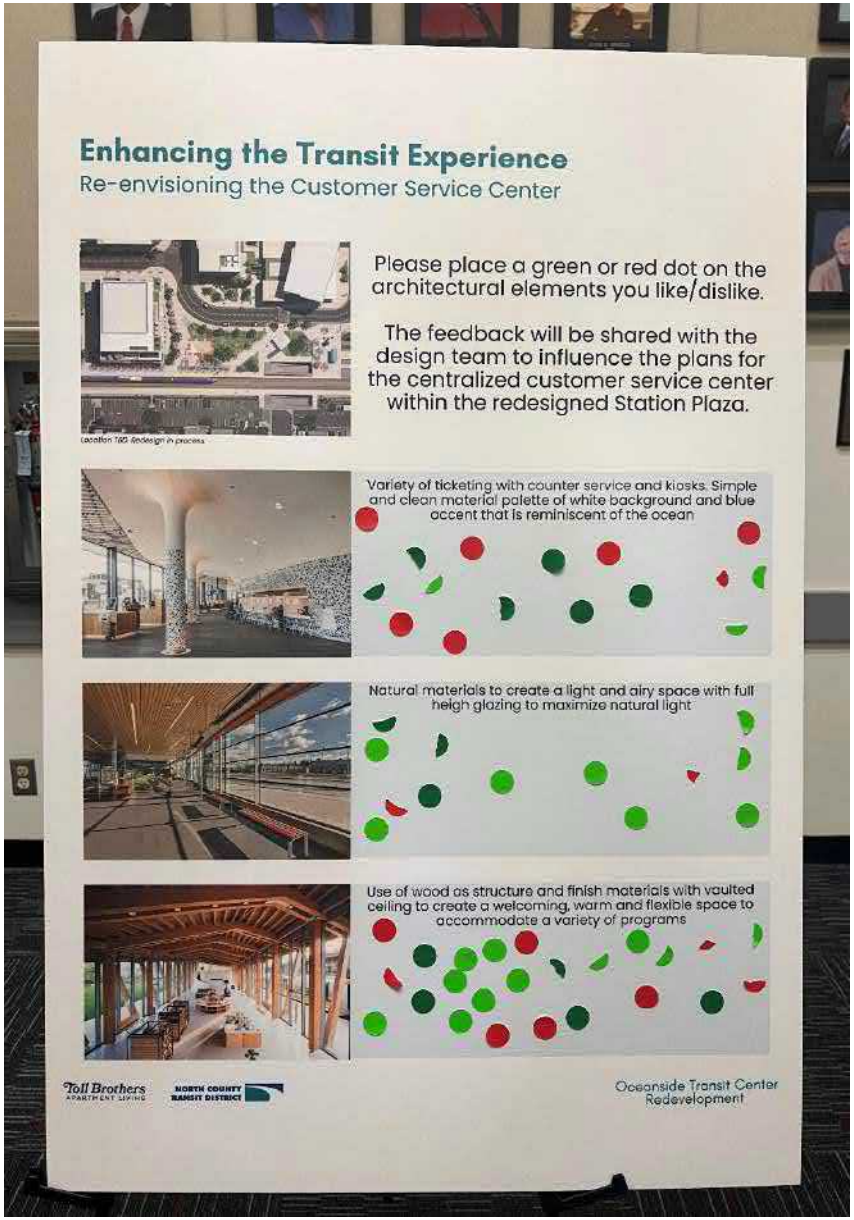
Exhibit 9

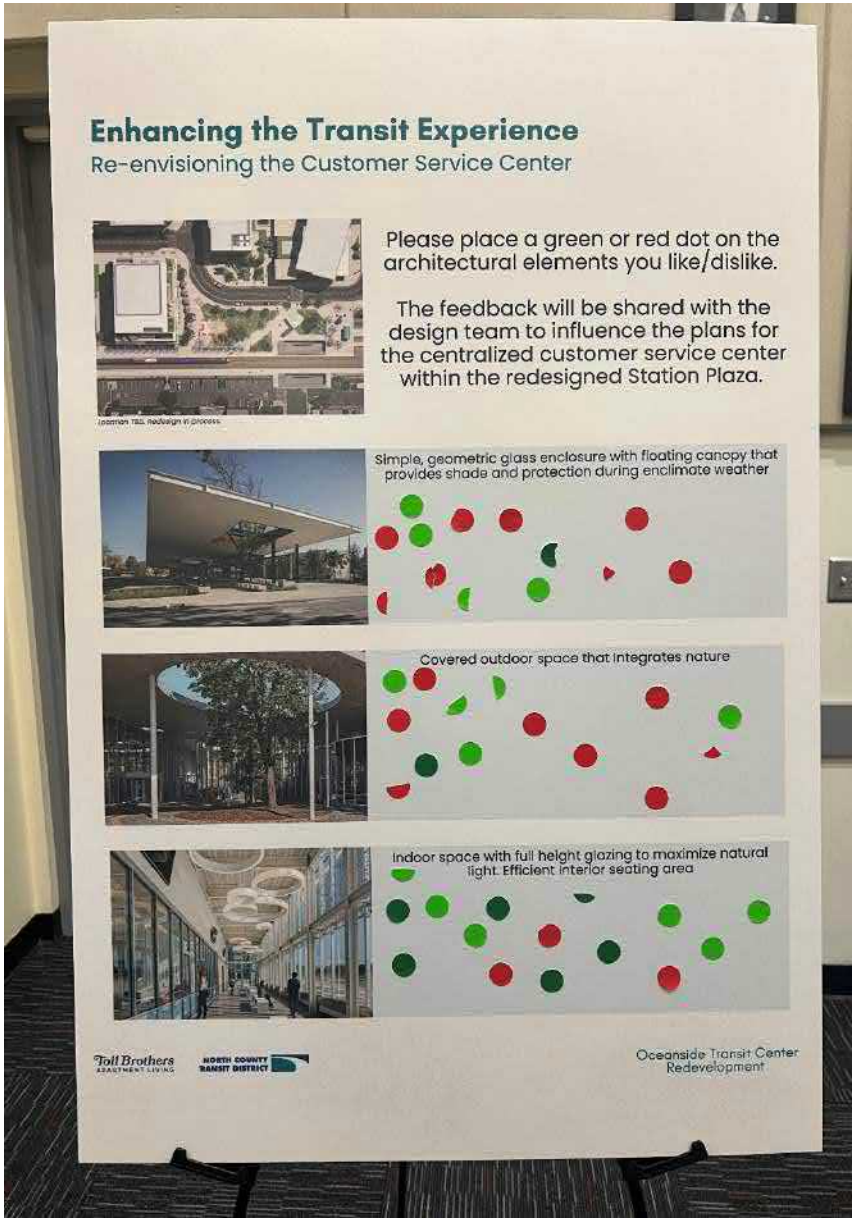
4/26/23 Aesthetics: Design Feature Boards





(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY





(Parent) Project Number: GPA22-00002
Project Name: OCEANSIDE TRANSIT CENTER
Project Planner: ROBERT DMOHOWSKY

Exhibit 10

6/13/23 Small Business Luncheon: Presentation Slides

Oceanside Transit Center Redevelopment











Toll Brothers
APARTMENT LIVING

NORTH COUNTY
TRANSIT DISTRICT

Transit Oriented Development

Planning Objective: Maximize Underutilized Land to Transform the Transit Experience

Supporting Goals:

- Drive adoption of transit and other sustainable mobility options
- Increase efficiency of operations of the existing Oceanside Transit Center
- Provide adequate parking to meet current and future demands
- Generate long-term revenue stream for NCTD to support transit operations and financial stability
- Increase economic development through new housing, retail and commercial
- Support local, regional and statewide goals for reducing Californians' reliance on single-occupancy vehicles by improving public transit offerings
- Support transition of bus and rail fleets to zero emissions
- Align with the City of Oceanside's vision to "focus on creating vibrant, walkable, visually attractive and engaging mixed-use communities centered along Coast Highway and the major east-west commercial corridors, around Sprinter Stations, and in the Downtown District."
  Onward Oceanside, General Plan Update Draft Vision Statement









Oceanside Transit Center Redevelopment

Community Context

The project is based on a thorough review of the site constraints and opportunities, and mindful of the surrounding uses.



Existing Condition: 810 Mission Ave



The NCTD offices will be relocated from their current location at 810 Mission Avenue to the new OTC at 235 S. Tremont. As a result, the Mission site will also be redeveloped to create additional mixed-income housing opportunities.

Existing Condition: OTC at 235 S. Tremont

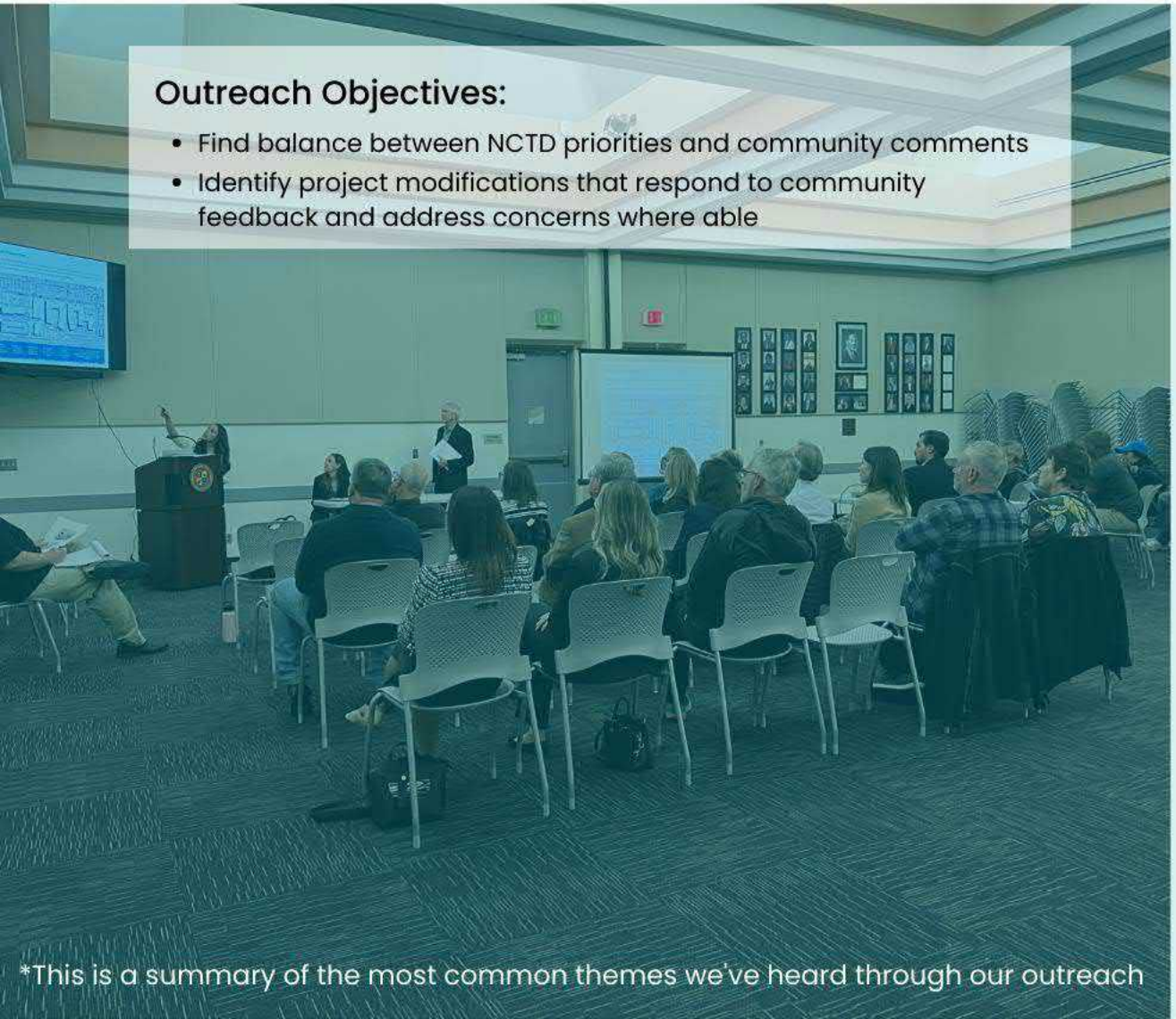


Project Milestones

In 2016, the NCTD Board of Directors adopted a policy that would pursue development of some of its real estate holdings. The redevelopments are intended to reduce automobile reliance, increase transit ridership, and create jobs and affordable housing.



Community Responsive Planning



Outreach Objectives:

- Find balance between NCTD priorities and community comments
- Identify project modifications that respond to community feedback and address concerns where able

*This is a summary of the most common themes we've heard through our outreach

What we've heard:

Transit Operations

- "Uniquely Oceanside" Sense of arrival
- Traditional terminal experience
- Parking management
- Concerns over relocation of bus operations

Enhanced Community Character

- Consistency with Downtown, Activation of street frontage
- Public art
- Native Landscaping
  - Green screening
  - Tremont beautification

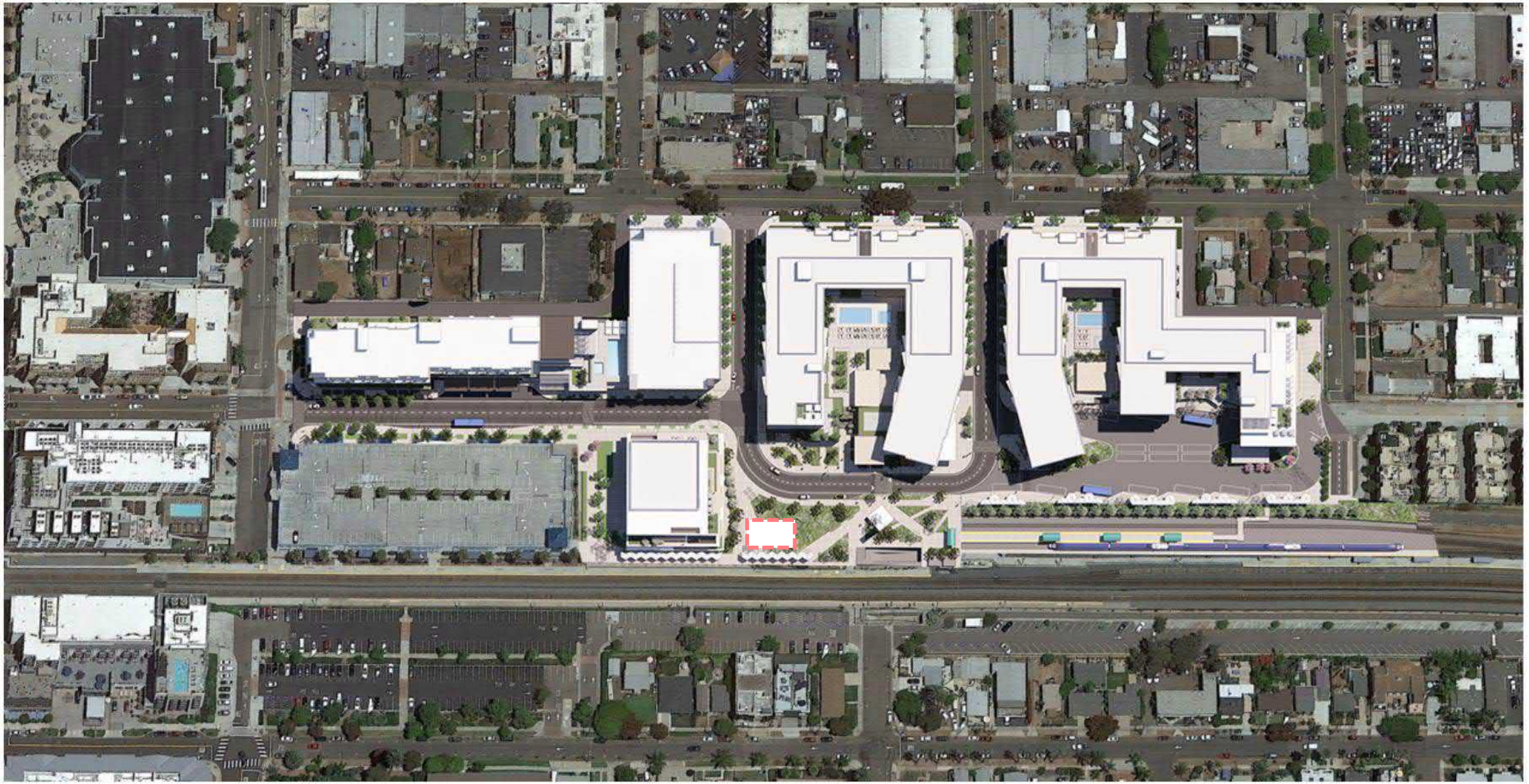
Circulation

- Easy multi-modal navigation and circulation
- Mobility elements to support active transportation
- Requests for offsite traffic calming

6/13/23 Small Business Luncheon

Oceanside Transit Center Project Overview

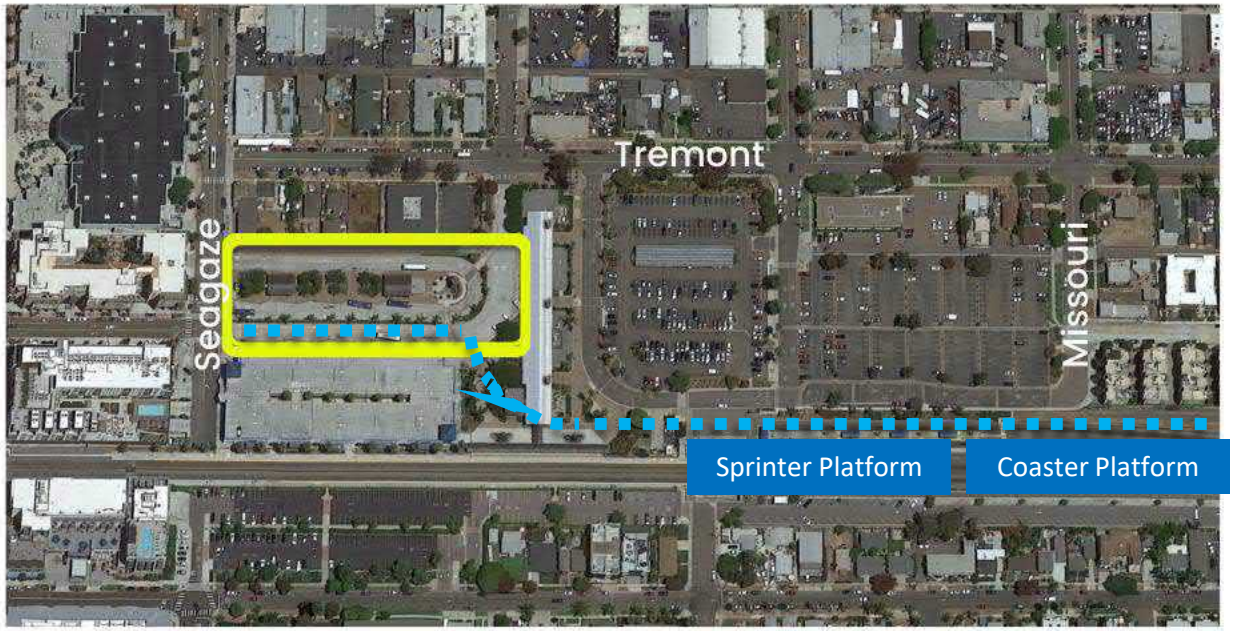
6/13/23 Small Business Luncheon



Increased Efficiency

Best practices in the transit industry is to provide a clear line of site between rail and bus areas, between all bus boarding platforms, and from the COASTER central control/security office to all the transit boarding areas.

Existing



Proposed



Proposed bus stall relocation provides direct access to the Sprinter and Coaster platforms. Study shows this relocation will "significantly reduce walk time for patrons making train connections" and optimize bus operations."

Increased Efficiency

In response to community feedback, NCTD has commissioned a supplemental study to validate conclusions drawn in initial circulation study (2020).

Proposed Bus Circulation



- Study will evaluate transit vehicle movements within OTC and onto connecting roadways, including:
  - Seagaze Drive
  - Topeka Street
  - South Tremont Street
  - Michigan Avenue
  - Missouri Avenue
- Will consider factors such as:
  - BREEZE on-time performance, operational efficiency and feasibility
  - BREEZE routing direction and frequency
  - Impact to BREEZE scheduling
  - Local traffic and community impacts
  - The City of Oceanside's Coast Highway Corridor project
  - NCTD's BREEZE Speed & Reliability Study

Multi-Modal Circulation



Project Modifications:

- Wider sidewalks
- Dedicated pick up/drop off zones
- Enhanced crossings
- Traffic calming elements
- Mobility elements to support active transportation

Multi-Modal Circulation



Project Components

- Activation of Tremont with building components that encourage walkability
- Landscaped parkways to improve pedestrian experience (right)



Off-Site Improvements

1. Construct enhanced crosswalks at Cleveland/Seagaze intersection
2. Construct all-way stop at Tremont/New Topeka intersection with enhanced crosswalks
3. Construct enhanced crosswalks at Tremont/Michigan intersection
4. Reconfigure Cleveland/Missouri intersection to an all-way stop

Unique Sense of Arrival

Project Modifications:

- Reduction in hardscaping
- Improved landscaping (i.e., Native plant materials, replace palms)
- Redesign of Station Plaza to create a more parklike atmosphere



* Redesign of Station Plaza in process to accommodate requests for a more traditional terminal experience



6/13/23 Small Business Luncheon

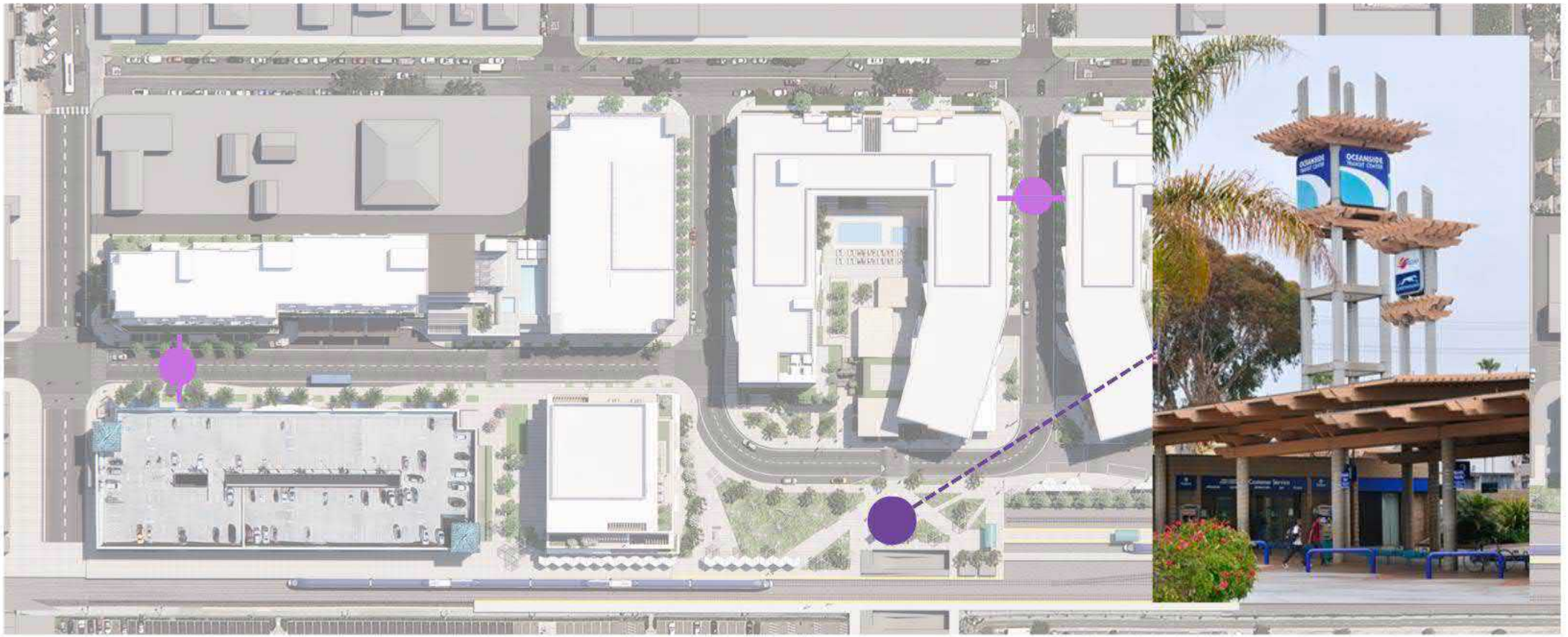
Unique Sense of Arrival

Wayfinding + Public Art

Project Icon Gateway Signage

Plans for a comprehensive signage program are in process.

The signage program will be enhanced with public art to create a unique sense of place.



Based on draft signage concepts. Subject to change.

Enhanced Community Character

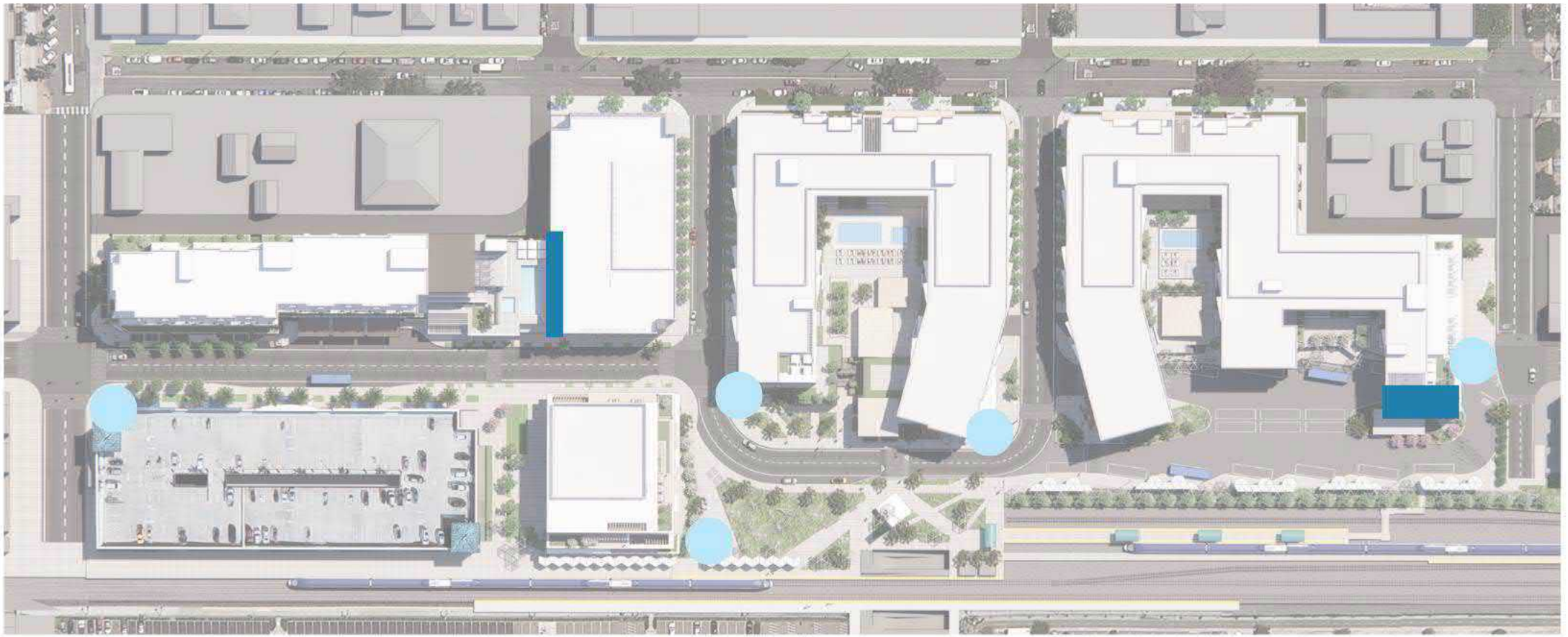
Wayfinding + Public Art

Potential Mural Location

Wall Public Art

Plans for a comprehensive signage program are in process.

The signage program will be enhanced with public art to create a unique sense of place.



Building components, like stoops and balconies, and mixing colors and textures on Tremont help to break up the building facades and create visual interest.



Tremont View 1
Conceptual Rendering

6/13/23 Small Business Luncheon

The landscaping palette includes an integrated, diverse mix of species, including native and regionally appropriate plant materials to provide color, texture, and celebrate seasonality. The goal is to create new environments that work contextually within the areas they are built, resulting in a water-wise landscape that will perform well in this climate.

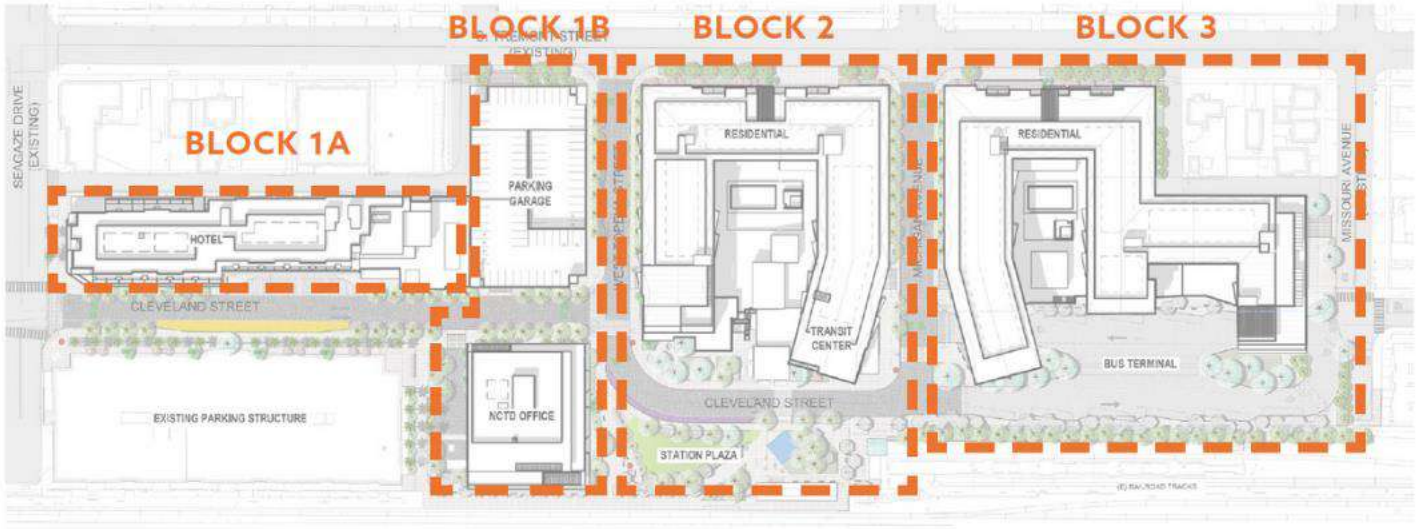


Tremont View 2

Conceptual Rendering

6/13/23 Small Business Luncheon

Parking



Goal of reducing reliance on single-occupancy vehicles by improving public transit offerings

- Providing 1,771 parking spaces to satisfy city requirements
  - Replaces existing parking
  - Additional parking to accommodate proposed uses
  - NO net loss of parking

- Community Feedback:
  - Implement a parking management program for the public parking garage
  - Incentivize residents that don't have a car/don't need parking
  - Don't want new residences taking up already limited street parking
  - Don't include public parking in the residential buildings

Mixed-Income Housing

The Project exceeds Oceanside Affordable Housing requirements.

15% of the homes at each site will be designated affordable housing.



Housing Breakdown

Each site will have mixed-income housing and resident exclusive amenities.

Tremont - 547 units (82 affordable)
Mission - 206 units (31 affordable)

Number of Persons in Household:		1	2	3	4
San Diego County Area Median Income: $106,900	Acutely Low	11250	12850	14450	16050
	Extremely Low	27350	31250	35150	39050
	Very Low Income	45550	52050	58550	65050
	Low Income	72900	83300	93700	104100
	Median Income	74850	85500	96200	**106900**
	Moderate Income	89800	102650	115450	128300

Source: https://www.hcd.ca.gov/docs/grants-and-funding/inc2k22.pdf

Summary and Next Steps



6/13/23 Small Business Luncheon

- Creates a vibrant and engaging hub that draws people in, increases ridership and **improves transit efficiency**.
- **Aligns with city objectives** and Incorporates mobility elements that encourage alternative modes of transportation.
- **Responds to community feedback** through project modifications. Additional modifications are still being studied.
- Next Steps:
  - Submit design for new Station Plaza
  - Public Circulation of DEIR

Stantec

Memo

To:	Teala Cotter, TE City Traffic Engineer City of Oceanside	From:	Daryl Zerfass and Eric Mazzella Stantec
Project/File:	2042217900	Date:	June 17, 2025

Reference: Oceanside Transit Center Redevelopment Project – Traffic Fair-Share Improvements Costs

Stantec has prepared this memorandum to present conceptual road capacity improvements and the associated cost estimates for fair-share improvement locations identified in the Oceanside Transit Center (OTC) Redevelopment Local Transportation Study (LTS).

As discussed in the LTS, at many locations it is infeasible to provide additional vehicle capacity without an undesirable effect on other multi-modal considerations, such as pedestrians, bicyclists, transit, and parking. In those situations, the fair-share costs for unfeasible improvements would instead be directed towards multi-modal improvements in the Oceanside downtown area, at the discretion of the City of Oceanside.

Cost estimates (attached) and conceptual designs (attached) are shown for five roadway segments that are representative of the off-site locations affected by the OTC project. Proposed improvement costs at these locations would be comparable to other locations along the same roadway with the same type of proposed improvements. Therefore, these five roadway segment cost estimates and conceptual designs are considered to be representative of all fair-share roadway segment improvements.

The Project would be responsible for the full cost of all improvements required under the Existing plus Project scenario. For near-term cumulative conditions and General Plan buildout conditions, the Project is responsible for a fair-share of the improvement cost, which is based on the amount of traffic added to the roadway by the Project. Project fair-share percentages are calculated using the following formulas:

Near-Term Conditions

$$\% = \frac{Project\ Traffic}{(Traffic\ from\ Cumualtive\ Projects + Project\ Traffic)}$$

Buildout Conditions

$$\% = \frac{Project\ Traffic}{((Buildout\ Traffic + Project\ Traffic) - Existing\ Traffic)}$$

The attached Table 1 summarizes the OTC project's fair-share cost contributions as well as the off-site improvements along the OTC's Tremont Street frontage, which would be implemented by the project. For intersections where the effect of Project traffic could be offset by traffic signal retiming, the Project will pay a fair-share of the cost for the City to implement an adaptive traffic signal control system along the Coast Highway corridor. Based on information provided by the City, the adaptive traffic signal control system would cost approximately $130,900 (7 intersections X $18,700 per intersection) and the Project's fair-share

Reference: Oceanside Transit Center Redevelopment Project – Traffic Fair-Share Improvements Costs

of the improvement is approximately 25% based on the average fair-share of the 2 affected intersections (20% and 27%, respectively).

The Project shall be responsible for the fair-share payment to the City, which shall be $385,812 to be paid to the City's Thoroughfare and Signal Account. The funds will be used at the City's discretion for projects that will improve traffic safety and mobility in the City of Oceanside. The $385,812 fair share payment shall be paid in full prior to issuance of any permit (precise grading, building or otherwise) for any phase or any component of the project. The $385,812 fair share payment only satisfies the offsite improvement obligations. All other onsite improvements such as roadway, sidewalk, bike trail/lane, etc., that are contiguous to the project, or needed to provide access to the Project shall be done at the Project developer's cost.

If you have any questions on the enclosed material, please feel free to reach out to Daryl or Eric to discuss.

Regards,

Stantec Consulting Services Inc.

Daryl Zerfass TE, PTP
Principal, Transportation Planning & Traffic Engineering
Phone: (949) 923-6058
Daryl.Zerfass@stantec.com

Eric Mazzella TE
Transportation Engineer
Eric.Mazzella@stantec.com

Attached:
Table 1 – Fair-Share Cost Summary
Table 2 – Roadways Fair-Share Summary
Table 3 – Intersections Fair-Share Summary
Table 4 – Roadways Direct Improvements by Project
Figure 1 – Tremont St Between W. Topeka St and Michigan Ave – Conceptual Improvement Plans
Figure 2 – Coast Hwy Between Pier View Wy and Mission Ave – Conceptual Improvement Plans
Figure 3 – Mission Ave Between Coast Hwy and Freeman St – Conceptual Improvement Plans
Figure 4 – Pier View Wy Between Freeman St and Coast Hwy – Conceptual Improvement Plans
Figure 5 – Seagaze Dr Between Tremont St and Cleveland St – Conceptual Improvement Plans

Table 1 - Fair Share Cost Summary

Improvement Cost[1] Detail						
Location	**Improvement**	**Item**	**Unit**	**Quantity**	**Unit Cost**	**Total Cost[1]**
1. Mission between Freeman & Coast Hwy	In lieu of capacity improvements, pay fair-share cost of extending left-turn pocket for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	Pavement/Sidewalk Removals	SF	1,200	$ 2	$ 2,400.00
		Remove Roadway Striping	LF	120	$ 4	$ 480.00
		Remove Thermoplastic Markings	EA	2	$ 500	$ 1,000.00
		Curb/Gutter	LF	150	$ 75	$ 11,250.00
		PCC Sidewalk and Landing	SF	650	$ 15	$ 9,750.00
		PCC Roadway	SF	1,200	$ 42	$ 50,400.00
		Sidewalk Cross Drain	EA	1	$ 4,200	$ 4,200.00
		Signs	EA	3	$ 700	$ 2,100.00
		Roadway Striping	LF	385	$ 4	$ 1,540.00
		Thermoplastic Continental Crosswalk	SF	200	$ 9	$ 1,800.00
		Thermoplastic Roadway Markings	EA	4	$ 200	$ 800.00
		Street Light Relocation	EA	1	$ 5,000	$ 5,000.00
		PS&E, Contingency & Misc. (75%)				$ 68,040.00
		Total				**$ 158,760.00**
2. Seagaze between Tremont & Cleveland	In lieu of capacity improvements, pay fair-share cost of adding a 3rd lane, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	Pavement/Sidewalk Removals	SF	400	$ 2.00	$ 800.00
		Remove Roadway Striping	LF	150	$ 4.00	$ 600.00
		Remove Thermoplastic Markings	EA	2	$ 500	$ 1,000.00
		Curb/Gutter	LF	70	$ 75.00	$ 5,250.00
		PCC Roadway	SF	700	$ 42.00	$ 29,400.00
		Roadway Striping	LF	200	$ 4	$ 800.00
		Roadway Thermoplastic Markings	EA	5	$ 200	$ 1,000.00
		Thermoplastic Continental Crosswalk	SF	60	$ 9	$ 540.00
		PCC Sidewalk and Landing	SF	150	$ 15	$ 2,250.00
		Truncated Domes for Access Ramps	EA	1	$ 2,000	$ 2,000.00
		PS&E, Contingency & Misc. (75%)				$ 28,537.50
		Total				**$ 72,177.50**
3. Coast Hwy between Pier View & Mission	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a westbound left-turn pocket at Pier View Way (segment is in a Transit Priority and Smart Growth Opportunity Area).	Remove Roadway Striping	LF	1,020	$ 4.00	$ 4,080.00
		Roadway Striping	LF	1,805	$ 4	$ 7,220.00
		Roadway Thermoplastic Markings	EA	2	$ 200	$ 400.00
		Red Curb Painting	LF	620	$ 4	$ 2,480.00
		PS&E, Contingency & Misc. (75%)				$ 8,775.00
		Total				**$ 22,955.00**
4. Pier View between Freeman & Coast Highway	In lieu of capacity improvements, pay fair-share cost of extending left-turn pocket for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	Remove Roadway Striping	LF	610	$ 4.00	$ 2,440.00
		Remove Thermoplastic Markings	EA	1	$ 500	$ 500.00
		Roadway Striping	LF	460	$ 4	$ 1,840.00
		Roadway Thermoplastic Markings	EA	2	$ 200	$ 400.00
		PS&E, Contingency & Misc. (75%)				$ 3,885.00
		Total				**$ 9,065.00**
5a. Tremont between Seagaze and Topeka 5b. Tremont between Michigan and Missouri	Construct enhanced high-visibility crosswalks at Topeka and Michigan intersections, and provide all-way-stop control at the Project's reconfigured Topeka Street intersection. Also provide curb extensions at Topeka intersections (segments are in a Transit Priority and Smart Growth Opportunity Area).	Pavement/Sidewalk Removals	SF	3,290	$ 2.00	$ 6,580.00
		Remove Roadway Striping	LF	74	$ 4	$ 296.00
		Remove Thermoplastic Markings	EA	8	$ 500	$ 4,000.00
		Thermoplastic Continental Crosswalk	SF	1,000	$ 9	$ 9,000.00
		Signs	EA	2	$ 700	$ 1,400.00
		PCC Sidewalk and Landing	SF	1,705	$ 15	$ 25,575.00
		Curb/Gutter	LF	350	$ 85	$ 29,750.00
		Landscaping	SF	990	$ 10	$ 9,900.00
		Truncated Domes for Access Ramps	EA	10	$ 2,000	$ 20,000.00
		Roadway Thermoplastic Markings	EA	12	$ 200	$ 2,400.00
		PS&E, Contingency & Misc. (75%)		1		$ 81,675.75
		Total				**$ 190,576.75**

[1]Opinion of probable construction costs

EA = Each
LF = Linear Feet
SF = Square Feet

Table 2 - Roadways - Fair-Share Summary

Segment	Applicable Scenarios	Improvement	Project Fair-Share Percentage	Improvement Cost	Project Fair-Share Cost	Notes
1. Mission between Freeman & Coast Hwy	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of extending left-turn pocket for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	20.7%	$ 158,760.00	$ 32,863.32	See attached exhibit for concept improvement plan and attached worksheet for line-item opinion of probable cost
2. Seagaze between Tremont & Cleveland	BC50	In lieu of capacity improvements, pay fair-share cost of adding a 3 rd lane, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	32.3%	$ 72,177.50	$ 23,313.33	See attached exhibit for concept improvement plan and attached worksheet for line-item opinion of probable cost
3a. Coast Hwy between Pier View & Mission	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	25.2%	$ 22,955.00	$ 5,784.66	See attached exhibit for concept improvement plan and attached worksheet for line-item opinion of probable cost
3b. Coast Highway between Civic Center & Pier View	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	21.2%	$ 22,955.00	$ 4,866.46	Cost estimated to be comparable to Segment 3a. Coast Highway between Pier View & Mission
3c. Coast Highway between Mission & Seagaze	EP, NTC, BC50	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	100.0%	$ 22,955.00	$ 22,955.00	Cost estimated to be comparable to Segment 3a. Coast Highway between Pier View & Mission
3d. Coast Hwy between Missouri & Washington	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	26.4%	$ 22,955.00	$ 6,060.12	Cost estimated to be comparable to Segment 3a. Coast Highway between Pier View & Mission
4a. Pier View between Clementine & Nevada	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of adding a two-way left-turn lane for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	11.2%	$ 9,065.00	$ 1,015.28	Cost estimated to be comparable to Segment 4d. Pier View between Freeman & Coast Highway
4b. Pier View between Nevada & Ditmar	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of adding a two-way left-turn lane for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	11.2%	$ 9,065.00	$ 1,015.28	Cost estimated to be comparable to Segment 4d. Pier View between Freeman & Coast Highway
4c. Pier View between Ditmar & Freeman	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of adding a two-way left-turn lane for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	15.6%	$ 9,065.00	$ 1,414.14	Cost estimated to be comparable to Segment 4d. Pier View between Freeman & Coast Highway
4d. Pier View between Freeman & Coast Highway	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of extending left-turn pocket for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	15.6%	$ 9,065.00	$ 1,414.14	See attached exhibit for concept improvement plan and attached worksheet for line-item opinion of probable cost
Roadway Improvement Total				**$ 359,017.50**	**$ 100,701.73**	

Table 3 - Intersections - Fair-Share Summary

Intersection	Applicable Scenarios	Improvement	Project Fair-Share Percentage	Improvement Cost	Project Fair-Share Cost	Notes
1. Coast Hwy & Civic Center	BC50	Pay fair-share of cost to install an adaptive traffic signal control system that the City will be constructing along Coast Highway between Mission Avenue and Oceanside Boulevard (segment is in a Transit Priority and Smart Growth Opportunity Area).	25.0%	$ 130,900.00	$ 32,725.00	Approximate average fair-share based on the individual intersection fair-shares of 20% and 27% respectively. Project cost of 7 total signalized intersections x $18,700 per intersection for ATC system.
10. Horne & Mission	NTC, BC50	Pay fair-share of cost to install an adaptive traffic signal control system that the City will be constructing along Coast Highway between Mission Avenue and Oceanside Boulevard.				
8. Nevada & Mission	NTC, BC50	Pay fair-share of cost to construct a traffic signal (segment is in a Transit Priority and Smart Growth Opportunity Area).	22.1%	$ 500,000.00	$ 110,500.00	Assumes signal construction cost of approximately $500,000
16. Coast Hwy & W Topeka	BC50	Pay fair-share of cost to restripe the intersection west-leg to right-turns only, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	16.1%	$ 9,000.00	$ 1,449.00	Assumes restriping cost of approximately $9,000 per leg
19. Coast Hwy & Michigan	BC50	Pay fair-share of cost to restripe the intersection east- and west-legs to provide dedicated left-turn lane, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	30.2%	$ 18,000.00	$ 5,436.00	Assumes restriping cost of approximately $9,000 per leg
22. Coast Hwy & Missouri	NTC, BC50	Pay fair-share of cost to construct a traffic signal, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	27.0%	$ 500,000.00	$ 135,000.00	Assumes signal construction cost of approximately $500,000
Intersection Improvement Total (Including Caltrans)				**$ 1,157,900.00**	**$ 285,110.00**	

Total Project Fair-Share Cost to City	**$ 385,811.73**

Scenarios:
EP = Existing plus Project Conditions
NTC = Near-Term Cumulative plus Project Conditions
BC50 = Buildout Conditions (Year 2050) plus Project Conditions

Table 4 - Roadways - Direct Improvements by Project				
Segment	**Applicable Scenarios**	**Improvement**	**Improvement Cost**	**Notes**
5a. Tremont between Seagaze and Topeka	N/A	Construct enhanced high-visibility crosswalks at Topeka and Michigan intersections, and provide all-way-stop control at the Project's reconfigured Topeka Street intersection. Also provide curb extensions at Topeka intersections (segments are in a Transit Priority and Smart Growth Opportunity Area).	$ 190,576.75	See attached exhibit for concept improvement plan and attached worksheet for line-item opinion of probable cost (excludes improvements on-site)
5b. Tremont between Michigan and Missouri	N/A	Construct enhanced high-visibility crosswalks at Topeka and Michigan intersections, and provide all-way-stop control at the Project's reconfigured Topeka Street intersection. Also provide curb extensions at Topeka intersections (segments are in a Transit Priority and Smart Growth Opportunity Area).	included above	Cost included in Segment 5a costs above
5c. Tremont between Missouri and Washington	N/A	Construct enhanced high-visibility crosswalks at Missouri intersection (segment is in a Transit Priority and Smart Growth Opportunity Area).	$ 95,288.38	Cost estimated to be approximately 50% of the Tremont improvements at Topeka and Michigan intersections
5d. Michigan between Coast Highway and Tremont	N/A	Construct enhanced high-visibility crosswalks and provide all-way-stop control at the Project's reconfigured Michigan Avenue intersection (segment is in a Transit Priority and Smart Growth Opportunity Area). Also provide curb extensions at Michigan and Missouri intersections.	included above	Cost included in Segment 5a/5b costs above
Direct Improvements Total			**$ 285,865.13**	

PARKING AREA TO BE REMOVED,
REPLACED WITH PAVEMENT

MISSION AVE

12’ 10’ 11’ 12’

COAST HWY

FREEMAN ST

Legend

Remove existing

New roadway striping

NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\traffic_improvement_concept_plans.dwg

N

GRAPHIC SCALE:

40’ 0’ 40’ 80’

1 inch = 40 ft.

Mission Ave Between Coast Hwy and Freeman St - Conceptual Improvement Plans

REMOVE CURB EXTENSION, REPLACE WITH PAVEMENT

REMOVE ANGLED PARKING AREA

REMOVE ANGLED PARKING AREA

STOP

STOP

18’

11’

17’

SEAGAZE DR

CLEVELAND ST

TREMONT ST

STOP

Legend

Remove existing

New roadway striping

NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

\\us0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\traffic\traffic_improvement_concept_plans.dwg

N

GRAPHIC SCALE:

40’ 0’ 40’ 80’

1 inch = 40 ft.

Seagaze Dr Between Tremont St and Cleveland St - Conceptual Improvement Plans

NEW RED CURB TO PROHIBIT STREET PARKING

NEW RED CURB TO PROHIBIT STREET PARKING

COAST HWY

PIER VIEW WY

MISSION AVE

11' 12' 11' 10' 10'

11' 12' 11' 10' 10'

Legend

New roadway striping

NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

GRAPHIC SCALE: 40' 0' 40' 80'

1 inch = 40 ft.

Coast Hwy Between Pier View Way and Mission Ave - Conceptual Improvement Plans

\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\traffic_improvement_concept_plans.dwg

NEW 160' LEFT-TURN POCKET

22'

10'

23'

PIER VIEW WY

COAST HWY

FREEMAN ST

Legend

New roadway striping

NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

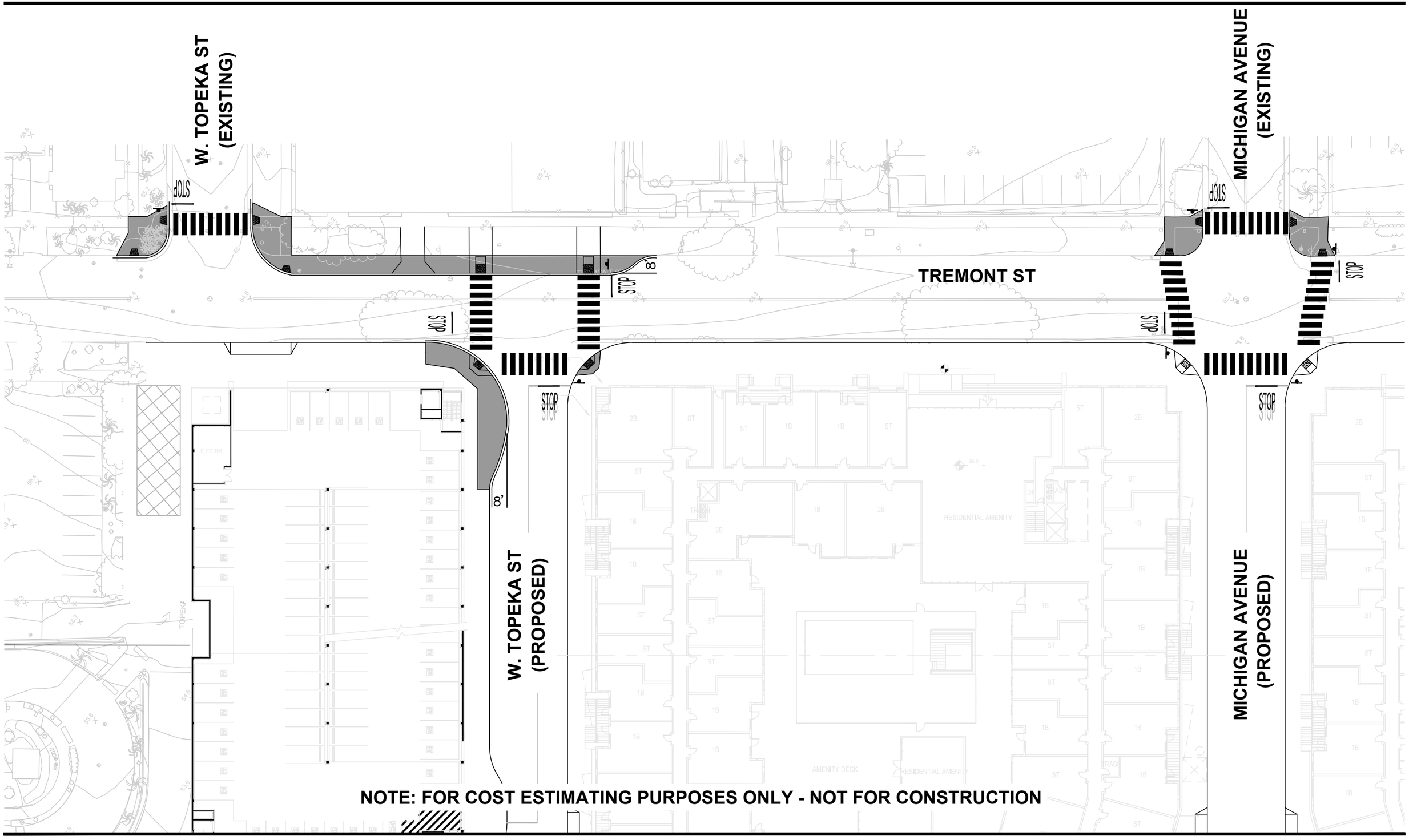
\\us0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\traffic\traffic_improvement_concept_plans.dwg

GRAPHIC SCALE:

40' 0' 40' 80'

1 inch = 40 ft.

Pier View Wy Between Freeman St and Coast Hwy - Conceptual Improvement Plans



NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

GRAPHIC SCALE:

40' 0' 40' 80'

1 inch = 40 ft.

Tremont St Between W. Topeka St and Michigan Avenue - Conceptual Improvement Plans

4.06 ATTACHMENT 6b

OCEANSIDE TRANSIT CENTER REDEVELOPMENT PROJECT – LOCAL TRANSPORTATION STUDY
235 S. Tremont Street
City of Oceanside, California

June 17, 2025

Prepared for:
Toll Brothers Apartment Living

Prepared by:
Stantec

Project Number:
2042217900

The conclusions in the Report titled *Oceanside Transit Center Redevelopment Project – Local Transportation Study* are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Toll Brothers Apartment Living (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: 

Signature

Eric Mazzella, TE

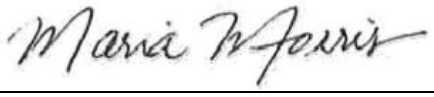
Printed Name



Signature

Daryl Zerfass, TE, PTP

Printed Name

Reviewed by: 

Signature

Maria Morris, AICP, PTP

Printed Name

Table of Contents

EXECUTIVE SUMMARY ..... **V**

ACRONYMS / ABBREVIATIONS ..... **XXI**

1 INTRODUCTION **1.1**
1.1 Project Description 1.1
1.2 LTS Study Area 1.4
1.3 LTS Methodology 1.7
1.4 Traffic Operations Performance Criteria 1.7
1.5 References 1.11

2 TRANSPORTATION SETTING **2.1**
2.1 Existing Roadway Network 2.1
2.2 Pedestrian Circulation 2.6
2.3 Bicycle Circulation 2.6
2.4 Transit 2.8
2.5 Existing Conditions Traffic Volumes 2.10
2.6 Existing Intersection Levels of Service 2.10

3 PROJECT DATA **3.1**
3.1 Project Land Use and Site Access 3.1
3.2 Project Trip Generation 3.1
3.3 Project Trip Distribution 3.3

4 LOS ANALYSIS **4.1**
4.1 Existing Conditions Plus Project Analysis 4.1
4.1.1 Roadway Improvements for Existing Conditions Plus Project 4.5
4.2 Near-Term Cumulative Analysis 4.14
4.2.1 Existing Conditions Plus Near-Term Cumulative Projects 4.14
4.2.2 Existing Conditions Plus Near-Term Cumulative Projects Plus Project 4.23
4.2.3 Roadway Improvements for Existing Conditions Plus Near-Term Cumulative Projects Plus Project 4.32
4.3 Buildout Conditions Analysis 4.36
4.3.1 Buildout Conditions (Year 2050) Roadway Network 4.36
4.3.2 Buildout Conditions (Year 2050) Without Project 4.37
4.3.3 Buildout Conditions (Year 2050) With Project 4.44
4.3.4 Roadway Improvements for Buildout Conditions (Year 2050) With Project 4.54

5 SITE ACCESS ANALYSIS **5.1**
5.1 Vehicle Access 5.1
5.2 Bus Circulation 5.3
5.3 Pedestrian Circulation 5.4
5.4 Bicycle Circulation 5.5

LIST OF TABLES

Table ES-1 Project Trip Generation Summary vii
Table ES-2 Off-Site Improvements and Fair-Share Summary x
Table ES-3 Intersection LOS Summary – Existing Conditions Plus Project xii

Table ES-4 Intersection LOS Summary – Existing Conditions Plus Near-Term Cumulative Projects With and Without the Project xiii
Table ES-5 Intersection LOS Summary – Buildout Conditions (Year 2050) With and Without the Project xiv
Table ES-6 Intersection LOS Summary – Buildout Conditions (Year 2050) with Coast Highway Improvement Project With and Without the Project xv
Table ES-7 Roadway Segment Volume Summary – Existing Conditions plus Project xvii
Table ES-8 Roadway Segment Volume Summary – Existing Conditions Plus Near-Term Cumulative Projects – with and without the Project xviii
Table ES-9 Roadway Segment Volume Summary – Buildout Conditions (Year 2050) with and without the Project xix
Table 1-1 Intersection Study Locations 5
Table 1-2 Level of Service Descriptions - Arterial Roadways and Intersections 8
Table 1-3 Circulation Element Roadway Classification LOS & Capacity 9
Table 1-4 Arterial Performance Criteria 10
Table 2-1 Roadway Segment Volume Summary – Existing Conditions 2.11
Table 2-2 Intersection LOS Summary – Existing Conditions 2.17
Table 3-1 Project Trip Generation Summary 3.2
Table 4-1 Roadway Segment Volume Summary – Existing Conditions plus Project 4.2
Table 4-2 Intersection LOS Summary – Existing Conditions Plus Project 4.10
Table 4-3 Near-Term Cumulative Projects 4.15
Table 4-4 Roadway Segment Volume Summary – Existing Conditions Plus Near-Term Cumulative Projects 4.17
Table 4-5 Roadway Segment Volume Summary – Existing Conditions Plus Near-Term Cumulative Projects – with and without the Project 4.24
Table 4-6 Intersection LOS Summary – Existing Conditions Plus Near-Term Cumulative Projects With and Without the Project 4.31
Table 4-7 Roadway Segment Volume Summary – Buildout Conditions (Year 2050) 4.37
Table 4-8 Roadway Segment Volume Summary – Buildout Conditions (Year 2050) with and without the Project 4.45
Table 4-9 Intersection LOS Summary – Buildout Conditions (Year 2050) With and Without the Project 4.52
Table 4-10 Intersection LOS Summary – Buildout Conditions (Year 2050) with Coast Highway Improvement Project With and Without the Project 4.53

LIST OF FIGURES

Figure 1-1 Project Location 1.2
Figure 1-2 Project Site Plan 1.3
Figure 1-3 Mobility Hub Plan 1.4
Figure 1-4 Study Area Intersections 1.6
Figure 2-1 Existing Roadway Network 2.2
Figure 2-2 Existing Intersection Lane Configurations (1 of 2) 2.3
Figure 2-3 Existing Intersection Lane Configurations (2 of 2) 2.4
Figure 2-4 Existing Bicycle Facilities 2.7
Figure 2-5 Existing Transit Facilities 2.9
Figure 2-6 Existing ADT Volumes 2.12
Figure 2-7 Existing AM Peak Hour Intersection Volumes (1 of 2) 2.13
Figure 2-8 Existing AM Peak Hour Intersection Volumes (2 of 2) 2.14
Figure 2-9 Existing PM Peak Hour Intersection Volumes (1 of 2) 2.15
Figure 2-10 Existing PM Peak Hour Intersection Volumes (2 of 2) 2.16
Figure 3-1 Project Trip Distribution Percentages 3.4
Figure 3-2 Project Trip Distribution Percentages (Project Area) 3.5

Figure 3-3 Project-Only ADT Volumes 3.6
Figure 3-4 AM Peak Hour Inbound Project Trip Distribution Percentages (1 of 2) 3.7
Figure 3-5 AM Peak Hour Inbound Project Trip Distribution Percentages (2 of 2) 3.8
Figure 3-6 PM Peak Hour Inbound Project Trip Distribution Percentages (1 of 2) 3.9
Figure 3-7 PM Peak Hour Inbound Project Trip Distribution Percentages (2 of 2) 3.10
Figure 3-8 AM Peak Hour Outbound Project Trip Distribution Percentages (1 of 2) 3.11
Figure 3-9 AM Peak Hour Outbound Project Trip Distribution Percentages (2 of 2) 3.12
Figure 3-10 PM Peak Hour Outbound Project Trip Distribution Percentages (1 of 2) 3.13
Figure 3-11 PM Peak Hour Outbound Project Trip Distribution Percentages (2 of 2) 3.14
Figure 3-12 Project-Only AM Peak Hour Intersection Volumes (1 of 2) 3.15
Figure 3-13 Project-Only AM Peak Hour Intersection Volumes (2 of 2) 3.16
Figure 3-14 Project-Only PM Peak Hour Intersection Volumes (1 of 2) 3.17
Figure 3-15 Project-Only PM Peak Hour Intersection Volumes (2 of 2) 3.18
Figure 4-1 Existing Conditions plus Project ADT Volumes 4.4
Figure 4-2 Existing Conditions plus Project AM Peak Hour Intersection Volumes (1 of 2) 4.6
Figure 4-3 Existing Conditions plus Project AM Peak Hour Intersection Volumes (2 of 2) 4.7
Figure 4-4 Existing Conditions plus Project PM Peak Hour Intersection Volumes (1 of 2) 4.8
Figure 4-5 Existing Conditions plus Project PM Peak Hour Intersection Volumes (2 of 2) 4.9
Figure 4-6 Near-Term Cumulative Project Locations 4.16
Figure 4-7 Existing Conditions plus Near-Term Cumulative Projects ADT Volumes 4.18
Figure 4-8 Existing Conditions plus Near-Term Cumulative Projects AM Peak Hour Intersection Volumes (1 of 2) 4.19
Figure 4-9 Existing Conditions plus Near-Term Cumulative Projects AM Peak Hour Intersection Volumes (2 of 2) 4.20
Figure 4-10 Existing Conditions plus Near-Term Cumulative Projects PM Peak Hour Intersection Volumes (1 of 2) 4.21
Figure 4-11 Existing Conditions plus Near-Term Cumulative Projects PM Peak Hour Intersection Volumes (2 of 2) 4.22
Figure 4-12 Existing Conditions plus Near-Term Cumulative Projects plus Project ADT Volumes 4.26
Figure 4-13 Existing Conditions plus Near-Term Cumulative Projects plus Project AM Peak Hour Intersection Volumes (1 of 2) 4.27
Figure 4-14 Existing Conditions plus Near-Term Cumulative Projects plus Project AM Peak Hour Intersection Volumes (2 of 2) 4.28
Figure 4-15 Existing Conditions plus Near-Term Cumulative Projects plus Project PM Peak Hour Intersection Volumes (1 of 2) 4.29
Figure 4-16 Existing Conditions plus Near-Term Cumulative Projects plus Project PM Peak Hour Intersection Volumes (2 of 2) 4.30
Figure 4-17 2050 Buildout Without Project ADT Volumes 4.38
Figure 4-18 2050 Buildout Without Project AM Peak Hour Intersection Volumes (1 of 2) 4.40
Figure 4-19 2050 Buildout Without Project AM Peak Hour Intersection Volumes (2 of 2) 4.41
Figure 4-20 2050 Buildout Without Project PM Peak Hour Intersection Volumes (1 of 2) 4.42
Figure 4-21 2050 Buildout Without Project PM Peak Hour Intersection Volumes (2 of 2) 4.43
Figure 4-22 2050 Buildout With Project ADT Volumes 4.47
Figure 4-23 2050 Buildout With Project AM Peak Hour Intersection Volumes (1 of 2) 4.48
Figure 4-24 2050 Buildout With Project AM Peak Hour Intersection Volumes (2 of 2) 4.49
Figure 4-25 2050 Buildout With Project PM Peak Hour Intersection Volumes (1 of 2) 4.50
Figure 4-26 2050 Buildout With Project PM Peak Hour Intersection Volumes (2 of 2) 4.51
Figure 5-1 On-Site Project Circulation Plan 5.2
Figure 5-2 Bus & Passenger Vehicle Circulation Framework Plan 5.3
Figure 5-3 Pedestrian Circulation Framework Plan 5.4
Figure 5-4 Bicycle Circulation Framework Plan 5.5
Figure E-1 Cumulative Projects Only AM Peak Hour Intersection Volumes (1 of 2) E.2
Figure E-2 Cumulative Projects Only AM Peak Hour Intersection Volumes (2 of 2) E.3

Figure E-3 Cumulative Projects Only PM Peak Hour Intersection Volumes (1 of 2) E.4
Figure E-4 Cumulative Projects Only PM Peak Hour Intersection Volumes (2 of 2) E.5
Figure G-1 Tremont Street Between W. Topeka Street and Michigan Avenue - Conceptual Improvement Plans G.2
Figure G-2 Coast Highway Between Pier View Way and Mission Avenue - Conceptual Improvement Plans G.3
Figure G-3 Mission Avenue Between Coast Highway and Freeman Street - Conceptual Improvement Plans G.4
Figure G-4 Pier View Way Between Freeman Street and Coast Highway - Conceptual Improvement Plans G.5
Figure G-5 Seagaze Drive Between Tremont Street and Cleveland Street - Conceptual Improvement Plans G.6

LIST OF APPENDICES

APPENDIX A – PRELIMINARY PROJECT INFORMATION FORM A.1
APPENDIX B – TRAFFIC COUNT WORKSHEETS B.1
APPENDIX C – NCTD HEADQUARTERS DRIVEWAY TRAFFIC COUNT WORKSHEETS .. C.1
APPENDIX D – LOS WORKSHEETS D.1
APPENDIX E – CUMULATIVE PROJECT TRIPS E.1
APPENDIX F – FAIR-SHARE CALCULATIONS F.1
APPENDIX G – CONCEPTUAL DESIGN IMPROVEMENTS G.1
APPENDIX H – SANDAG ABM2+ MODEL DATA H.1
APPENDIX I – YEAR 2050 TRAFFIC FORECASTS I.1
APPENDIX J – SANDAG MXD TOOL CALCULATIONS J.1
APPENDIX K – TRAFFIC SIGNAL TIMING SHEETS K.1

Executive Summary

Project Description

This report presents the findings of a local transportation study (LTS) conducted to analyze the proposed Oceanside Transit Center (OTC) Redevelopment (Project) located in the City of Oceanside, California. The Project site is located at 235 S. Tremont Street and is comprised of the 10.06-acre Oceanside Transit Center (OTC) property owned by North County Transit District (NCTD) (refer to **Figure 1-1** in in Section 1.1 for Project Location map). The Project proposes a General Plan Amendment, Zone Amendment, approval of a Specific Plan (OTC Specific Plan), Local Coastal Program Land Use Plan Amendment, Coastal Development Permit, and Vesting Tentative Map to allow the demolition of existing structures and construction of a mixed-use transit-oriented community.

The site is generally comprised of the area bounded by Tremont Street to the east, Seagaze Drive to the north, railroad tracks to the west, and Missouri Avenue to the south. The Project would construct 547 multi-family residential units with associated indoor and outdoor amenities, a 170-room boutique hotel with amenities, a 64,085 square-foot office building for the NCTD headquarters, 29,196 square feet of retail/food/beverage uses, and over 1,800 parking spaces in structure parking. In addition, transit improvements would include a new intermodal transportation center and transit customer service building, 12 commuter bus stalls and bus layover space, enhanced transit waiting areas, bike parking and bike share, on-demand rideshare, and wayfinding assistance. An illustration of the Project's framework bus and passenger vehicle circulation plan is provided in **Figure ES-1**.

Figure ES-1 Bus & Passenger Vehicle Circulation Framework Plan



Source: Draft Oceanside Transit Center Specific Plan, Arcadis (2024)

The OTC is located in the SANDAG Smart Growth Opportunity Area "Oceanside-2" mixed use transit corridor. Smart growth is characterized by compact, higher-density development in urbanized areas that is walkable, bike-friendly, near public transit, and promotes good community design. Smart Growth Opportunity Areas are locations within the region that can support smart growth and transportation investments. The OTC Specific Plan is consistent with smart growth as it enhances accessibility to a number of transit options and creates a sense of community with the development of residential, office, and commercial uses as one of eight Mobility Hub sites within the San Diego region.

The Project has been designed to encourage transit usage, walking, and biking, thereby reduce reducing single occupant vehicle (SOV) trips made by residents. Implementation of the OTC Specific Plan will provide improvements to the existing bicycle facilities and pedestrian network, implementation of traffic calming measures, improvements to transit station accessibility, comfort and safety, a designated area for microtransit, a comprehensive wayfinding program, and parking management, all of which would minimize residents' reliance on SOVs. Mobility Hub features included in the OTC Specific Plan include enhanced transit waiting areas, passenger loading areas, bikeshare, one-demand rideshare, and wayfinding.

The two multi-family residential buildings (referred to herein as Residential Building 1 and Residential Building 2) would each include a parking structure with residents-only driveways. The parking structure for Residential Building 1 would have one driveway on Topeka Street, just east of Cleveland Street, and a second driveway on Michigan Avenue, just east of the bus depot. The Residential Building 2 parking structure would have one driveway on Michigan Avenue directly opposite of the Residential Building 1 driveway, and a second driveway on Cleveland Street on Missouri Avenue east of Cleveland Street.

The hotel would also be constructed with structure parking with one driveway on Seagaze Drive approximately midway between Cleveland Street and Tremont Street.

An additional freestanding parking structure would be constructed for use by NCTD employees and the general public (e.g., transit riders). The structure would have one driveway on Cleveland Street just north of Topeka Street and a second driveway on Tremont Street just south of the northerly Topeka Street intersection.

Since the Project is located in a mixed-use area with high quality transit service, the net volume of vehicle trips is substantially lower than would occur in a lower density, less walkable, and low transit area. The SANDAG mixed-use development (MXD) trip generation calculator was utilized to estimate the net volume of vehicle trips to be generated by the Project. The walkable mixed-use nature of the site, together with the high-quality transit service results in approximately 23 percent fewer vehicle trips overall.

The net number of vehicle trips expected to be generated by the Project is approximately 6,261 ADT, 441 AM peak hour trips, and 603 PM peak hour trips. The AM peak hour would generate approximately 196 inbound vehicle trips and approximately 245 outbound vehicle trips. The PM peak hour would generate approximately 324 inbound vehicle trips and approximately 279 outbound vehicle trips. **Table ES-1** summarizes the trip rates, MXD reductions, and the net volume of trips to be generated by the Project.

Table ES-1 Project Trip Generation Summary

Land Use	Amount	Trip Rate	ADT	AM Peak Hour						PM Peak Hour					
				Peak %	Vol.	In %	Out %	Vol. In	Vol. Out	Peak %	Vol.	In %	Out %	Vol. In	Vol. Out
Proposed Project															
Multi-family Residential	547 DU	6	3,282	8%	263	20%	80%	53	210	9%	295	70%	30%	207	88
Retail, Food & Beverage	29.196 TSF	120	3,504	4%	140	60%	40%	84	56	10%	350	50%	50%	175	175
NCTD Headquarters (Net[1])	58.085 TSF[1]	12	697	14%	98	91%	9%	89	9	12%	84	12%	88%	10	74
Hotel	170 Room	4	680	9%	61	39%	61%	24	37	8%	54	55%	45%	30	24
Gross Trips		--	8,163	--	562	--	--	250	312	--	783	--	--	422	361
Internal Capture Trips		--	514	--	29	--	--	13	16	--	49	--	--	27	22
Internal Capture %		--	6.3%	--	5.2%	--	--	5.2%	5.2%	--	6.3%	--	--	6.3%	6.3%
Walking External Trips		--	1,004	--	49	--	--	22	27	--	90	--	--	49	41
Walking External %		--	12.3%	--	8.8%	--	--	8.8%	8.8%	--	11.5%	--	--	11.5%	11.5%
Transit External		--	384	--	43	--	--	19	24	--	41	--	--	22	19
Transit External %		--	4.7%	--	7.7%	--	--	7.7%	7.7%	--	5.3%	--	--	5.3%	5.3%
Total External Vehicle Trips		--	**6,261**	--	**441**	--	--	**196**	**245**	--	**603**	--	--	**324**	**279**
Total Trip Reduction %		--	23%	--	22%	--	--	22%	21%	--	23%	--	--	23%	23%

[1]NCTD Headquarters total proposed building size of 64,085 SF minus approximately 6,000 SF existing NCTD office building on-site (existing building to be removed and operations moved to new building)

Notes:
DU – Dwelling Unit
TSF – Thousand Square Feet
Room – Occupied Rooms
Existing intermodal transportation center uses on-site (e.g., NCTD and Amtrack customer service offices, ticketing, restrooms, etc.) to remain on-site (relocated).
Internal capture trips, walk trips, and transit trips estimated using SANDAG Mixed Use Trip Generation Model v 4.0.
Trip Rate Sources:
(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, SANDAG (2002)
Multi-family Residential – SANDAG land use category "Apartment"
Retail, Food & Beverage – SANDAG land use category "Neighborhood Shopping Center"
Driveway Counts
NCTD Headquarters – Rates based on driveway counts (Tues/Wed average) of existing NCTD headquarters at 810 Mission Ave
ITE Trip Generation Manual, Institute of Transportation Engineers (2021)
Hotel – ITE Category 312 Business Hotel

Transportation Setting

The Project site is a hub for bus and rail transit with services that extend throughout the County of San Diego, as well as rail service to locations north of the County. Several NCTD BREEZE bus routes stop at the site, including:

- Route 101 – Service to UC San Diego
- Route 302 – Service to Vista
- Route 303 – Service to Vista
- Route 313 – Service to Oceanside Town Center North
- Route 318 – Service to Vista Transit Center
- Flex Route 392 – Service to Camp Pendleton 14 Area
- Route 395 – Service to Camp San Onofre

In addition to the abundant bus transit present at the Project site, rail transit is also available. COASTER commuter rail operated by NCTD runs from the OTC to the San Diego Santa Fe Depot with stops at stations in Carlsbad, Encinitas, Solana Beach, Sorrento Valley, and Old Town San Diego. COASTER service provides 30 daily trips Monday through Friday with an additional 2 trips on Fridays, and 20 daily Saturday and Sunday trips year-round. It takes about an hour to travel the entire COASTER route.

NCTD's SPRINTER also provides service to the Project site. SPRINTER is a 22-mile hybrid rail service runs from the OTC to Escondido with stops at 15 stations in Oceanside, Vista, San Marcos, and Escondido generally along the SR 78 corridor. The SPRINTER runs every 30 minutes in each direction Monday through Friday, from approximately 4:00 AM to 9:00 PM Friday and Saturday trains run later. Saturday, Sunday, and holiday trains operate every 30 minutes between 10:00 AM and 6:00 PM and hourly before 10:00 AM and after 6:00 PM.

The City of Oceanside operates the GO'side shuttle program, an app-based on-demand microtransit system using low speed Neighborhood Electric Vehicles (NEV). GO'side services the area around the OTC and provides first and last mile as well as local circulation for Oceanside residents and tourists predominately west of Interstate 5.

The existing roadway network in the vicinity of the Project site can generally be characterized as a small urban grid. Intersections are typically closely spaced with many two-lane roadways and some key four-lane roadways, as well as one-way roadways.

The roadway study area includes the key roadways and intersections that are potentially affected by the Project (refer to **Figure 1-4** in in Section 1.2 for an illustration of the study area). Arterial, collector, and local streets addressed in the study include the following: Coast Highway, Mission Avenue, Seagaze Drive, Tremont Street, Cleveland Street, Topeka Street, Clementine Street, Michigan Avenue, Missouri Avenue, Wisconsin Avenue, Oceanside Boulevard, and Vista Way.

For the purpose of this analysis, roadways such as **Tremont Street** and **Coast Highway** are referred to as oriented in the *north-south* direction, and roadways such as **Mission Avenue** and **Seagaze Drive** are referred to as oriented in the *east-west* direction.

Level of Service (LOS) Analysis & Recommended Improvements

On-Site Project Improvements

The Project includes various improvements to the streets within and immediately adjacent to the Project site. Refer to **Figure 5-1** in Section 5 for an illustration of key elements of the proposed on-site circulation and site access locations.

Within the Project site, Cleveland Street would be reconfigured from its existing two-lane one-way configuration to a two-lane two-way configuration. Cleveland Street would be shared by passenger vehicles, buses, and bicycles.

Also within the Project site, Topeka Street would be reconfigured from its existing configuration (two-lane, one-way bus driveway) to a two-lane, two-way configuration, and shared by bus, auto, and bicycles.

Michigan Avenue would be reconstructed with improved sidewalks and landscaping within the Project site but will remain a two-lane two-roadway that would be shared by passenger vehicles, buses, and bicycles.

In comparison to existing conditions, additional pedestrian routes would be provided to improve access to the transit station. A mid-block raised crosswalk would be provided on Cleveland Street near the Station Plaza where heavy pedestrian traffic is anticipated. In addition, marked continental crosswalks would be provided at each intersection providing access to the Project site and most of the intersections would be configured as all-way stops to maximize pedestrian safety.

Commuters and visitors accessing the transit services, retail, and dining would park at the Project's parking structure located just north of Topeka Street. Access to the parking structure would be via driveways onto Tremont Street and Cleveland Street. Commuters and visitors would also have the ability to park at the existing City-owned parking structure located at the terminus of Seagaze Drive.

Off-Site Improvements and Fair-Share Contributions

City guidelines state that for roadway segments and intersections that are forecast to exceed the City's vehicular level of service (LOS) targets and the Project's direct effect exceeds specified thresholds, roadway improvements that are consistent with the General Plan should be considered (a listing of intersection LOS for each study scenario is proved at the end of this Executive Summary). Furthermore, since the Project is located in a Transit Priority Area and a Smart Growth Opportunity Area as identified by SANDAG, the City guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority.

The Project is located in a multi-model and walkable portion of the City. In each case where vehicular LOS criteria is forecast to be exceeded and the Project exceeds the specified thresholds, modifications to roadway segments and intersections are recommended if the modifications do not alter or negatively impact the existing multi-modal infrastructure. For locations where roadway modifications to improve vehicular LOS are not appropriate, an alternative multi-modal improvement or fair-share contribution has been identified. **Table ES-2** summarizes the recommended improvements and fair-share contributions that have been identified to address the City's traffic analysis criteria.

Table ES-2 Off-Site Improvements and Fair-Share Summary

Road Segment Analysis Summary			
Segment	**Applicable Scenarios**	**Improvement**	**Project Fair-Share (%)**
Mission between Freeman & Coast Hwy	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of extending left-turn pocket for length of entire block, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	15%
Seagaze between Tremont & Cleveland	BC50	In lieu of capacity improvements, pay fair-share cost of adding a 3rd lane, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	32%
Coast Highway between Civic Center & Pier View	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	18%
Coast Hwy between Pier View & Mission	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	21%
Coast Highway between Mission & Seagaze	EP, NTC, BC50	In lieu of capacity improvements, pay cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	100%
Coast Hwy between Missouri & Washington	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of restriping roadway to provide a two-way left-turn lane for this segment (segment is in a Transit Priority and Smart Growth Opportunity Area).	22%
Tremont between Seagaze and Topeka	EP, NTC, BC50	Construct enhanced high-visibility crosswalks and provide all-way-stop control at the Project's reconfigured Topeka Street intersection and at the Michigan Avenue intersection (segment is in a Transit Priority and Smart Growth Opportunity Area).	100%
Tremont between Michigan and Missouri	EP, NTC, BC50	Construct enhanced high-visibility crosswalks and provide all-way-stop control at the Project's reconfigured Topeka Street intersection and at the Michigan Avenue intersection (segment is in a Transit Priority and Smart Growth Opportunity Area).	100%
Tremont between Missouri and Washington	EP, NTC, BC50	Construct enhanced high-visibility crosswalks and provide all-way-stop control at the Project's reconfigured Topeka Street intersection and at the Michigan Avenue intersection (segment is in a Transit Priority and Smart Growth Opportunity Area).	100%
Michigan between Coast Highway and Tremont	EP, NTC, BC50	Construct enhanced high-visibility crosswalks and provide all-way-stop control at the Project's Tremont Street intersection (segment is in a Transit Priority and Smart Growth Opportunity Area).	100%

Pier View between Clementine & Ditmar	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of adding a two-way left-turn lane for length of entire blocks, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	11%
Pier View between Ditmar & Coast Highway	NTC, BC50	In lieu of capacity improvements, pay fair-share cost of extending left-turn pocket for length of entire block between Freeman and Coast Highway and a two-way left-turn lane along the additional segments, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	16%
Intersection Analysis Summary			
Intersection	**Applicable Scenarios**	**Improvement**	**Project Fair-Share (%)**
Coast Hwy & Civic Center	BC50	Pay fair-share of cost to install an adaptive traffic signal control system that the City will be constructing along Coast Highway between Mission Avenue and Oceanside Boulevard (segment is in a Transit Priority and Smart Growth Opportunity Area).	20%
Nevada & Mission	NTC, BC50	Pay fair-share of cost to construct a traffic signal.	22%
Horne & Mission	NTC, BC50	Pay fair-share of cost to install an adaptive traffic signal control system that the City will be constructing along Coast Highway between Mission Avenue and Oceanside Boulevard.	27%
Coast Hwy & W Topeka	BC50	Pay fair-share of cost to restripe the intersection west-leg to right-turns only, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	16%
Coast Hwy & Michigan	BC50	Pay fair-share of cost to restripe the intersection east- and west-legs to provide dedicated left-turn lane, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	30%
Coast Hwy & Missouri	NTC, BC50	Pay fair-share of cost to construct a traffic signal, to be applied by City to other multi-model improvements in the downtown area (segment is in a Transit Priority and Smart Growth Opportunity Area).	27%
EP = Existing plus Project Conditions NTC = Near-Term Cumulative plus Project Conditions BC50 = Buildout Conditions (Year 2050) plus Project Conditions Note: The Project is 100% responsible for the cost of improvements identified for Existing plus Project conditions			

Table ES-3 Intersection LOS Summary – Existing Conditions Plus Project

Intersection	Traffic Control	Existing				Existing Plus Project				Difference	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Coast Hwy & Civic Center	Signal	4.3	A	6.0	A	4.3	A	5.9	A	0.0	-0.1
2. Coast Hwy & Pier View	Signal	4.3	A	6.0	A	4.4	A	6.1	A	0.1	0.1
3. Ditmar & Seagaze	AWSC	8.4	A	9.2	A	8.6	A	9.6	A	0.2	0.4
4. Clementine & Seagaze	TWSC	9.0	A	9.5	A	9.2	A	9.6	A	0.2	0.1
5. Cleveland & Mission	Signal	7.6	A	10.7	B	8.2	A	10.9	B	0.6	0.2
6. Coast Hwy & Mission	Signal	16.3	B	31.2	C	17.3	B	31.5	C	1.0	0.3
7. Ditmar & Mission	Signal	4.4	A	5.0	A	4.5	A	5.1	A	0.1	0.1
8. Nevada & Mission	TWSC	14.4	B	15.6	C	14.9	B	16.6	C	0.5	1.0
9. Clementine & Mission	TWSC	10.4	B	11.0	B	10.6	B	11.3	B	0.2	0.3
10. Horne & Mission	Signal	35.2	D	47.4	D	35.9	D	53.0	D	0.7	5.6
11. Seagaze & Cleveland	AWSC	7.9	A	10.4	B	7.7	A	10.1	B	-0.2	-0.3
12. Tremont & Seagaze	TWSC	9.4	A	11.8	B	10.2	B	15.3	C	0.8	3.5
13. Coast Hwy & Seagaze	Signal	8.8	A	16.5	B	9.7	A	17.6	B	0.9	1.1
14. Coast Hwy & Topeka (E)	TWSC	11.2	B	13.2	B	11.4	B	13.6	B	0.2	0.4
15. Tremont & Topeka (W)	TWSC	9.0	A	9.0	A	9.8	A	10.2	B	0.8	1.2
16. Coast Hwy & Topeka (W)	TWSC	10.7	B	16.0	C	11.5	B	18.9	C	0.8	2.9
17. Tremont & Topeka[2]	AWSC	1.4	A	1.8	A	7.8	A	9.6	A	6.4	7.8
18. Tremont & Michigan	AWSC	7.2	A	7.4	A	8.0	A	9.0	A	0.8	1.6
19. Coast Hwy & Michigan	Signal	4.8	A	8.5	A	5.7	A	13.4	B	0.9	4.9
20. Cleveland & Missouri	AWSC	7.0	A	6.8	A	7.0	A	6.9	A	0.0	0.1
21. Tremont & Missouri	TWSC	9.2	A	9.5	A	10.2	B	10.5	B	1.0	1.0
22. Coast Hwy & Missouri	TWSC	16.1	C	19.0	C	15.9	C	23.6	C	-0.2	4.6
23. Coast Hwy & SR 76 / Driveway	Signal	11.0	B	13.8	B	11.1	B	14.5	B	0.1	0.7
24. I-5 SB Ramps & Mission Ave	Signal	20.7	C	18.7	B	21.3	C	19.5	B	0.6	0.8
25. I-5 NB Ramps & Mission Ave	n/a[1]	--	--	--	--	--	--	--	--	--	--
26. Tremont & Wisconsin	TWSC	11.2	B	14.0	B	12.3	B	16.5	C	1.1	2.5
27. Coast Hwy & Wisconsin	Signal	10.8	B	12.2	B	11.7	B	13.5	B	0.9	1.3
28. Coast Hwy & Oceanside	Signal	17.9	B	26.1	C	18.6	B	29.9	C	0.7	3.8
29. I-5 SB Ramps & Oceanside	Signal	28.8	C	21.9	C	26.6	C	21.9	C	-2.2	0.0
30. I-5 NB Ramps & Oceanside	Signal	33.7	C	**65.1**	**E**	34.0	C	**67.3**	**E**	0.3	**2.2**
31. Coast Hwy & Vista	Signal	19.0	B	21.5	C	19.3	B	23.1	C	0.3	1.6
32. Cleveland & Topeka[2]	AWSC	--	--	--	--	7.1	A	7.4	A	--	--
33. Coast Hwy & Surfrider	Signal	9.2	A	11.7	B	9.2	A	12.3	B	0.0	0.6

Notes:
TWSC – Two-way stop-control
AWSC – All-way stop-control

LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
AWSC Delay represents the intersection average vehicle delay (total vehicles)
TWSC Delay represents the side street movement with highest average vehicle delay
[1]All intersection movements are free or yield-control
[2]Future intersection with Project
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

Table ES-4 Intersection LOS Summary – Existing Conditions Plus Near-Term Cumulative Projects With and Without the Project

Intersection	Traffic Control	Existing plus Near-Term Cumulative Projects				Existing plus Near-Term Cumulative Projects plus Project				Difference	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Coast Hwy & Civic Center	Signal	4.2	A	6.2	A	4.2	A	6.3	A	0.0	0.1
2. Coast Hwy & Pier View	Signal	4.8	A	7.3	A	4.9	A	7.6	A	0.1	0.3
3. Ditmar & Seagaze	AWSC	9.1	A	10.7	B	9.3	A	10.8	B	0.2	0.1
4. Clementine & Seagaze	TWSC	9.8	A	9.8	A	10.0	B	9.8	A	0.2	0.0
5. Cleveland & Mission	Signal	8.7	A	11.2	B	9.0	A	11.4	B	0.3	0.2
6. Coast Hwy & Mission	Signal	20.8	C	35.6	D	23.0	C	38.7	D	2.2	3.1
7. Ditmar & Mission	Signal	4.8	A	6.3	A	4.8	A	6.4	A	0.0	0.1
8. Nevada & Mission	TWSC	19.7	C	30.2	D	20.7	C	29.8	D	1.0	-0.4
9. Clementine & Mission	TWSC	12.0	B	13.1	B	12.3	B	13.2	B	0.3	0.1
10. Horne & Mission	Signal	**69.4**	**E**	**78.8**	**E**	**70.1**	**E**	**82.9**	**F**	0.7	**4.1**
11. Seagaze & Cleveland	AWSC	8.2	A	11.6	B	7.9	A	10.7	B	-0.3	-0.9
12. Tremont & Seagaze	TWSC	9.5	A	12.4	B	10.4	B	15.5	C	0.9	3.1
13. Coast Hwy & Seagaze	Signal	11.4	B	19.2	B	12.9	B	20.4	C	1.5	1.2
14. Coast Hwy & Topeka (E)	TWSC	14.1	B	19.4	C	14.5	B	18.4	C	0.4	-1.0
15. Tremont & Topeka (W)	TWSC	9.1	A	9.1	A	9.9	A	10.3	B	0.8	1.2
16. Coast Hwy & Topeka (W)	TWSC	13.5	B	24.8	C	15.3	C	28.4	D	1.8	3.6
17. Tremont & Topeka[2]	AWSC	2.2	A	2.0	A	7.9	A	8.5	A	5.7	6.5
18. Tremont & Michigan	AWSC	7.3	A	7.6	A	8.1	A	9.0	A	0.8	1.4
19. Coast Hwy & Michigan	RAB	5.1	A	13.6	B	9.3	A	16.4	B	4.2	2.8
20. Cleveland & Missouri	AWSC	7.0	A	6.8	A	7.0	A	6.9	A	0.0	0.1
21. Tremont & Missouri	TWSC	9.3	A	9.6	A	10.3	B	10.6	B	1.0	1.0
22. Coast Hwy & Missouri	TWSC	27.0	D	**38.5**	**E**	27.9	D	**44.7**	**E**	0.9	**6.2**
23. Coast Hwy & SR 76 / Driveway	Signal	13.1	B	22.7	C	13.6	B	24.8	C	0.5	2.1
24. I 5 SB Ramps & Mission Ave	Signal	29.8	C	24.2	C	31.1	C	25.8	C	1.3	1.6
25. I 5 NB Ramps & Mission Ave	n/a[1]	--	--	--	--	--	--	--	--	--	--
26. Tremont & Wisconsin	TWSC	12.1	B	16.1	C	13.6	B	18.2	C	1.5	2.1

27. Coast Hwy & Wisconsin	RAB	12.0	B	14.4	B	13.4	B	16.9	B	1.4	2.5
28. Coast Hwy & Oceanside	Signal	21.1	C	41.8	D	22.2	C	47.1	D	1.1	5.3
29. I 5 SB Ramps & Oceanside	Signal	27.6	C	22.1	C	27.9	C	22.3	C	0.3	0.2
30. I 5 NB Ramps & Oceanside	Signal	36.2	D	**79.7**	**E**	36.6	D	**82.2**	**F**	0.4	**2.5**
31. Coast Hwy & Vista	Signal	20.0	B	25.7	C	20.3	C	27.8	C	0.3	2.1
32. Cleveland & Topeka[2]	AWSC	--	--	--	--	7.1	A	7.4	A	7.1	7.4
33. Coast Hwy & Surfrider	Signal	9.7	A	26.8	C	9.7	A	7.4	C	0.0	-19.4

Notes:
TWSC – Two-way stop-control
AWSC – All-way stop-control
LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
AWSC Delay represents the intersection average vehicle delay (total vehicles)
TWSC Delay represents the side street movement with highest average vehicle delay
[1]All intersection movements are free or yield-control
[2]Future intersection with Project
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

Table ES-5 Intersection LOS Summary – Buildout Conditions (Year 2050) With and Without the Project

		Buildout Conditions (Year 2050) Without Project				**Buildout Conditions (Year 2050) With Project**					
		AM Peak Hour		**PM Peak Hour**		**AM Peak Hour**		**PM Peak Hour**		**Difference**	
Intersection	**Traffic Control**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**AM**	**PM**
1. Coast Hwy & Civic Center	Signal	6.6	A	**59.5**	**E**	6.6	A	**94.5**	**F**	0.0	**35.0**
2. Coast Hwy & Pier View	Signal	8.1	A	5.7	A	8.7	A	5.8	A	0.6	0.1
3. Ditmar & Seagaze	AWSC	9.5	A	11.8	B	9.7	A	12.5	B	0.2	0.7
4. Clementine & Seagaze	TWSC	9.7	A	10.8	B	9.9	A	11.0	B	0.2	0.2
5. Cleveland & Mission	Signal	8.6	A	11.8	B	9.1	A	12.2	B	0.5	0.4
6. Coast Hwy & Mission	Signal	18.1	B	41.2	D	19.3	B	43.8	D	1.2	2.6
7. Ditmar & Mission	Signal	4.9	A	5.7	A	4.9	A	5.8	A	0.0	0.1
8. Nevada & Mission	TWSC	15.0	C	17.6	C	15.5	C	18.7	C	0.5	1.1
9. Clementine & Mission	TWSC	10.4	B	11.0	B	10.6	B	11.3	B	0.2	0.3
10. Horne & Mission	Signal	47.0	D	**176.9**	**F**	48.2	D	**210.8**	**F**	1.2	**33.9**
11. Seagaze & Cleveland	AWSC	8.4	A	14.2	B	8.1	A	14.2	B	-0.3	0.0
12. Tremont & Seagaze	TWSC	9.8	A	13.5	B	10.8	B	19.6	C	1.0	6.1
13. Coast Hwy & Seagaze	Signal	12.2	B	50.2	D	13.4	B	49.1	D	1.2	-1.1
14. Coast Hwy & Topeka (E)	TWSC	16.1	C	27.4	D	16.7	C	29.3	D	0.6	1.9
15. Tremont & Topeka (W)	TWSC	9.4	A	9.8	A	10.1	B	10.9	B	0.7	1.1
16. Coast Hwy & Topeka (W)	TWSC	14.1	B	**40.2**	**E**	14.7	B	**55.9**	**F**	0.6	**15.7**
17. Tremont & Topeka[2]	AWSC	0.8	A	1.3	A	7.9	A	9.6	A	7.1	8.3

18. Tremont & Michigan	AWSC	7.3	A	7.8	A	8.2	A	9.5	A	0.9	1.7
19. Coast Hwy & Michigan	Signal	14.7	B	**89.2**	**F**	16.5	B	**147.9**	**F**	1.8	**58.7**
20. Cleveland & Missouri	AWSC	7.0	A	6.8	A	7.0	A	6.9	A	0.0	0.1
21. Tremont & Missouri	TWSC	9.4	A	9.9	B	10.3	B	10.9	B	0.9	1.0
22. Coast Hwy & Missouri	TWSC	21.1	C	**62.4**	**F**	21.6	C	**104.1**	**F**	0.5	**41.7**
23. Coast Hwy & SR 76 / Driveway	Signal	13.5	B	38.5	D	13.9	B	46.4	D	0.4	7.9
24. I-5 SB Ramps & Mission Ave	Signal	30.7	C	36.5	D	31.8	C	40.4	D	1.1	3.9
25. I-5 NB Ramps & Mission Ave	n/a[1]	--	--	--	--	--	--	--	--	--	--
26. Tremont & Wisconsin	TWSC	11.5	B	14.8	B	12.8	B	18.2	C	1.3	3.4
27. Coast Hwy & Wisconsin	Signal	11.2	B	13.5	B	12.3	B	16.2	B	1.1	2.7
28. Coast Hwy & Oceanside	Signal	26.4	C	43.9	D	28.4	C	52.7	D	2.0	8.8
29. I-5 SB Ramps & Oceanside	Signal	**427.2**	**F**	42.2	D	422.6	F	43.2	D	-4.6	1.0
30. I-5 NB Ramps & Oceanside	Signal	**73.1**	**E**	**259.3**	**F**	73.8	E	**259.7**	**F**	0.7	0.4
31. Coast Hwy & Vista	Signal	23.0	C	41.0	D	23.5	C	45.0	D	0.5	4.0
32. Cleveland & Topeka[2]	AWSC	--	--	--	--	7.1	A	7.4	A	7.1	7.4
33. Coast Hwy & Surfrider	Signal	9.6	A	39.3	D	9.7	A	48.8	D	0.1	9.5

Notes:
TWSC – Two-way stop-control
AWSC – All-way stop-control
LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
AWSC Delay represents the intersection average vehicle delay (total vehicles)
TWSC Delay represents the side street movement with highest average vehicle delay
[1]All intersection movements are free or yield-control
[2]Future intersection with Project
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

Table ES-6 Intersection LOS Summary – Buildout Conditions (Year 2050) with Coast Highway Improvement Project With and Without the Project

		Year 2050 With Coast Highway Improvement Project - Without Project				**Year 2050 With Coast Highway Improvement Project - With Project**					
		AM Peak Hour		**PM Peak Hour**		**AM Peak Hour**		**PM Peak Hour**		**Difference**	
Intersection	**Traffic Control**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**AM**	**PM**
1. Coast Hwy & Civic Center	RAB	9.9	A	**162.2**	**F**	11.1	B	**187.8**	**F**	1.2	**25.6**
2. Coast Hwy & Pier View	Signal	8.1	A	5.9	A	8.7	A	6.1	A	0.6	0.2
6. Coast Hwy & Mission	Signal	21.2	C	44.4	D	23.0	C	54.2	D	1.8	9.8
12. Tremont & Seagaze	TWSC	9.8	A	13.5	B	10.8	B	19.6	C	1.0	6.1
13. Coast Hwy & Seagaze	Signal	13.0	B	51.3	D	14.3	B	51.8	D	1.3	0.5
14. Coast Hwy & Topeka (E)	TWSC	21.5	C	**55.5**	**F**	22.8	C	**64.3**	**E**	1.3	**8.8**
16. Coast Hwy & Topeka (W)	TWSC	17.6	C	**75.0**	**F**	18.7	C	**130.0**	**F**	1.1	**55.0**
19. Coast Hwy & Michigan	RAB	9.8	A	**118.9**	**F**	11.4	B	**159.1**	**F**	1.6	**40.2**

22. Coast Hwy & Missouri	TWSC	13.0	B	20.5	C	14.3	B	24.0	C	1.3	3.5
23. Coast Hwy & SR 76 / Driveway	Signal	15.7	B	**81.9**	**F**	16.4	B	**97.5**	**F**	0.7	**15.6**
27. Coast Hwy & Wisconsin	RAB	9.2	A	25.5	C	11.1	B	45.2	D	1.9	19.7
28. Coast Hwy & Oceanside	Signal	30.5	C	47.7	D	31.2	C	**57.5**	**E**	0.7	**9.8**
33. Coast Hwy & Surfrider	Signal	12.4	B	**232.8**	**F**	13.6	B	**269.9**	**F**	1.2	**37.1**

Notes:
TWSC – Two-way stop-control
RAB – Roundabout
LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
TWSC Delay represents the side street movement with highest average vehicle delay
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

Table ES-7 Roadway Segment Volume Summary – Existing Conditions plus Project

Segment	Classification	Lanes	Capacity[1]	Existing			Existing plus Project			Increase
				ADT	LOS	V/C	ADT	LOS	V/C	
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	11,300	B	0.45	12,100	B	0.48	0.03
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	9,500	C	0.63	10,100	D	0.67	0.04
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	11,300	D	0.75	11,900	D	0.79	0.04
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**15,000**	**E**	**1.00**	**15,000**	**E**	**1.00**	0.00
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**13,400**	**E**	**0.89**	**13,700**	**E**	**0.91**	0.02
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	10,200	B	0.41	10,400	B	0.42	0.01
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	5,600	B	0.37	6,100	B	0.41	0.04
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	5,500	B	0.37	6,100	B	0.41	0.04
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	7,200	C	0.48	9,300	C	0.62	0.14
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	6,900	C	0.69	7,900	D	0.79	0.10
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	16,400	C	0.66	17,800	C	0.71	0.05
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	16,700	C	0.67	18,400	D	0.74	0.07
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	21,400	D	0.86	**23,700**	**E**	**0.95**	**0.09**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	17,800	C	0.71	18,200	D	0.73	0.02
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	17,200	C	0.69	18,900	D	0.76	0.07
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,500	≤C	0.68	**2,900**	**>C**	**1.32**	**0.64**
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,000	≤C	0.45	**2,300**	**>C**	**1.05**	**0.60**
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,200	≤C	0.55	**2,300**	**>C**	**1.05**	**0.50**
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,000	≤C	0.45	1,500	≤C	0.68	0.23
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,400	≤C	0.64	1,500	≤C	0.68	0.04
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	1,900	≤C	0.86	**3,400**	**>C**	**1.55**	**0.69**
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	900	≤C	0.41	1,400	≤C	0.64	0.23
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	1,800	A	0.12	1,900	A	0.13	0.01
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	200	≤C	0.09	200	≤C	0.09	0.00
25. Pier View btwn. Horne & Clementine	Local	2	2,200	500	≤C	0.23	700	≤C	0.32	0.09

26. Pier View btwn. Clementine & Ditmar	Local	2	2,200	1,200	≤C	0.55	1,400	≤C	0.64	0.09
27. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	1,200	≤C	0.55	1,500	≤C	0.68	0.13

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

Shaded cells indicate roadways that exceed LOS D (or local streets not in the Circulation Element that exceed LOS C) and where the Project increases the V/C by more than 0.02.

Table ES-8 Roadway Segment Volume Summary – Existing Conditions Plus Near-Term Cumulative Projects – with and without the Project

Segment	Classification	Lanes	Capacity[1]	Existing plus Near-Term Cumulative			Existing plus Near-Term Cumulative plus Project			Increase
				ADT	LOS	V/C	ADT	LOS	V/C	
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	14,200	C	0.57	15,000	C	0.60	0.03
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	11,900	D	0.79	12,500	D	0.83	0.04
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	**14,400**	**E**	**0.96**	**15,000**	**E**	**1.00**	**0.04**
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**16,700**	**F**	**1.11**	**16,700**	**F**	**1.11**	0.00
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**15,000**	**E**	**1.00**	**15,300**	**F**	**1.02**	0.02
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	11,900	B	0.48	12,100	B	0.48	0.00
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	6,300	B	0.42	6,800	B	0.45	0.03
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	7,200	C	0.48	7,800	C	0.52	0.04
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	9,200	C	0.61	11,300	D	0.75	0.14
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	7,900	D	0.79	8,900	D	0.89	0.10
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	**23,200**	**E**	**0.93**	**24,600**	**E**	**0.98**	**0.05**
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	**23,100**	**E**	**0.92**	**24,800**	**E**	**0.99**	**0.07**
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	**28,400**	**F**	**1.14**	**30,700**	**F**	**1.23**	**0.09**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	**24,100**	**E**	**0.96**	**24,500**	**E**	**0.98**	0.02
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	**23,300**	**E**	**0.93**	**25,000**	**E**	**1.00**	**0.07**
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,700	≤C	0.77	**3,100**	**>C**	**1.41**	**0.64**
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,200	≤C	0.55	**2,500**	**>C**	**1.14**	**0.59**

18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,400	≤C	0.64	**2,500**	**>C**	**1.14**	**0.50**
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,100	≤C	0.50	1,600	≤C	0.73	0.23
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,600	≤C	0.73	1,700	≤C	0.77	0.04
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	2,100	≤C	0.95	**3,600**	**>C**	**1.64**	**0.69**
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	1,100	≤C	0.50	1,600	≤C	0.73	0.23
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	2,100	A	0.14	2,200	A	0.15	0.01
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	200	≤C	0.09	200	≤C	0.09	0.00
25. Pier View btwn. Horne & Clementine	Local	2	2,200	1,900	≤C	0.86	2,100	≤C	0.95	0.09
26. Pier View btwn. Clementine & Ditmar	Local	2	2,200	**2,800**	**>C**	**1.27**	**3,000**	**>C**	**1.36**	**0.09**
27. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	**2,600**	**>C**	**1.18**	**2,900**	**>C**	**1.32**	**0.14**

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

Shaded cells indicate roadways that exceed LOS D (or local streets not in the Circulation Element that exceed LOS C) and where the Project increases the V/C by more than 0.02.

Table ES-9 Roadway Segment Volume Summary – Buildout Conditions (Year 2050) with and without the Project

				Buildout (Year 2050)			Buildout (Year 2050) plus Project			
Segment	**Classification**	**Lanes**	**Capacity[1]**	**ADT**	**LOS**	**V/C**	**ADT**	**LOS**	**V/C**	**Increase**
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	14,400	C	0.58	15,200	C	0.61	0.03
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	12,000	D	0.80	12,600	D	0.84	0.04
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	**16,800**	**F**	**1.12**	17,400	**F**	**1.16**	**0.04**
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**16,800**	**F**	**1.12**	16,800	**F**	**1.12**	0.00
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**15,100**	**F**	**1.01**	15,400	**F**	**1.03**	0.02
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	12,000	B	0.48	12,200	B	0.49	0.01
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	6,600	B	0.44	7,100	C	0.47	0.03
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	7,300	C	0.49	7,900	C	0.53	0.04
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	9,300	C	0.62	11,400	D	0.76	0.14
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	8,900	D	0.89	**9,900**	**E**	**0.99**	**0.10**

11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	**24,500**	**E**	**0.98**	**25,900**	**F**	**1.04**	**0.06**
	Coast Hwy Project	2	19,000	**24,500**	**F**	**1.29**	**25,900**	**F**	**1.36**	**0.07**
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	**26,100**	**F**	**1.04**	**27,800**	**F**	**1.11**	**0.07**
	Coast Hwy Project	2	19,000	**26,100**	**F**	**1.37**	**27,800**	**F**	**1.46**	**0.09**
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	**28,500**	**F**	**1.14**	**30,800**	**F**	**1.23**	**0.09**
	Coast Hwy Project	2	19,000	**28,500**	**F**	**1.50**	**30,800**	**F**	**1.62**	**0.12**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	**24,300**	**E**	**0.97**	**24,700**	**E**	**0.99**	0.02
	Coast Hwy Project	2	19,000	**24,300**	**F**	**1.28**	**24,700**	**F**	**1.30**	0.02
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	**23,600**	**E**	**0.94**	**25,300**	**F**	**1.01**	**0.07**
	Coast Hwy Project	2	19,000	**23,600**	**F**	**1.24**	**25,300**	**F**	**1.33**	**0.09**
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,900	≤C	0.86	**3,300**	**>C**	**1.50**	**0.64**
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,300	≤C	0.59	**2,600**	**>C**	**1.18**	**0.59**
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,500	≤C	0.68	**2,600**	**>C**	**1.18**	**0.50**
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,300	≤C	0.59	1,800	≤C	0.82	0.23
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,800	≤C	0.82	1,900	≤C	0.86	0.04
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	**2,500**	**>C**	**1.14**	**4,000**	**>C**	**1.82**	**0.68**
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	1,200	≤C	0.55	1,700	≤C	0.77	0.22
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	2,300	A	0.15	2,400	A	0.16	0.01
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	300	≤C	0.14	300	≤C	0.14	0.00
25. Pier View btwn. Horne & Clementine	Local	2	2,200	2,000	≤C	0.91	2,200	≤C	1.00	0.09
25. Pier View btwn. Clementine & Ditmar	Local	2	2,200	**2,900**	**>C**	**1.32**	**3,100**	**>C**	**1.41**	**0.09**
26. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	**2,700**	**>C**	**1.23**	**3,000**	**>C**	**1.36**	**0.13**

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

Shaded cells indicate roadways that exceed LOS D (or local streets not in the Circulation Element that exceed LOS C) and where the Project increases the V/C by more than 0.02.

Acronyms / Abbreviations

ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
CR	County Route
HCM	Highway Capacity Manual
LOS	Level of Service
LTS	Local Transportation Study
MXD	Mixed-use Development
NCTD	North County Transit District
OTC	Oceanside Transit Center
SANDAG	San Diego Association of Governments
VMT	Vehicle Miles Traveled

1 Introduction

This report presents the findings of a local transportation study (LTS) conducted to analyze the proposed Oceanside Transit Center (OTC) Redevelopment (Project) located in the City of Oceanside, California. This traffic study is prepared in accordance with the City of Oceanside Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessments (see Reference 1 in Section 1.5) in support of the Project's entitlement application.

1.1 Project Description

The Project site is located at 235 S. Tremont Street and is comprised of the 10.06-acre OTC property owned by North County Transit District (NCTD), as shown in **Figure 1-1**. The Project proposes a General Plan Amendment, Zone Amendment, approval of a Specific Plan (OTC Specific Plan), Local Coastal Program Land Use Plan Amendment, Coastal Development Permit, and Vesting Tentative Map to allow the demolition of existing structures and construction of a mixed-use transit-oriented community.

The site is generally comprised of the area bounded by Tremont Street to the east, Seagaze Drive to the north, railroad tracks to the west, and Missouri Avenue to the south. The Project would construct 547 multi-family residential units with associated indoor and outdoor amenities, a 170-room boutique hotel with amenities, a 64,085 square-foot office building for the NCTD headquarters, 29,196 square feet of retail/food/beverage uses, and over 1,800 parking spaces in structure parking. In addition, transit improvements would include a new intermodal transportation center and transit customer service building, 12 commuter bus stalls and bus layover space, enhanced transit waiting areas, bike parking and bike share, on-demand rideshare, and wayfinding assistance. The site plan is shown in **Figure 1-2**.

The OTC is located in the SANDAG Smart Growth Opportunity Area "Oceanside-2" mixed use transit corridor. Smart growth is characterized by compact, higher-density development in urbanized areas that is walkable, bike-friendly, near public transit, and promotes good community design. Smart Growth Opportunity Areas are locations within the region that can support smart growth and transportation investments. The OTC Specific Plan is consistent with smart growth as it enhances accessibility to a number of transit options and creates a sense of community with the development of residential, office, and commercial uses as one of eight Mobility Hub sites within the San Diego region.

The Project has been designed to encourage transit usage, walking, and biking, thereby reduce reducing single occupant vehicle (SOV) trips made by residents. Implementation of the OTC Specific Plan will provide improvements to the existing bicycle facilities and pedestrian network, implementation of traffic calming measures, improvements to transit station accessibility, comfort and safety, a designated area for microtransit, a comprehensive wayfinding program, and parking management, all of which would minimize residents' reliance on SOVs.

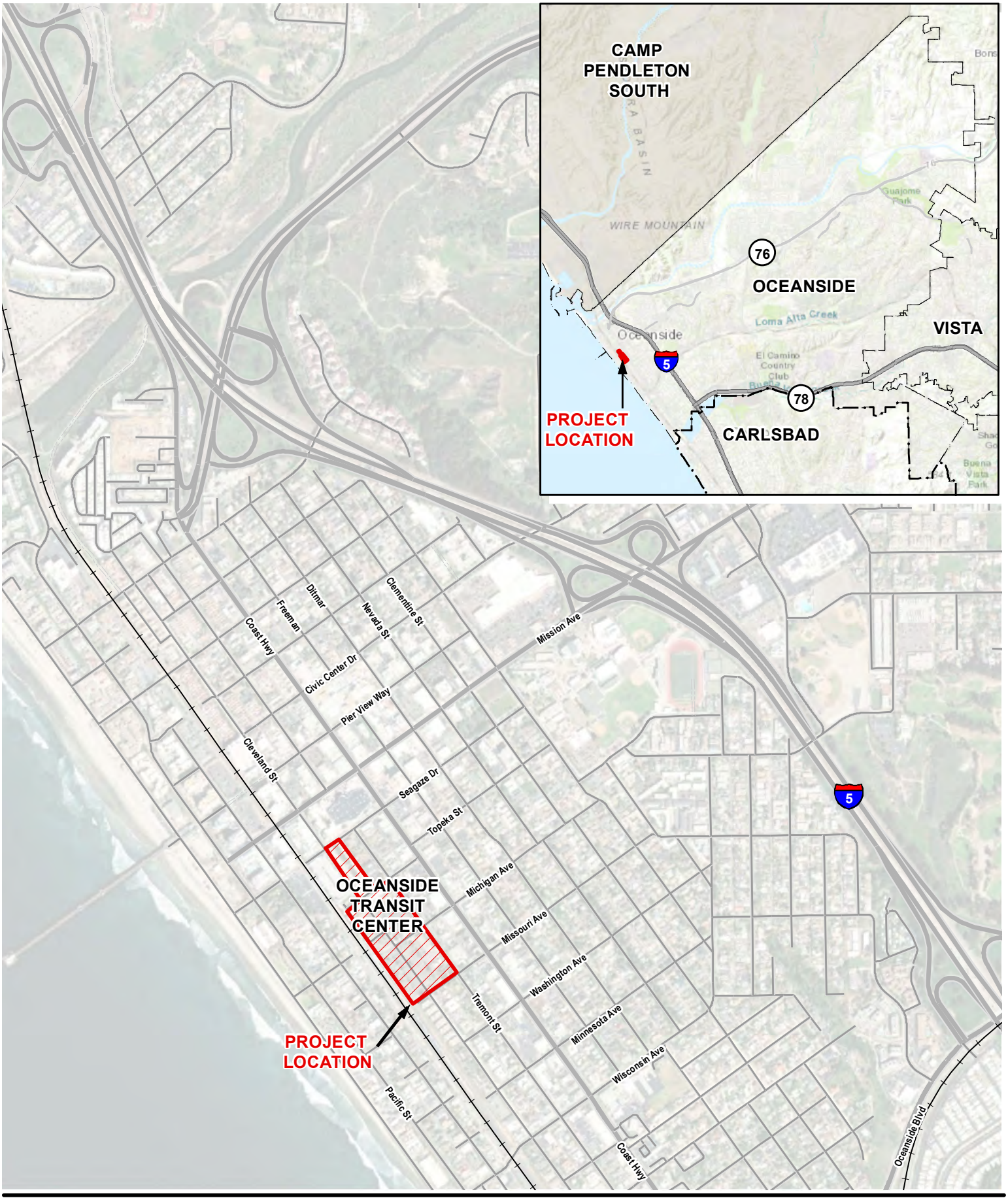


Figure 1-1
Project Location
1.2

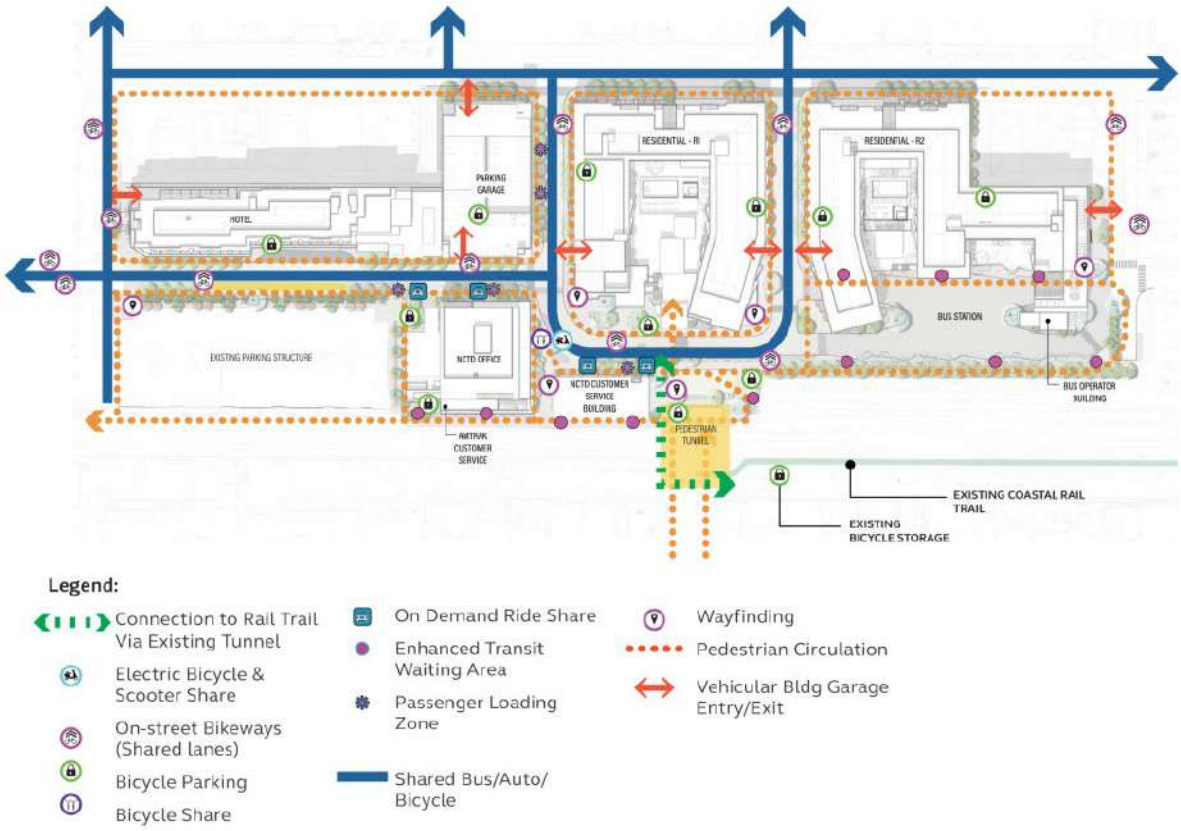


u:\204221700\drawing\exhibit_files\traffic\siteplan_tremont.dwg

Figure 1-2
Project Site Plan
1.3

Mobility Hub features included in the OTC Specific Plan include enhanced transit waiting areas, passenger loading areas, bikeshare, one-demand rideshare, and wayfinding, as shown in **Figure 1-3**, below.

Figure 1-3 Mobility Hub Plan



Source: Draft Oceanside Transit Center Specific Plan, Arcadis (2024)

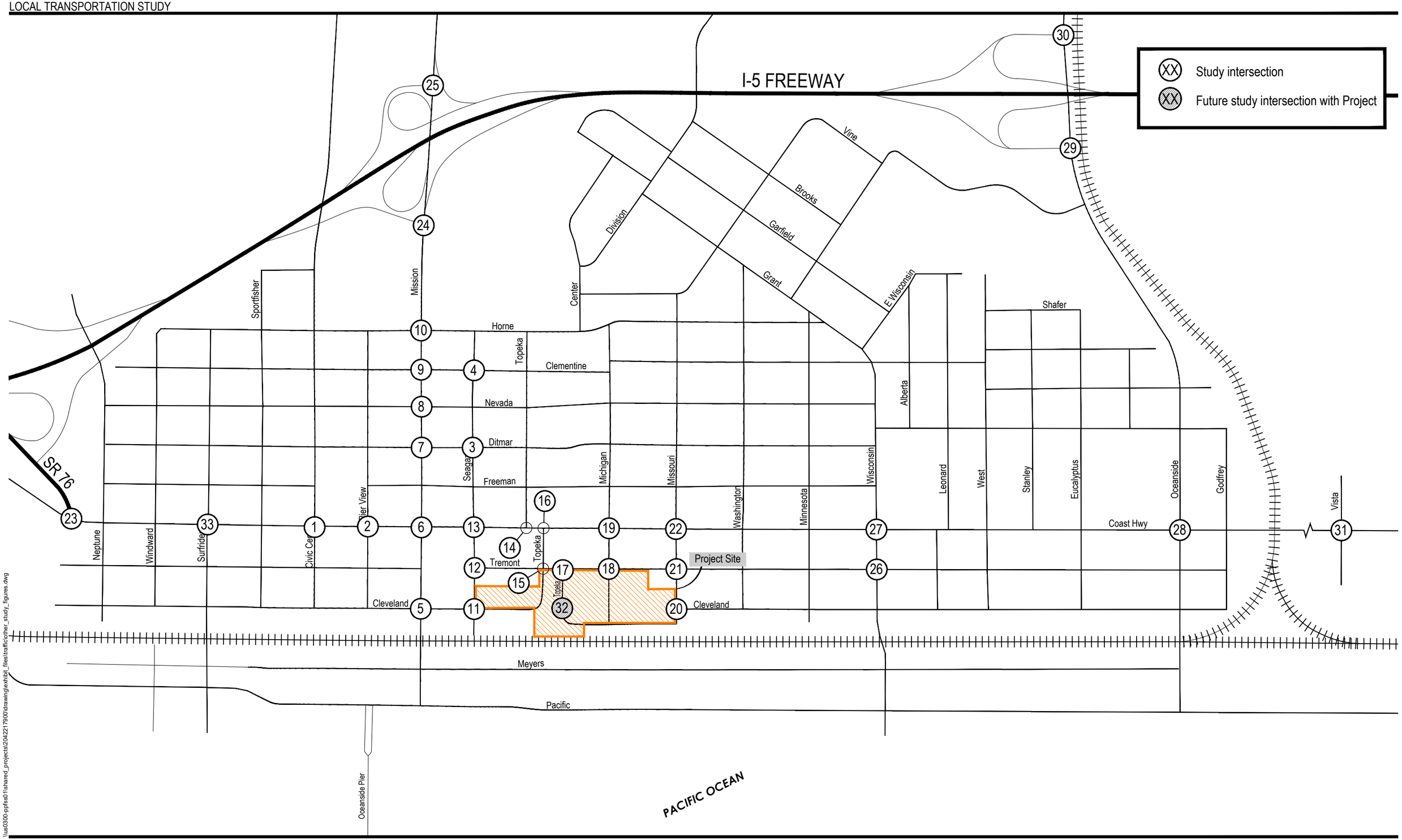
The proposed OTC Specific Plan (see Reference 6 in Section 1.5) provides additional context regarding the Project's land uses and site access characteristics.

1.2 LTS Study Area

The City's traffic study guidelines require an LTS when a project exceeds 500 average daily trips (ADT) and is inconsistent with the adopted General Plan. The proposed project would exceed the 500 ADT threshold and, thus, is subject to preparation of an LTS. Through consultation with the City staff and based on traffic modeling forecasts using the San Diego Association of Governments (SANDAG) travel demand forecasting model, 33 intersections were selected for analysis as listed in **Table 1-1**. The study area intersections and the local roadway network are shown in **Figure 1-4**.

Table 1-1 Intersection Study Locations

Intersection	Control Type
1. Coast Highway & Civic Center Drive	Signal
2. Coast Highway & Pier View Way	Signal
3. Ditmar Street & Seagaze Drive	Stop (all-way)
4. Clementine Street & Seagaze Drive	Stop (side-street)
5. Cleveland Street & Mission Avenue	Signal
6. Coast Highway & Mission Avenue	Signal
7. Ditmar Street & Mission Avenue	Signal
8. Nevada Street & Mission Avenue	Stop (side-street)
9. Clementine Street & Mission Avenue	Stop (side-street)
10. Horne Street & Mission Avenue	Signal
11. Cleveland Street & Seagaze Drive	Stop (all-way)
12. Tremont Street & Seagaze Drive	Stop (side-street)
13. Coast Highway & Seagaze Drive	Signal
14. Coast Highway & Topeka Street (E)	Stop (side-street)
15. Tremont Street & Topeka Street (W)	Stop (side-street)
16. Coast Highway & Topeka Street (W)	Stop (side-street)
17. Tremont Street & OTC Parking	Stop (side-street)
18. Tremont Street & Michigan Avenue	Stop (all-way)
19. Coast Highway & Michigan Avenue	Signal
20. Cleveland Street & Missouri Avenue	Stop (side-street)
21. Tremont Street & Missouri Avenue	Stop (side-street)
22. Coast Highway & Missouri Avenue	Stop (side-street)
23. Coast Highway & SR 76	Signal
24. I 5 SB Ramps & Mission Avenue	Signal
25. I 5 NB Ramps & Mission Avenue	None
26. Tremont Street & Wisconsin Avenue	Stop (side-street)
27. Coast Highway & Wisconsin Avenue	Signal
28. Coast Highway & Oceanside Boulevard	Signal
29. I 5 SB Ramps & Oceanside Boulevard	Signal
30. I 5 NB Ramps & Oceanside Boulevard	Signal
31. Coast Highway & Vista Way	Signal
32. Cleveland Street & Topeka Street (future)	Stop (all-way)
33. Coast Highway & Surfrider Way	Signal



\\us0300-rptfss01\shared_projects\204221790\0drawing\exhibit_files\traffic\other_study_figures.dwg

Figure 1-4
Study Area Intersections

1.3 LTS Methodology

This traffic study evaluates the Project utilizing the City of Oceanside traffic study guidelines. The scenarios analyzed include existing and future conditions both with and without Project traffic, as follows:

1. Existing Conditions
2. Existing Conditions plus Project
3. Existing Conditions plus Near-Term Cumulative Projects
4. Existing Conditions plus Near-Term Cumulative Projects plus Project
5. Buildout Conditions (2050)
6. Buildout Conditions (2050) plus Project

1.4 Traffic Operations Performance Criteria

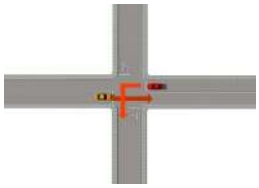
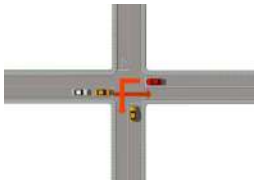
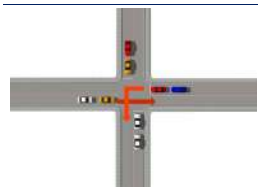
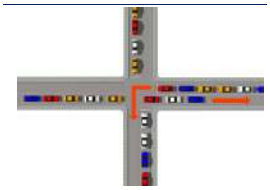
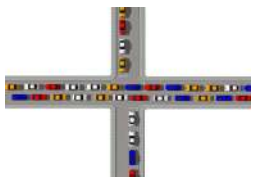
This analysis is based on the current City traffic study guidelines. Defined performance criteria are utilized to determine if a proposed Project would cause an undesirable change in roadway performance. Performance criteria are typically based on two primary measures. The first is “capacity”, which establishes the vehicle carrying ability of a roadway, and the second is “volume.” The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. For arterial roadways in an urban or suburban setting, the intersection of two roadways will typically be the limiting factor in regard to the overall capacity of the roadway network.

Methodology outlined in the *Highway Capacity Manual, Sixth Edition* (HCM 6th Edition—see Reference 2 in Section 1.5) produces estimates of average vehicle delay as a function of intersection capacity and the volume of traffic passing through the intersection. From this, a corresponding LOS is defined. Traffic LOS is designated “A” through “F” with LOS A representing free flow conditions and LOS F representing severe traffic congestion. Traffic flow quality for each LOS is described in **Table 1-2** for arterial intersections.

On a 24-hour basis, certain roadway capacities are commonly used to determine the general ability of a roadway to accommodate traffic demand based on ADT volumes. **Table 1-3** lists the range of capacities for the types of roadways in the vicinity of the Project as commonly used by the City for planning studies such as this.

For the arterial roadway system, the peak hour is typically the time period used for the evaluation of operational conditions, and a number of techniques are available to define intersection performance, most typically LOS. Certain LOS values are deemed undesirable, and these definitions and procedures are established by individual local jurisdictions. The City of Oceanside generally endeavors to maintain conditions of LOS D or better for arterial and collector roadways and LOS C or better for local residential streets.

Table 1-2 Level of Service Descriptions - Arterial Roadways and Intersections

LOS	Traffic Flow Description	Signalized or Roundabout Control Delay (sec/veh)	Stop-Controlled Delay (sec/veh)
A	 Minimal or no vehicle delay	0.0 – 10.0	0.0 – 10.0
B	 Slight delay to vehicles	10.1 – 20.0	10.1 – 15.0
C	 Moderate vehicle delays, traffic flow remains stable	20.1 – 35.0	15.1 – 25.0
D	 More extensive delays at intersections	35.1 – 55.0	25.1 – 35.0
E	 Long queues create lengthy delays	55.1 – 80.0	35.1 – 50.0
F	 Severe delays and congestion	Above 80.0	Above 50.0

Source: HCM 6th Edition
LOS – Level of service
sec/veh – seconds per vehicle

Table 1-3 Circulation Element Roadway Classification LOS & Capacity

Classification	Lanes	Level of Service (LOS)				
		A	B	C	D	E
Secondary Collector (with 2-way left-turn lane)	4	10,000	14,000	20,000	25,000	30,000
Secondary Collector (without 2-way left-turn lane, with left-turn pockets)	4	9,000	13,000	18,000	22,000	25,000
Community Collector (with raised median)[1]	2	10,000	11,700	13,400	15,000	19,000
Collector (with 2-way left-turn lane)[2]	2	5,000	7,000	10,000	13,000	15,000
Collector[3]	2	4,000	5,500	7,500	9,000	10,000
Local Street[4]	2	--	--	2,200[5]	--	--

[1]Applies to the planned future Coast Highway modifications (source: Traffic Impact Analysis for the Coast Highway Corridor Study – (see Reference 3 in Section 1.5)

[2]Commercial fronting and/or 2-lane 1-way collector

[3]Residential streets in the Circulation Element or industrial fronting

[4]Residential streets not in the Circulation Element

[5]The City endeavors to maintain LOS C for local residential streets not in the Circulation Element

LOS for arterial roadway intersections is typically determined based on the number of vehicles present during the AM and PM peak hours and the geometric configuration of the intersection. HCM delay methodology is used to analyze the signalized intersections and the stop-controlled intersections within the study area. Synchro software is used to calculate the intersection delay and LOS for signalized and stop-control intersections and Sidra software used to calculate the intersection delay and LOS for roundabouts. The HCM 6th Edition calculation methodology and associated LOS performance standards used in this analysis are summarized in **Table 1-4**.

For locations where a project's effect on the roadway system exceeds the values listed in **Table 1-4**, the City's guidelines indicate that roadway improvements should be considered as follows on a case-by-case basis:

- Improvements should be consistent with the General Plan.
- Improvements for transit, bike, and pedestrian facilities should be given priority in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG.
- Projects in Transit Priority Areas or Smart Growth Opportunity Areas as identified by SANDAG, that are consistent with the General Plan at the time of project application, should not be denied due to the inability to provide roadway improvements (i.e., existing right-of-way is constrained, etc.).

Table 1-4 Arterial Performance Criteria

Methodology

Calculation Methodology

Intersection LOS based on "average vehicle delay" calculated as follows:

- HCM 6 delay-based intersection methodology for traffic signals and stop sign control
- Sidra delay-based intersection methodology for roundabouts

Road segment LOS based on ADT volumes as outlined in **Table 1-3**.

Performance Standard

LOS D[1] defined as follows:

- stopped delay to not exceed 55 seconds for signalized intersections & roundabouts
- stopped delay to not exceed 35 seconds for stop sign control
- road segment ADT to not exceed LOS D volumes as outlined in **Table 1-3**

LOS C[2] for local residential streets not in the Circulation Element defined as follows:

- local street segment volumes not to exceed 2,200 ADT

Performance Thresholds

When LOS with the Project is LOS E or F:

An **intersection** is considered to be affected if the Project would:

- Cause an increase in average vehicle delay greater than 2.0 seconds.

A **roadway segment** is considered to be affected if the Project would:

- Cause an increase in volume to capacity (V/C) ratio greater than 0.02

.

A **local street (residential streets not in the Circulation Element) roadway segment** is considered to be affected if the Project would cause a roadway volume to exceed 2,200 ADT with a V/C increase greater than 0.02.

Abbreviations:

LOS – Level of Service

[1]LOS D represents the performance standard for arterial and collector roadways (including residential streets in the Circulation Element or industrial fronting)

[2]LOS C represents the performance standard for local streets (residential streets not in the Circulation Element)

1.5 References

1. Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment, City of Oceanside, August 2020.
2. Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis, Transportation Research Board, 2016.
3. Traffic Impact Analysis for the Coast Highway Corridor Study, IBI Group, August 2018.
4. Oceanside General Plan Circulation Element, City of Oceanside, September 2012.
5. City of Oceanside Bicycle Master Plan 2017 Update, City of Oceanside, 2017.
6. Draft Oceanside Transit Center (OTC) Specific Plan, Arcadis, April 2024.

2 Transportation Setting

2.1 Existing Roadway Network

The existing roadway network in the vicinity of the Project site can generally be characterized as a small urban grid. Intersections are typically closely spaced with many two-lane roadways and some key four-lane roadways, as well as one-way roadways. For the purpose of this analysis, roadways such as Tremont Street and Coast Highway are referred to as oriented in the north-south direction, and roadways such as Mission Avenue and Seagaze Drive are referred to as oriented in the east-west direction.

Figure 2-1 illustrates the roadway classifications within the study area as depicted in the City's 2012 General Plan Circulation Element Update (see Reference 4 in Section 1.5) and the existing lane configurations for the study area intersections are shown in **Figure 2-2** and **Figure 2-3**. Following is a description of key Circulation Element roadways near the project site.

Coast Highway

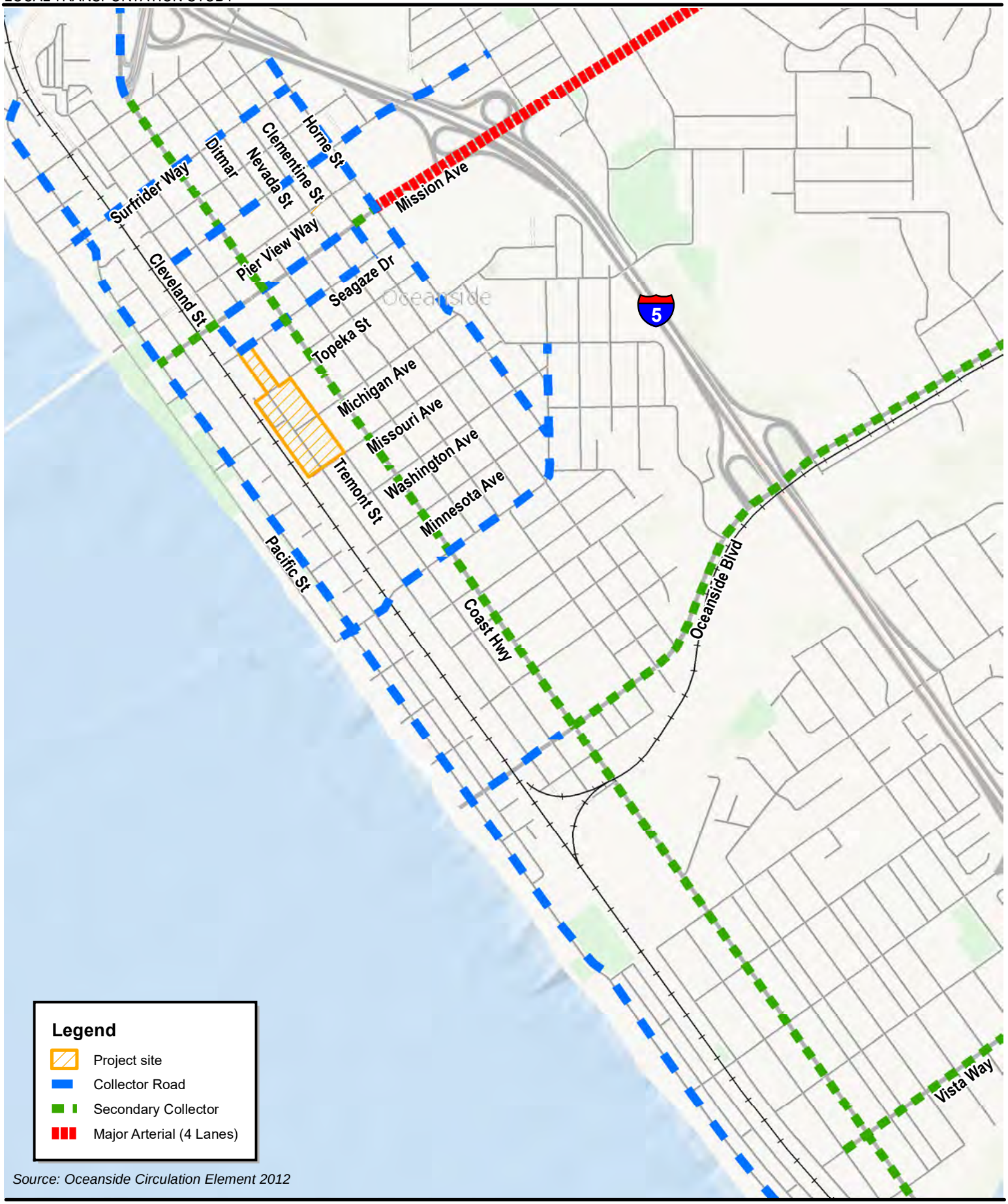
Coast Highway, also known as San Diego County Route S21 (CR S21), is a secondary collector within the study area. Near the Project site, it is currently a four-lane undivided roadway with left-turn pockets, and it primarily provides access to commercial retail and service uses. On-street parking is generally permitted and there are no bicycle lanes. The posted speed limit along Coast Highway is 25 mph in the vicinity of the Project site.

The City is currently developing improvement plans to reconfigure Coast Highway into a two-lane roadway with a raised median and traffic calming features. In 2009, the City adopted the Coast Highway Vision and Strategic Plan, which serves as a blueprint for revitalization of the Coast Highway corridor between Harbor Drive and the Buena Vista Lagoon. In 2019, the City certified the Final Environmental Impact Report for the Coast Highway Corridor Study, which outlines a series of complete street improvements for the corridor, including improving pedestrian and bicycle infrastructure with a focus on safety and comfort, enhanced access to transit, roundabouts, and improved parking access to businesses. The timing for implantation of the Coast Highway improvements has not been determined; therefore, the improvements are considered as a scenario under buildout conditions.

Mission Avenue

Mission Avenue is classified as a secondary collector from its terminus at Pacific Street to Cleveland Street. From Cleveland Street to Clementine Street, Mission Avenue is classified as a collector. From Clementine Street to Horne Street, Mission Avenue is classified as a secondary collector and from Horne Street to the east, Mission Avenue is classified as a Major Arterial.

Between Pacific Street and Cleveland Street, Mission Avenue is a four-lane divided roadway and between Cleveland Street and Coast Highway it is a four-lane undivided roadway. Between Coast Highway and Clementine Street, Mission Avenue is configured as a one-way street with two-lanes in the westbound direction. From Clementine Street to the east, Mission Avenue is a four-lane divided roadway.



Source: Oceanside Circulation Element 2012

N

Figure 2-1
Existing Roadway Network

XX Study intersection

Free right-turn

I-5 FREEWAY

SR 76

Coast Hwy

Project Site

AT & SF RR

Meyers

Pacific

Horne

Clementine

Nevada

Ditmar

Freeman

Tremont

Cleveland

Broadway

Moreno

Stewart

Lincoln

Alvarado

Vista

Shafer

Sportfisher

Mission

Center

Division

Vine

Brooks

Garfield

Grant

E Wisconsin

Civic Center

Pier View

Surfrider

Neptune

Windward

Topeka

Seagaze

Michigan

Missouri

Washington

Minnesota

Wisconsin

Alberta

Leonard

West

Stanley

Eucalyptus

Oceanside

Godfrey

California

Morse

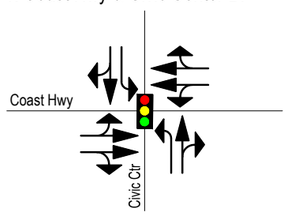
Whaley

Cassidy

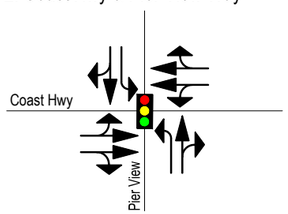
Kelly

Laguna

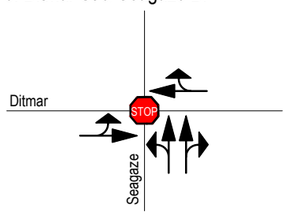
1. Coast Hwy & Civic Center Dr



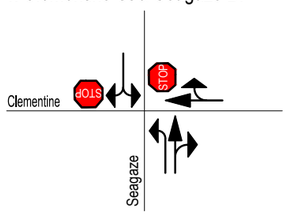
2. Coast Hwy & Pier View Way



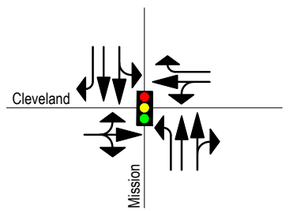
3. Ditmar St & Seagaze Dr



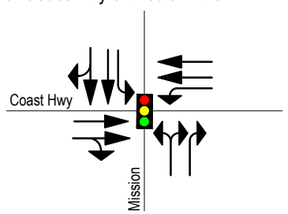
4. Clementine St & Seagaze Dr



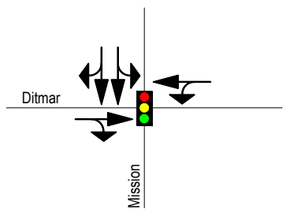
5. Cleveland St & Mission Ave



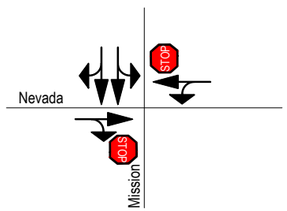
6. Coast Hwy & Mission Ave



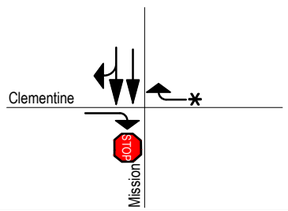
7. Ditmar St & Mission Ave



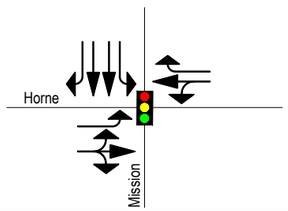
8. Nevada St & Mission Ave



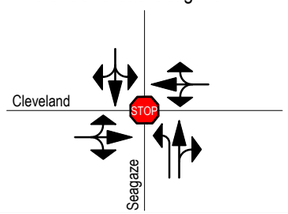
9. Clementine St & Mission Ave



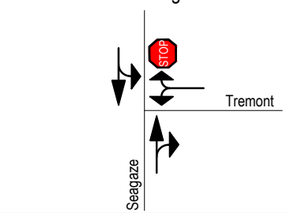
10. Horne St & Mission Ave



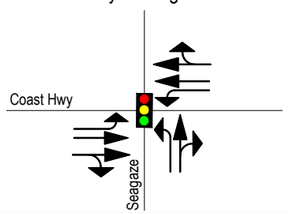
11. Cleveland St & Seagaze Dr



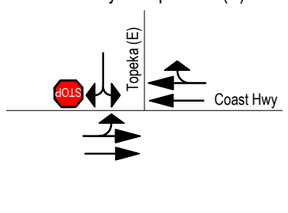
12. Tremont St & Seagaze Dr



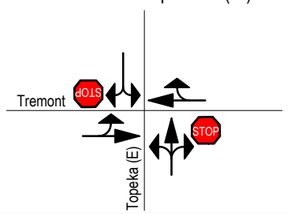
13. Coast Hwy & Seagaze Dr



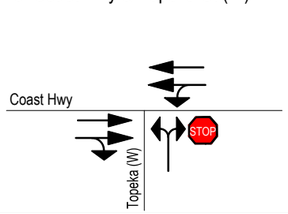
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)

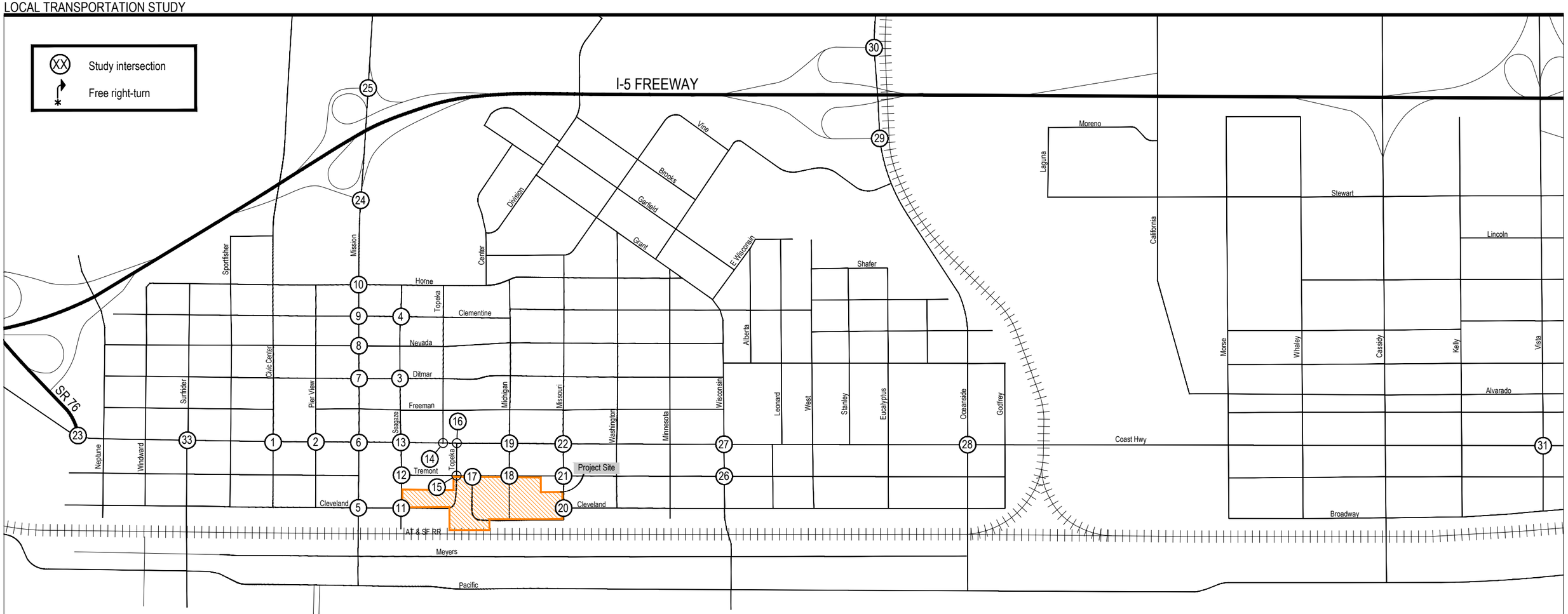


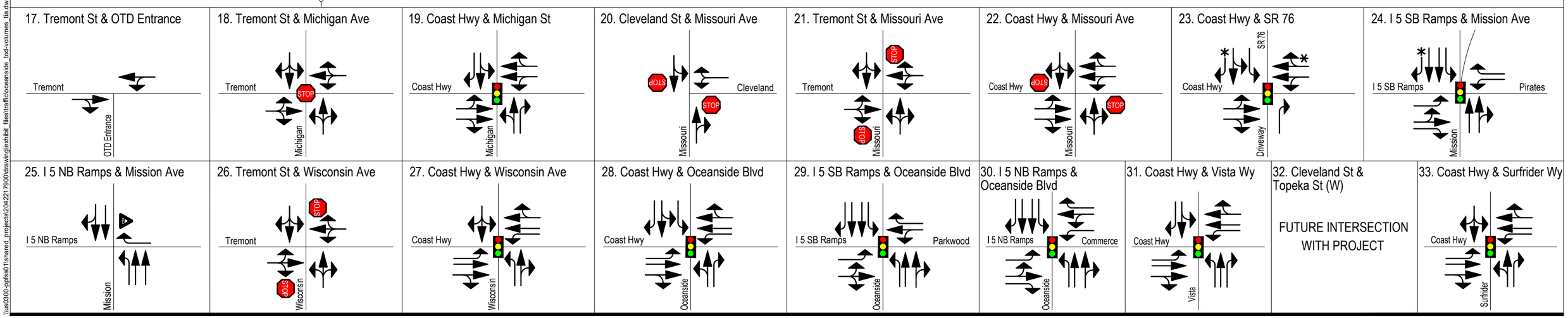
16. Coast Hwy & Topeka St (W)



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 2-2
Existing Intersection Lane Configurations (1 of 2)





\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 2-3
Existing Intersection Lane Configurations (2 of 2)

On-street parking is provided in certain locations between Cleveland Street and Clementine Street. There are no bicycle lanes west of the I-5 freeway and there are Class II bicycle lanes east of the I-5 freeway.

Within the study area, Mission Avenue provides access across the railroad tracks to the beach and Oceanside Pier parking lots, commercial retail and service uses, schools, and the I-5 freeway. The posted speed limit along Mission Avenue is 25 mph west of the I-5 freeway and 35 mph east of the I-5 freeway.

Seagaze Drive

Seagaze Drive is classified as a collector from Cleveland Street to Clementine Street. Between Cleveland Street and Coast Highway Seagaze Drive is a two-lane roadway and between Coast Highway and Clementine Street it is configured as a one-way street with two-lanes in the eastbound direction. On-street parking is provided in certain locations and a Class II bicycle lane is provided for the eastbound direction between Coast Highway and Clementine Street. A 25 mph speed limit for business and residential areas applies to the roadway.

Cleveland Street

Cleveland Street is classified as a collector from Mission Avenue to Seagaze Drive. Between Mission Avenue and Seagaze Drive it is a two-lane undivided roadway with back-in angled parking along the west cub and parallel parking along the east curb. East of Missouri Avenue, Cleveland Street is a local street not included in Circulation Element and primarily provides access to residential uses. A 25 mph speed limit for business and residential areas applies to the roadway.

Clementine Street

Clementine Street is classified as a collector from Seagaze Drive to Mission Avenue. Between Seagaze Drive and Mission Avenue it is configured as a one-way street with one-lane in the northbound direction and parking along the west cub. A 25 mph speed limit for business and residential areas applies to the roadway.

Wisconsin Avenue

Wisconsin Avenue is classified as a collector from The Strand to east of Clementine Street where it becomes Grant Street. It is a two-lane undivided roadway with parking on each side and the posted speed limit is 25 mph. Wisconsin Avenue provides access across the railroad tracks to the beach, and to commercial retail and service uses, schools, and residential neighborhoods.

Oceanside Boulevard

Oceanside Boulevard is a two-lane roadway classified as a collector between Pacific Street and Coast Highway. From Coast Highway to the I-5 freeway, Oceanside Boulevard is an undivided four-lane secondary collector roadway. On-street parking is provided between Pacific Street and Coast Highway and Class II bicycle lanes are provided east of Coast Highway. The posted speed limit along Oceanside Boulevard east of Coast Highway is 40 mph. A 25 mph speed limit for business and residential areas applies to the roadway west of Coast Highway.

Within the study area, Oceanside Boulevard provides access to the beach, residential uses, retail uses, commercial uses, schools, and the I-5 freeway.

In the vicinity of the Project site, Tremont Street, Topeka Street, Michigan Avenue, Missouri Avenue, and Pier View Way are local streets not included in Circulation element. They primarily serve commercial and industrial uses, as well as some residential uses. A 25 mph speed limit for business and residential areas applies to these roadways.

2.2 Pedestrian Circulation

The Project area generally has a well-developed pedestrian circulation system, which includes sidewalks, marked crosswalks at certain locations, plazas, as well as direct access to bus and train transit stops.

Sidewalks are provided continuously around the Project perimeter. Marked crosswalks exist at the Seagaze Drive/Cleveland Street intersection (west and north legs) and at the Seagaze Drive/Tremont Street intersection (west leg). At most intersections surrounding the project site, the existing pedestrian curb ramps generally do not appear to meet current Americans with Disabilities Act (ADA) specifications based on visual observation.

2.3 Bicycle Circulation

Existing bicycle facilities in the vicinity of the Project site are summarized below and illustrated in **Figure 2-4**.

Just west of the Project site is the northern terminus of the Coastal Rail Trail, a Class I off-street bicycle path that extends south until it reaches Oceanside Boulevard. Upon completion, the Coastal Rail Trail is anticipated to connect approximately 44 miles of off-street trails from Oceanside to the Santa Fe Depot in the city of San Diego. There is also a secure bicycle parking facility within the transit center parking lot at the terminus of the Coastal Rail Trail to provide a secure parking option for bicyclists.

Seagaze Drive between Cleveland Street and Coasts Highway is classified as a Class III on-street bicycle route in both directions of travel and is marked with sharrows. East of Coast Highway, where Seagaze Drive transitions into a one-way eastbound street, a Class II on-street bicycle lane begins and continues east to the intersection with Clementine Street.

Cleveland Street is classified as a Class III on-street bicycle route north of Seagaze Street in both directions of travel and is marked with sharrows.

Tremont Street is classified as a Class III on-street bicycle route for its entire length south to Oceanside Boulevard.



Sources: City of Oceanside 2012 General Plan Circulation Element
City of Oceanside 2017 Bicycle Map
Google Earth aerial imagery

N

Figure 2-4
Existing Bicycle Facilities

2.4 Transit

Existing transit facilities and services near the Project site are summarized below and shown in **Figure 2-5**.

The Project site is a hub for bus and rail transit with services that extend throughout the County of San Diego, as well as rail service to locations north of the County. Several NCTD BREEZE bus routes stop at the site, including:

- Route 101 – Service to UC San Diego
- Route 302 – Service to Vista
- Route 303 – Service to Vista
- Route 313 – Service to Oceanside Town Center North
- Route 318 – Service to Vista Transit Center
- Flex Route 392 – Service to Camp Pendleton 14 Area
- Route 395 – Service to Camp San Onofre

In addition to the abundant bus transit present at the site, rail transit is also available. COASTER commuter rail operated by NCTD runs from the OTC to the San Diego Santa Fe Depot with stops at stations in Carlsbad, Encinitas, Solana Beach, Sorrento Valley, and Old Town San Diego. COASTER service provides 30 daily trips Monday through Friday with an additional 2 trips on Fridays, and 20 daily Saturday and Sunday trips year-round. It takes about an hour to travel the entire COASTER route.

NCTD's SPRINTER is a 22-mile hybrid rail service runs from the OTC to Escondido with stops at 15 stations in Oceanside, Vista, San Marcos, and Escondido generally along the SR 78 corridor. The SPRINTER runs every 30 minutes in each direction Monday through Friday, from approximately 4:00 AM to 9:00 PM Friday and Saturday trains run later. Saturday, Sunday, and holiday trains operate every 30 minutes between 10:00 AM and 6:00 PM and hourly before 10:00 AM and after 6:00 PM.

Amtrak also provides rail service with a stop at the OTC. Amtrak service includes the Pacific Surfliner, which travels along a 351-mile route through San Diego, Orange, Los Angeles, Ventura, Santa Barbara, and San Luis Obispo counties.

Metrolink is a commuter rail system connecting the OTC with the Counties of Los Angeles, Ventura, San Bernardino, Orange, and Riverside. Two Metrolink railway lines are accessible from OTC: the Inland Empire-Orange County Line (IE-OC) and the Orange County Line.

Greyhound is an intercity bus common carrier. From the OTC, passengers can travel from Oceanside to locations throughout the United States, Canada, and Mexico.

The City of Oceanside operates the GO'side shuttle program, an app-based on-demand microtransit system using low speed Neighborhood Electric Vehicles (NEV). GO'side services the area around the OTC and provides first and last mile as well as local circulation for Oceanside residents and tourists predominately west of Interstate 5.



Figure 2-5
Existing Transit Facilities

2.5 Existing Conditions Traffic Volumes

Existing 24-hour ADT and peak hour traffic volumes were collected for each study intersection in November 2022, and May 2023. Existing ADT volumes are listed in **Table 2-1** and illustrated in **Figure 2-6**. As shown, each road segment operates at the target LOS or better, except for Mission Avenue between Coast Highway and Cleveland Street.

AM peak hour intersection volumes are illustrated in **Figure 2-7**, and **Figure 2-8**, and existing PM peak hour intersection volumes are illustrated in **Figure 2-9**, and **Figure 2-10**.

2.6 Existing Intersection Levels of Service

Peak hour traffic counts and intersection lane configurations were evaluated using Synchro software and HCM methodology as previously discussed in Section 1.4 to determine average vehicle delay values and the corresponding LOS for each study intersection. The existing intersection LOS is listed in **Table 2-2**. As shown, each intersection currently operates at the target LOS or better, except for the intersection of the I-5 Northbound Ramps and Oceanside Boulevard, which is estimated to operate at LOS E during the PM peak hour.

Table 2-1 Roadway Segment Volume Summary – Existing Conditions

Segment	Classification	Lanes	Capacity[1]	ADT	LOS[2]
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	11,300	B
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	9,500	C
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	11,300	D
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**15,000**	**E**
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**13,400**	**E**
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	10,200	B
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	5,600	B
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	5,500	B
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	7,200	C
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	6,900	C
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	16,400	C
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	16,700	C
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	21,400	D
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	17,800	C
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	17,200	C
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,500	≤C
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,000	≤C
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,200	≤C
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,000	≤C
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,400	≤C
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	1,900	≤C
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	900	≤C
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	1,800	A
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	200	≤C
25. Pier View btwn. Horne & Clementine	Local	2	2,200	500	≤C
26. Pier View btwn. Clementine & Ditmar	Local	2	2,200	1,200	≤C
27. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	1,200	≤C

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

[2]See Table 1-3 for LOS thresholds.

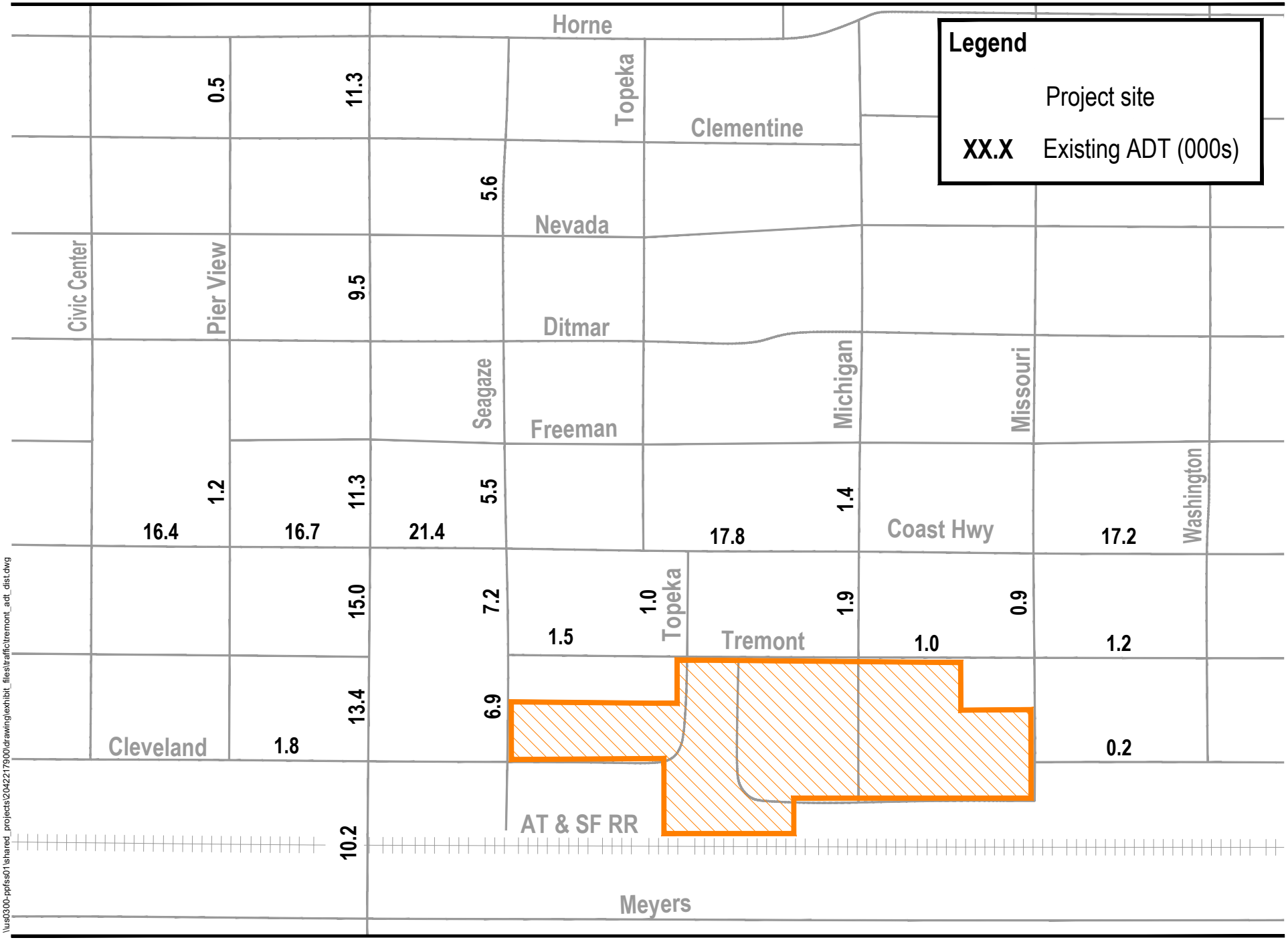
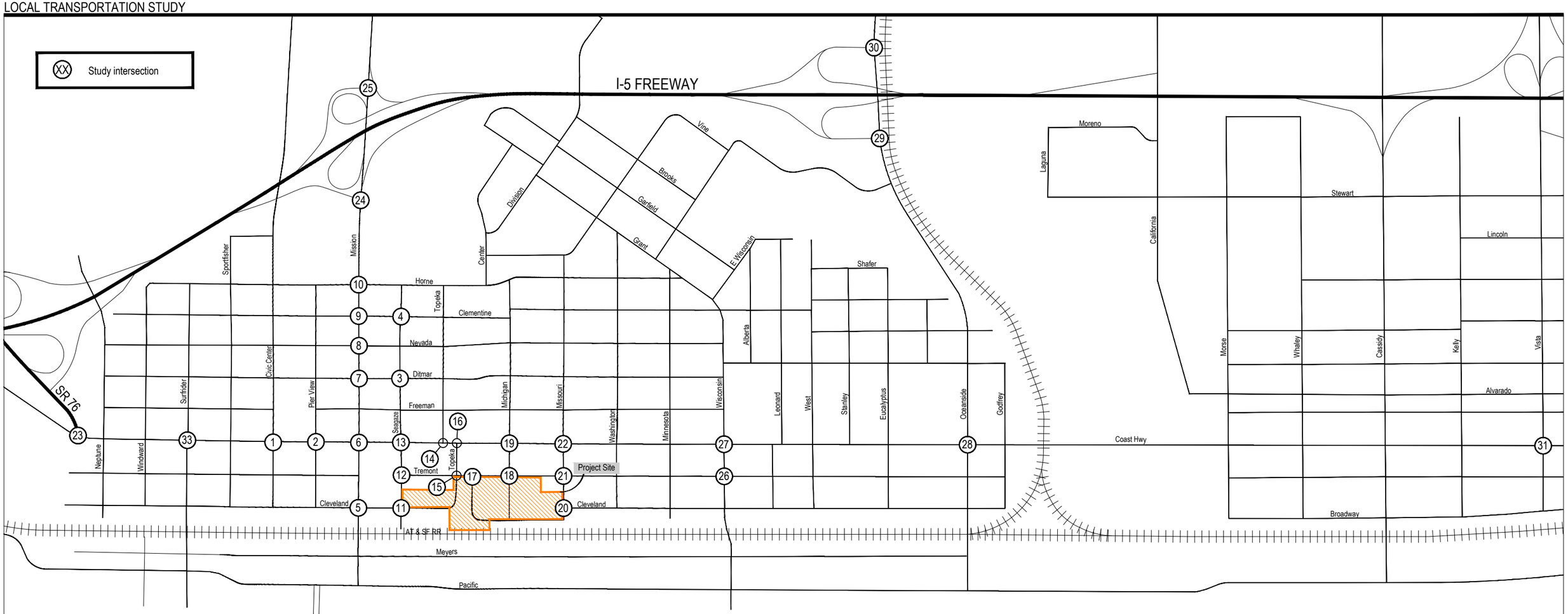
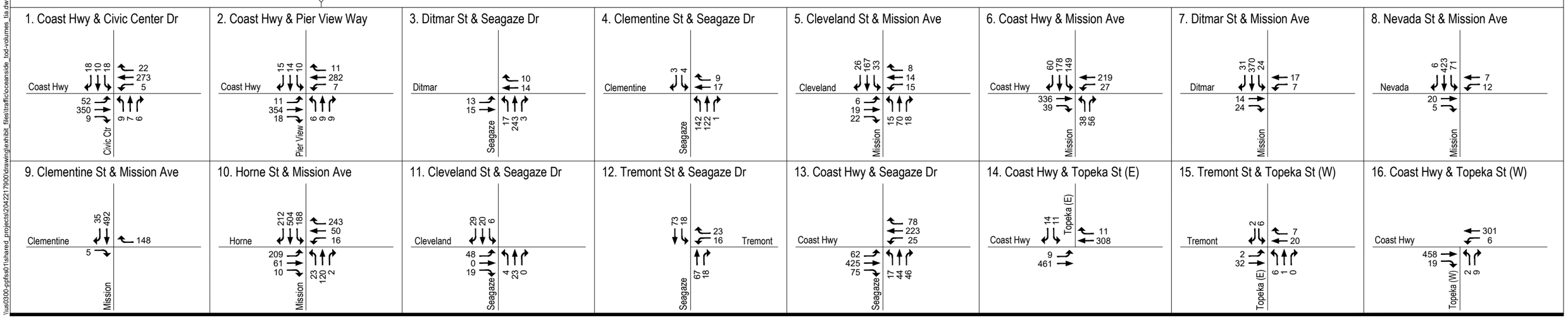


Figure 2-6

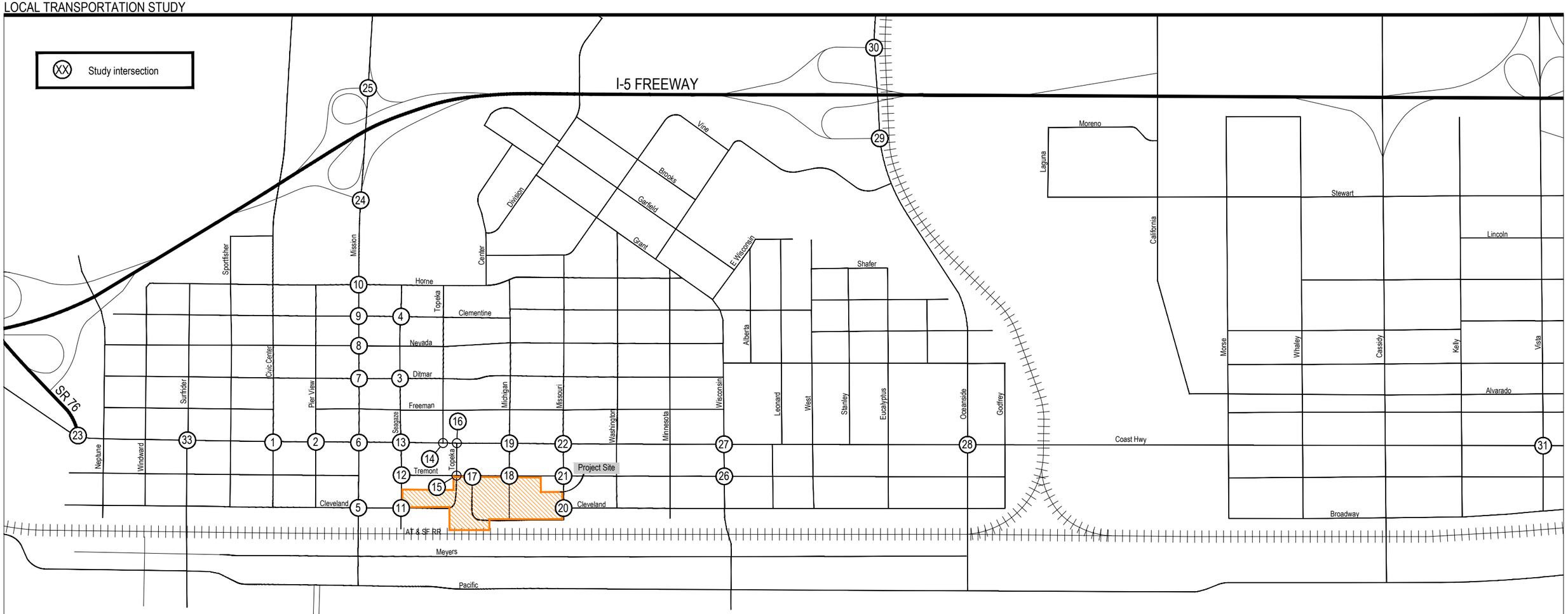
Existing (2022) Average Daily Traffic (ADT)

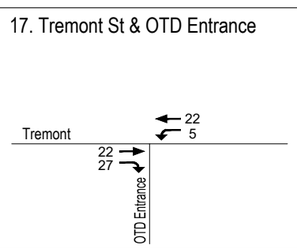


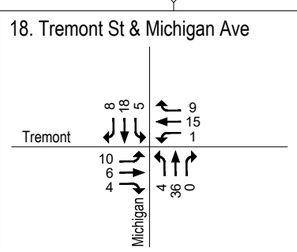


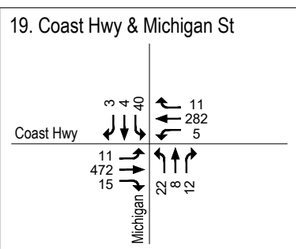
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

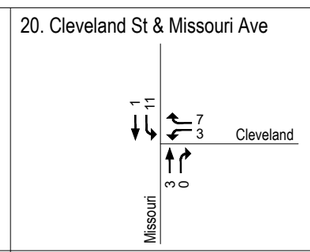
Figure 2-7
Existing AM Peak Hour Intersection Volumes (1 of 2)

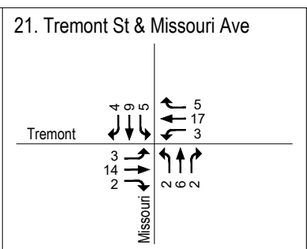


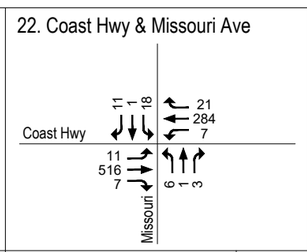


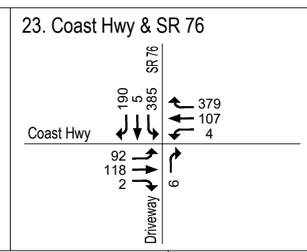


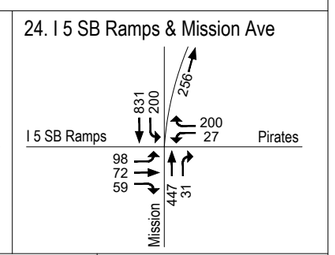


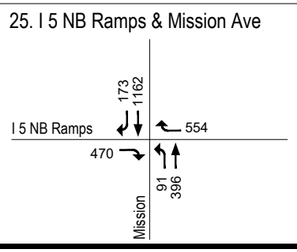


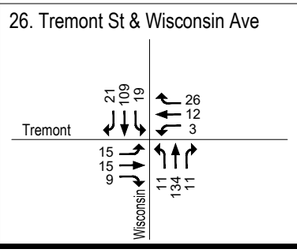


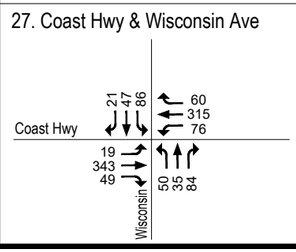


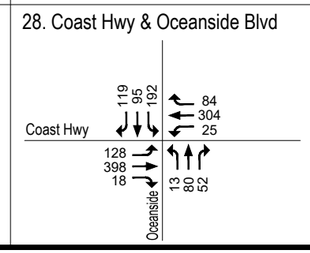


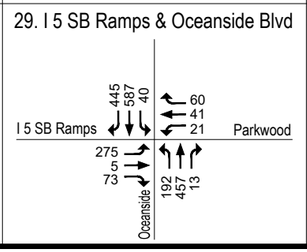


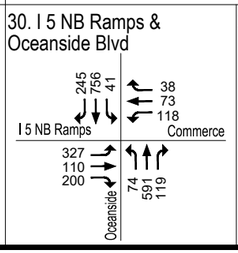


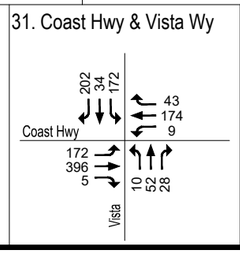






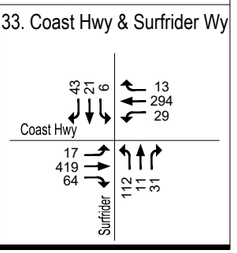






32. Cleveland St & Topeka St (W)

FUTURE INTERSECTION WITH PROJECT



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 2-8
Existing AM Peak Hour Intersection Volumes (2 of 2)

XX Study intersection

I-5 FREEWAY

SR 76

Coast Hwy

Project Site

AT & SF RR

Meyers

Pacific

Cleveland

Horne

Clementine

Nevada

Ditmar

Freeman

Tremont

Broadway

Mission

Sportfisher

Civic Center

Pier View

Surfrider

Neptune

Windward

Seagaze

Topeka

Center

Division

Vine

Brooks

Garfield

Grant

E Wisconsin

Michigan

Missouri

Washington

Minnesota

Wisconsin

Alberta

Shafer

Leonard

West

Stanley

Eucalyptus

Oceanside

Godfrey

Moreno

Laguna

California

Stewart

Lincoln

Morse

Whaley

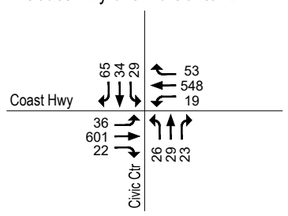
Cassidy

Kelly

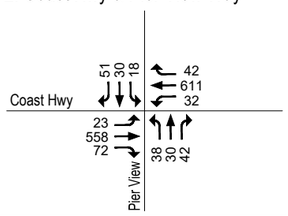
Vista

Alvarado

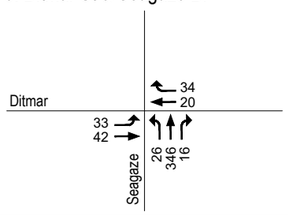
1. Coast Hwy & Civic Center Dr



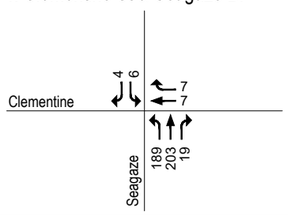
2. Coast Hwy & Pier View Way



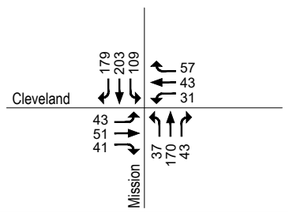
3. Ditmar St & Seagaze Dr



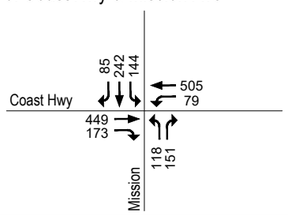
4. Clementine St & Seagaze Dr



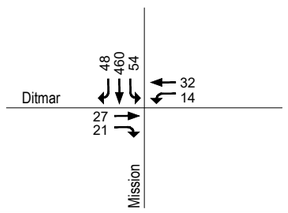
5. Cleveland St & Mission Ave



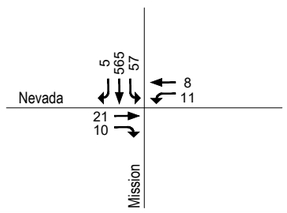
6. Coast Hwy & Mission Ave



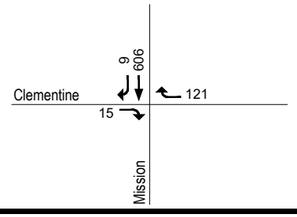
7. Ditmar St & Mission Ave



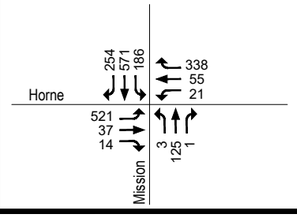
8. Nevada St & Mission Ave



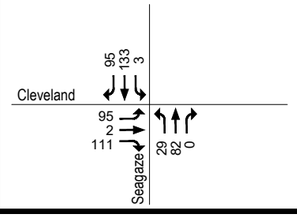
9. Clementine St & Mission Ave



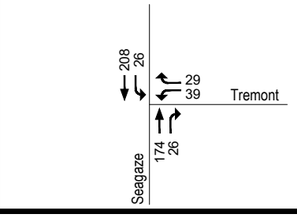
10. Horne St & Mission Ave



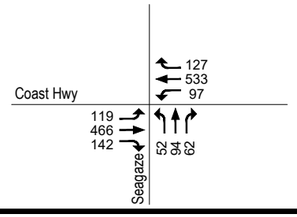
11. Cleveland St & Seagaze Dr



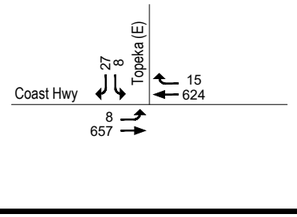
12. Tremont St & Seagaze Dr



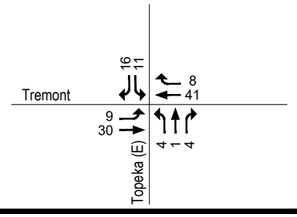
13. Coast Hwy & Seagaze Dr



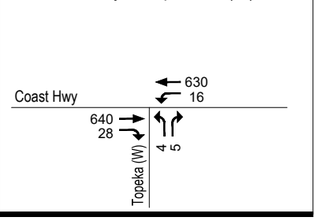
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)

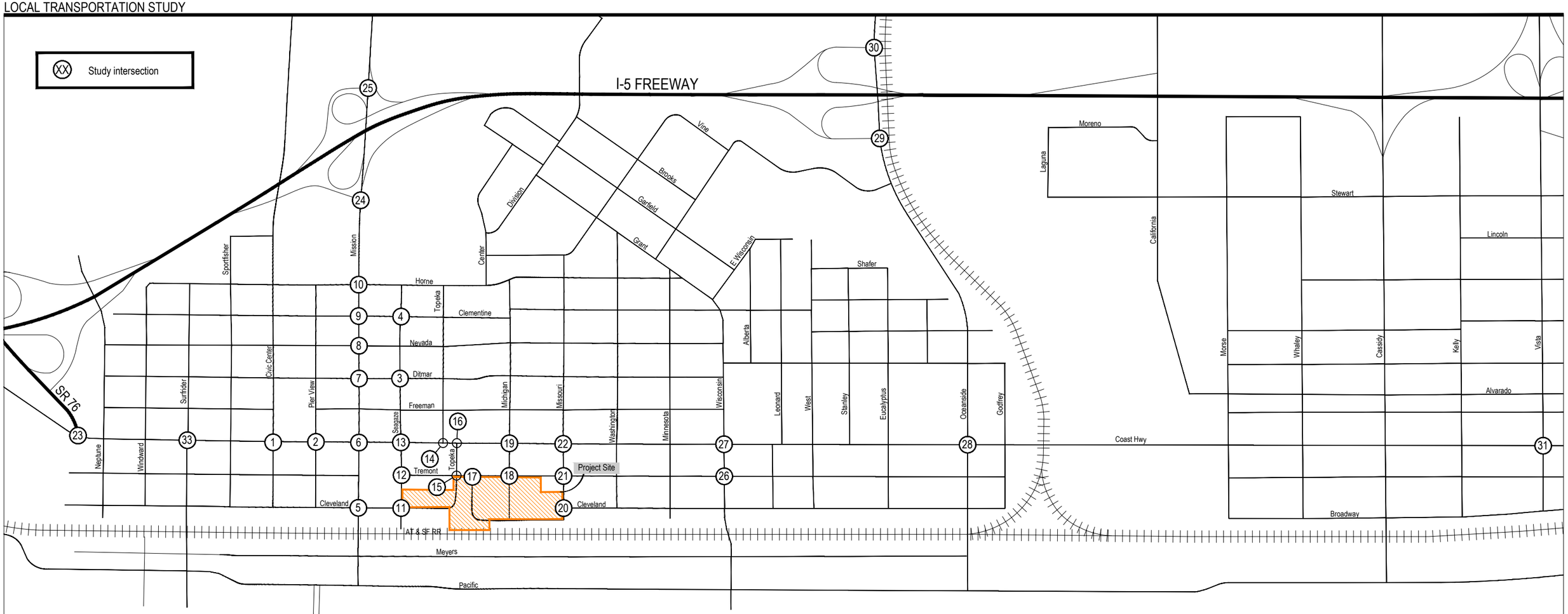


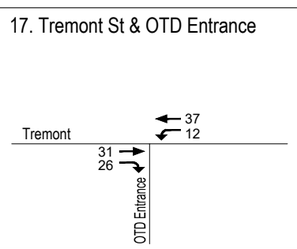
16. Coast Hwy & Topeka St (W)

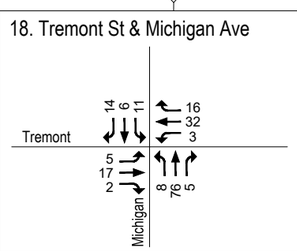


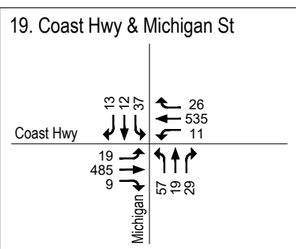
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

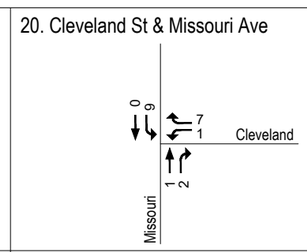
Figure 2-9
Existing PM Peak Hour Intersection Volumes (1 of 2)

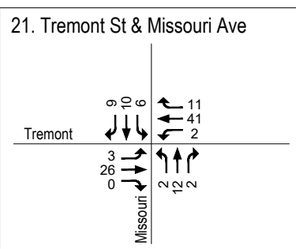


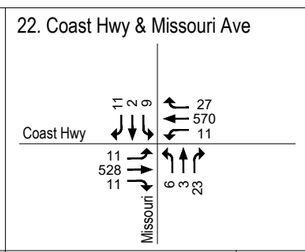


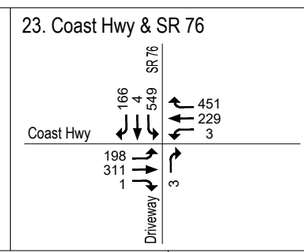


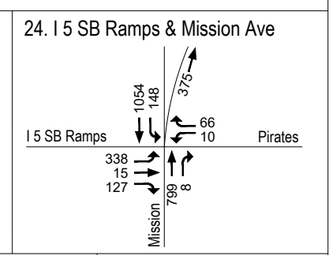


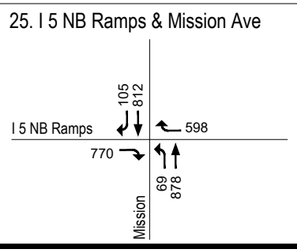


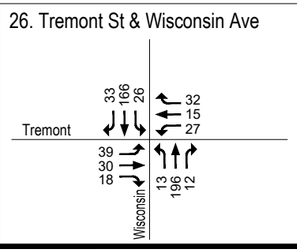


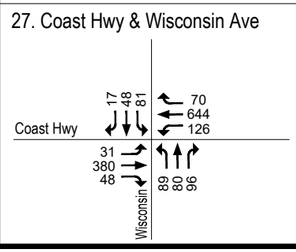


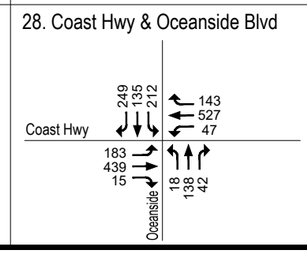


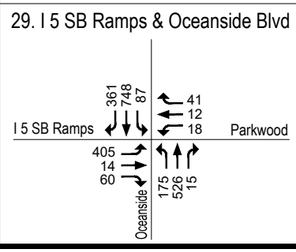


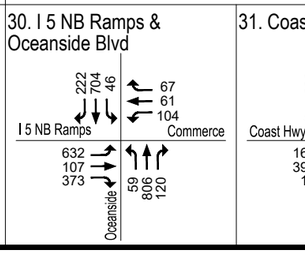


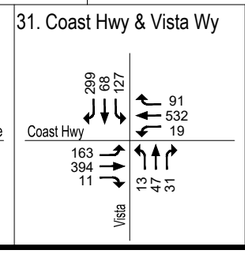






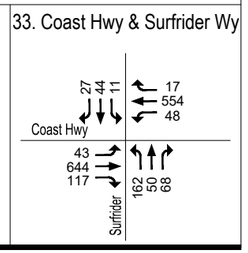






32. Cleveland St & Topeka St (W)

FUTURE INTERSECTION WITH PROJECT



\\us0300-ppfss01\shared_projects\204221790\0\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 2-10
Existing PM Peak Hour Intersection Volumes (2 of 2)

Table 2-2 Intersection LOS Summary – Existing Conditions

Intersection	Traffic Control	Existing			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Coast Hwy & Civic Center	Signal	4.3	A	6.0	A
2. Coast Hwy & Pier View	Signal	4.3	A	6.0	A
3. Ditmar & Seagaze	AWSC	8.4	A	9.2	A
4. Clementine & Seagaze	TWSC	9.0	A	9.5	A
5. Cleveland & Mission	Signal	7.6	A	10.7	B
6. Coast Hwy & Mission	Signal	16.3	B	31.2	C
7. Ditmar & Mission	Signal	4.4	A	5.0	A
8. Nevada & Mission	TWSC	14.4	B	15.6	C
9. Clementine & Mission	TWSC	10.4	B	11.0	B
10. Horne & Mission	Signal	35.2	D	47.4	D
11. Seagaze & Cleveland	AWSC	7.9	A	10.4	B
12. Tremont & Seagaze	TWSC	9.4	A	11.8	B
13. Coast Hwy & Seagaze	Signal	8.8	A	16.5	B
14. Coast Hwy & Topeka (E)	TWSC	11.2	B	13.2	B
15. Tremont & Topeka	TWSC	9.0	A	9.0	A
16. Coast Hwy & Topeka (W)	TWSC	10.7	B	16.0	C
17. Tremont & OTC Parking	n/a[1]	1.4	A	1.8	A
18. Tremont & Michigan	AWSC	7.2	A	7.4	A
19. Coast Hwy & Michigan	Signal	4.8	A	8.5	A
20. Cleveland & Missouri	AWSC	7.0	A	6.8	A
21. Tremont & Missouri	TWSC	9.2	A	9.5	A
22. Coast Hwy & Missouri	TWSC	16.1	C	19.0	C
23. Coast Hwy & SR 76 / Driveway	Signal	11.0	B	13.8	B
24. I-5 SB Ramps & Mission Ave	Signal	20.7	C	18.7	B
25. I-5 NB Ramps & Mission Ave	n/a[1]	--	--	--	--
26. Tremont & Wisconsin	TWSC	11.2	B	14.0	B
27. Coast Hwy & Wisconsin	Signal	10.8	B	12.2	B
28. Coast Hwy & Oceanside	Signal	17.9	B	26.1	C
29. I 5 SB Ramps & Oceanside	Signal	28.8	C	21.9	C
30. I 5 NB Ramps & Oceanside	Signal	33.7	C	**65.1**	**E**
31. Coast Hwy & Vista	Signal	19.0	B	21.5	C
32. Cleveland & Topeka (future)	n/a	--	--	--	--

33. Coast Hwy & Surfrider	Signal	9.2	A	11.7	B

Notes:
TWSC – Two-way stop-control
AWSC – All-way stop-control
LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
AWSC Delay represents the intersection average vehicle delay (total vehicles)
TWSC Delay represents the side street movement with highest average vehicle delay
[1]All intersection movements are free or yield-control
Bold indicates an intersection LOS or delay that exceeds the target LOS

3 Project Data

3.1 Project Land Use and Site Access

The Project would consist of 547 multi-family residential units, a 170-room hotel, a 64,085 square-foot NCTD headquarters building, 29,196 square feet of retail/food/beverage uses, and associated structure parking. Additionally, improvements will be made to the adjoining OTC such as a new intermodal transportation center and transit customer service building, 12 commuter bus stalls and bus layover space, enhanced transit waiting areas, bike parking and bike share, on-demand rideshare, and wayfinding assistance. Refer to **Figure 1-2** in Section 1.1 for an illustration of the site plan.

The two multi-family residential buildings (referred to herein as Residential Building 1 and Residential Building 2) would each include a parking structure with residents-only driveways. The parking structure for Residential Building 1 would have one driveway on Topeka Street, just east of Cleveland Street, and a second driveway on Michigan Avenue, just east of the bus depot. The Residential Building 2 parking structure would have one driveway on Michigan Avenue directly opposite of the Residential Building 1 driveway, and a second driveway on Cleveland Street on Missouri Avenue east of Cleveland Street.

The hotel would also be constructed with structure parking with one driveway on Seagaze Drive approximately midway between Cleveland Street and Tremont Street.

An additional freestanding parking structure would be constructed for use by NCTD employees and the general public (e.g., transit riders). The structure would have one driveway on Cleveland Street just north of Topeka Street and a second driveway on Tremont Street just south of the northerly Topeka Street intersection.

3.2 Project Trip Generation

Since the Project is located in a mixed-use area with high quality transit service, the net volume of vehicle trips is substantially lower than would occur in a lower density, less walkable, and low transit area. The SANDAG mixed-use development (MXD) trip generation calculator was utilized to estimate the net volume of vehicle trips to be generated by the Project. The walkable mixed-use nature of the site, together with the high-quality transit service results in approximately 23% fewer vehicle trips overall. Detailed input and output sheets from the SANDAG MXD trip generation calculator are provided in **Appendix J**.

The net number of vehicle trips expected to be generated by the Project is approximately 6,261 ADT, 441 AM peak hour trips, and 603 PM peak hour trips. The AM peak hour would generate approximately 196 inbound vehicle trips and approximately 245 outbound vehicle trips. The PM peak hour would generate approximately 324 inbound vehicle trips and approximately 279 outbound vehicle trips. **Table 3-1** shows the trip rates, MXD reductions, and the net volume of trips to be generated by the Project.

Table 3-1 Project Trip Generation Summary

Land Use	Amount	Trip Rate	ADT	AM Peak Hour						PM Peak Hour					
				Peak %	Vol.	In %	Out %	Vol. In	Vol. Out	Peak %	Vol.	In %	Out %	Vol. In	Vol. Out
Proposed Project															
Multi-family Residential	547 DU	6	3,282	8%	263	20%	80%	53	210	9%	295	70%	30%	207	88
Retail, Food & Beverage	29.196 TSF	120	3,504	4%	140	60%	40%	84	56	10%	350	50%	50%	175	175
NCTD Headquarters (Net[1])	58.085 TSF[1]	12	697	14%	98	91%	9%	89	9	12%	84	12%	88%	10	74
Hotel	170 Room	4	680	9%	61	39%	61%	24	37	8%	54	55%	45%	30	24
Gross Trips		--	8,163	--	562	--	--	250	312	--	783	--	--	422	361
Internal Capture Trips		--	514	--	29	--	--	13	16	--	49	--	--	27	22
Internal Capture %		--	6.3%	--	5.2%	--	--	5.2%	5.2%	--	6.3%	--	--	6.3%	6.3%
Walking External Trips		--	1,004	--	49	--	--	22	27	--	90	--	--	49	41
Walking External %		--	12.3%	--	8.8%	--	--	8.8%	8.8%	--	11.5%	--	--	11.5%	11.5%
Transit External		--	384	--	43	--	--	19	24	--	41	--	--	22	19
Transit External %		--	4.7%	--	7.7%	--	--	7.7%	7.7%	--	5.3%	--	--	5.3%	5.3%
Total External Vehicle Trips		--	**6,261**	--	**441**	--	--	**196**	**245**	--	**603**	--	--	**324**	**279**
Total Trip Reduction %		--	23%	--	22%	--	--	22%	21%	--	23%	--	--	23%	23%

[1]NCTD Headquarters total proposed building size of 64,085 SF minus approximately 6,000 SF existing NCTD office building on-site (existing building to be removed and operations moved to new building)

Notes:
DU – Dwelling Unit
TSF – Thousand Square Feet
Room – Occupied Rooms
Existing intermodal transportation center uses on-site (e.g., NCTD and Amtrack customer service offices, ticketing, restrooms, etc.) to remain on-site (relocated).
Internal capture trips, walk trips, and transit trips estimated using SANDAG Mixed Use Trip Generation Model v 4.0.
Trip Rate Sources:
(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, SANDAG (2002)
Multi-family Residential – SANDAG land use category "Apartment"
Retail, Food & Beverage – SANDAG land use category "Neighborhood Shopping Center"
Driveway Counts
NCTD Headquarters – Rates based on driveway counts (Tues/Wed average) of existing NCTD headquarters at 810 Mission Ave (See **Appendix C for driveway count sheets)**
ITE Trip Generation Manual, Institute of Transportation Engineers (2021)
Hotel – ITE Category 312 Business Hotel

3.3 Project Trip Distribution

Project trips were distributed using the SANDAG ABM2+ travel demand forecasting model select zone assignments for the Project site (see **Appendix H** for select zone plots and model zonal data). The baseline traffic modeling was prepared as part of the City's General Plan Update, which is currently underway (see Section 4.3.2 for discussion of the traffic modeling utilized for this analysis). For collector and local streets in the immediate vicinity of the Project site that aren't included in the SANDAG model, Project trips were distributed based on the overall travel patterns estimated by the model using Synchro traffic analysis software. Existing bus trips were also redistributed to account for the new bus bay locations.

The general distribution of Project generated trips is illustrated in **Figure 3-1**. **Figure 3-3** provides a detail of the distribution for roadways in the immediate vicinity of the Project site. Project-only ADT volumes are shown in **Figure 3-3**.

Figure 3-4 and **Figure 3-5** show the inbound trip distribution percentages by turning movement for each study area intersection for the AM peak hour. **Figure 3-6** and **Figure 3-7** show the comparable inbound distribution percentages for the PM peak hour. **Figure 3-8** and **Figure 3-9** show the outbound trip distribution percentages by turning movement for each study area intersection for the AM peak hour, and **Figure 3-10** and **Figure 3-11** show the comparable outbound distribution percentages for the PM peak hour. Due to the presence of one-way streets and the roadway grid system near the Project, there are slight variations between the inbound and outbound distribution patterns for Project trips. The mix of uses that comprise the Project also results in a variation between the AM and PM peak hours. However, the overall distribution pattern is based on the SANDAG model select zone run estimates.

Project-only trips for the AM peak hour are shown in **Figure 3-12** and **Figure 3-13** for each study area intersection. Project-only trips for the PM peak hour are shown in **Figure 3-14** and **Figure 3-15**.



Legend

- Project Site
- xx Project trip distribution (%)

Source: SANDAG ABM2, Stantec

\\Us0300-ppfss01\shared_projects\204221790\gis\traffic\tia\pif\trip_dist_tremont-1.mxd

N

Figure 3-1

Project Trip Distribution Percentages

3.4



Legend

- Project Site
- XX Project trip distribution (%)
- (XX) Totals 100%

Source: SANDAG AMB2, Stantec
(Distribution percentages represent the average of each direction of travel based on average daily trips. Peak Hour distribution percentages may vary due to differences in directionality and route choices.)

\\Us0300-ppfss01\shared_projects\204217900\gis\traffic\tia\pifitrip_dist_tremont-2.mxd

N

Figure 3-2

Project Trip Distribution Percentages (Project Area)

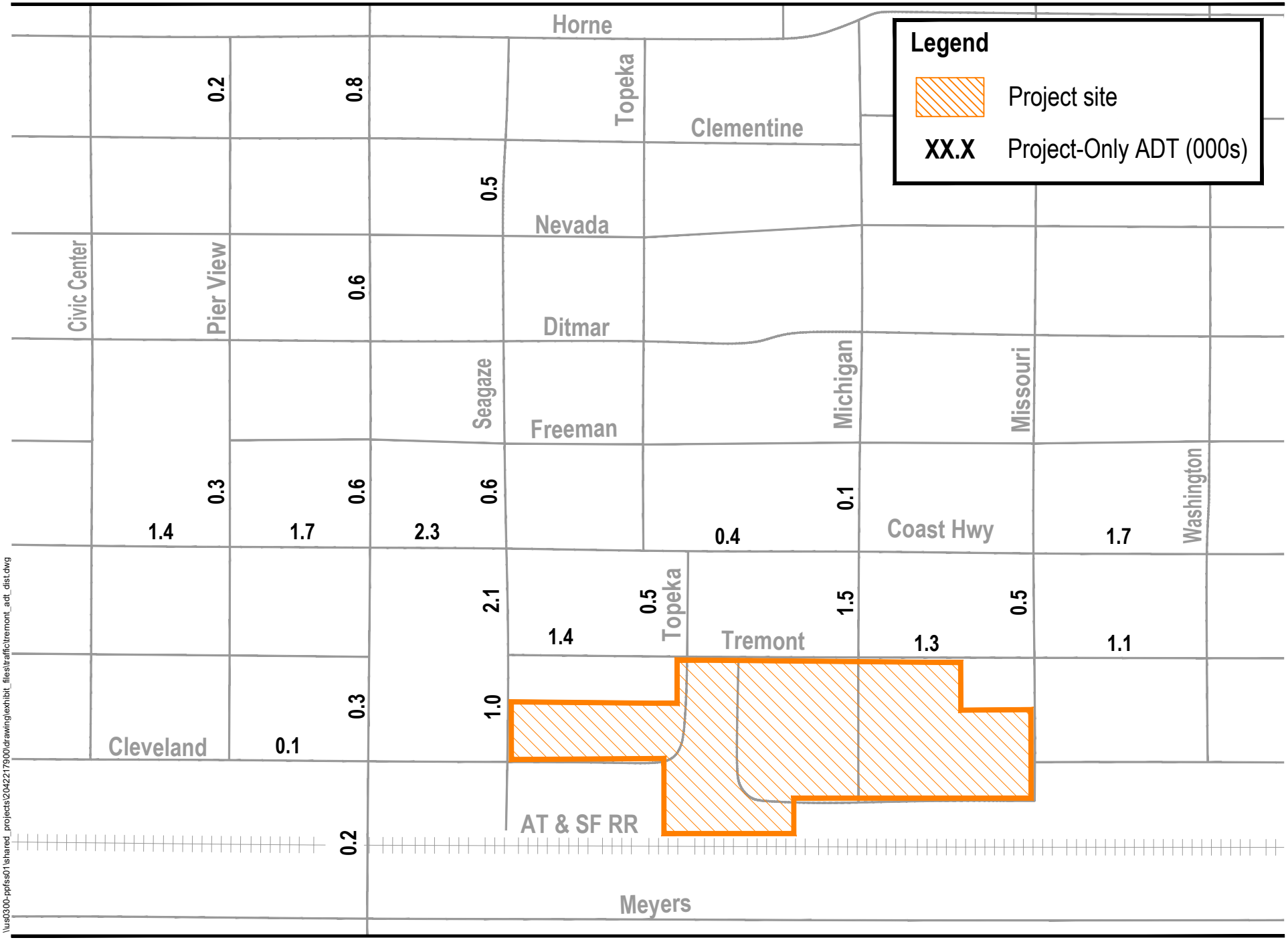
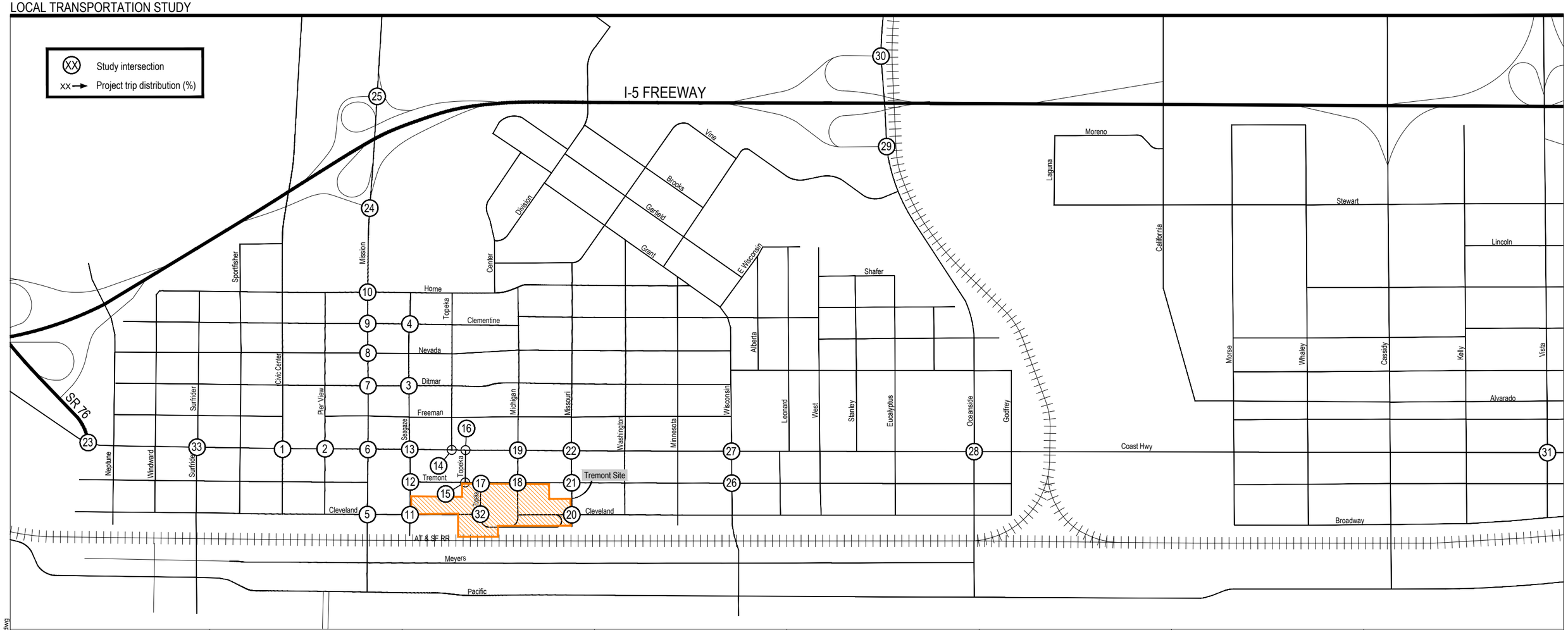
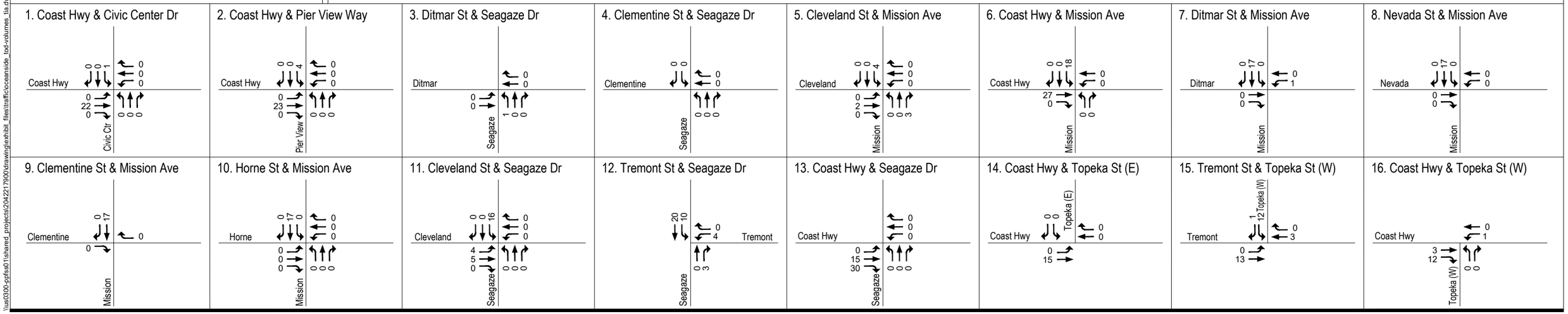


Figure 3-3

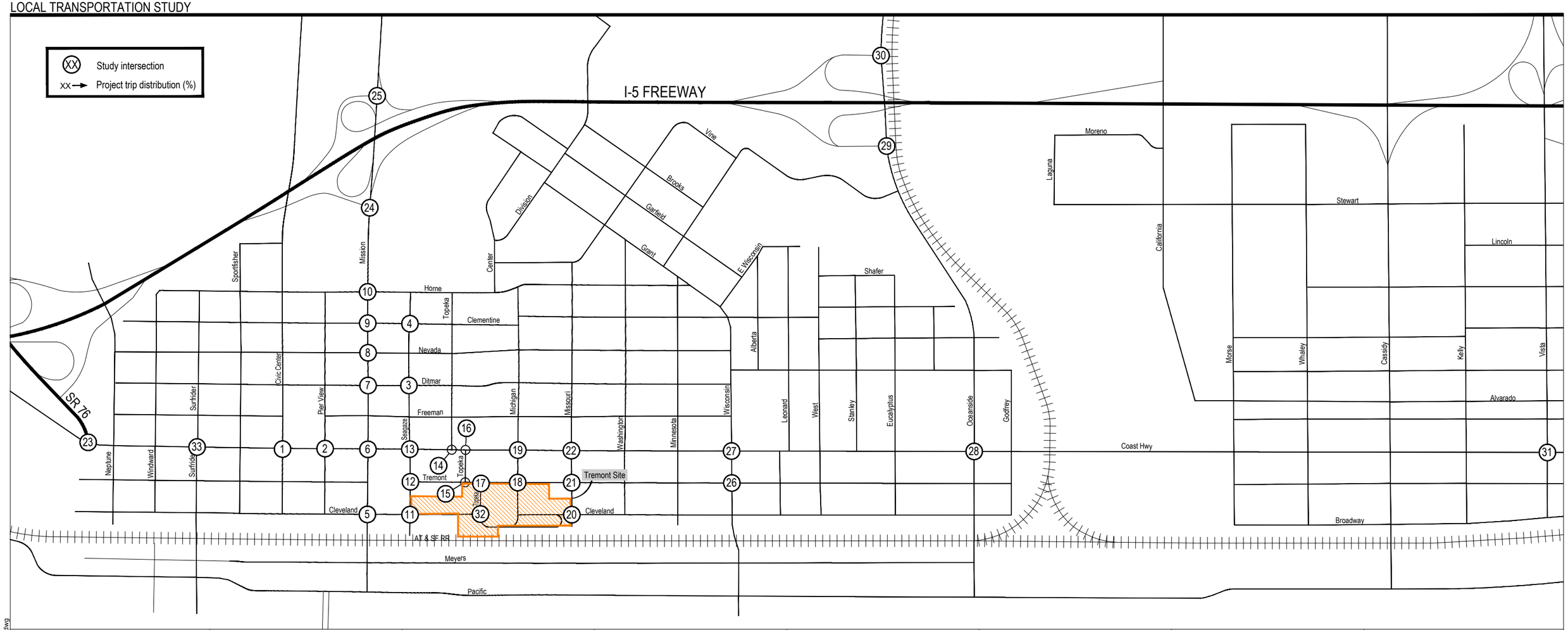
Project-Only ADT Volumes



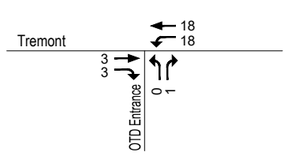


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

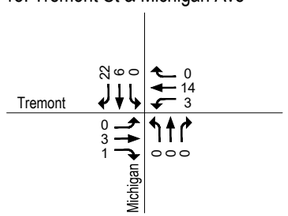
Figure 3-4
AM Peak Hour Inbound Project Trip Distribution Percentages (1 of 2)



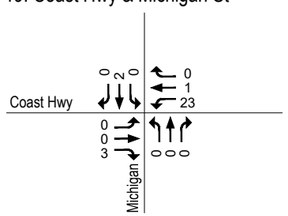
17. Tremont St & OTD Entrance



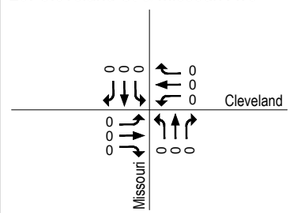
18. Tremont St & Michigan Ave



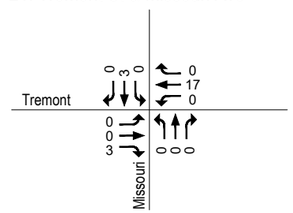
19. Coast Hwy & Michigan St



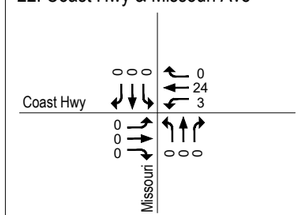
20. Cleveland St & Missouri Ave



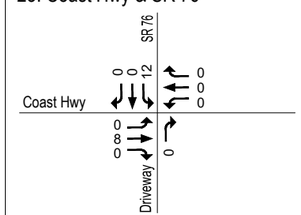
21. Tremont St & Missouri Ave



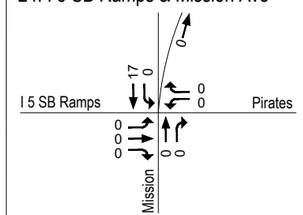
22. Coast Hwy & Missouri Ave



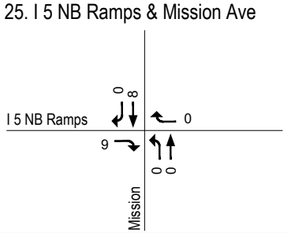
23. Coast Hwy & SR 76



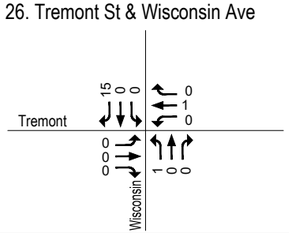
24. I 5 SB Ramps & Mission Ave



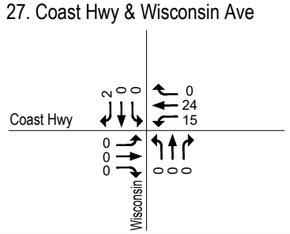
25. I 5 NB Ramps & Mission Ave



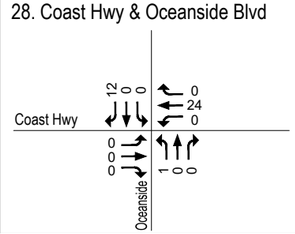
26. Tremont St & Wisconsin Ave



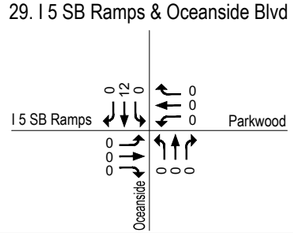
27. Coast Hwy & Wisconsin Ave



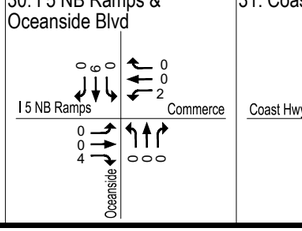
28. Coast Hwy & Oceanside Blvd



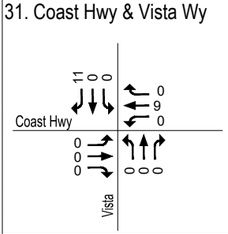
29. I 5 SB Ramps & Oceanside Blvd



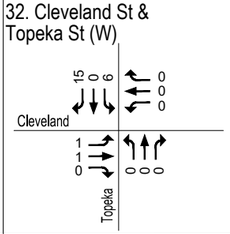
30. I 5 NB Ramps & Oceanside Blvd



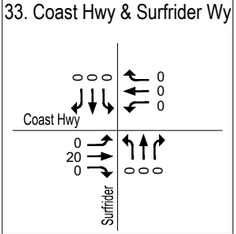
31. Coast Hwy & Vista Wy



32. Cleveland St & Topeka St (W)

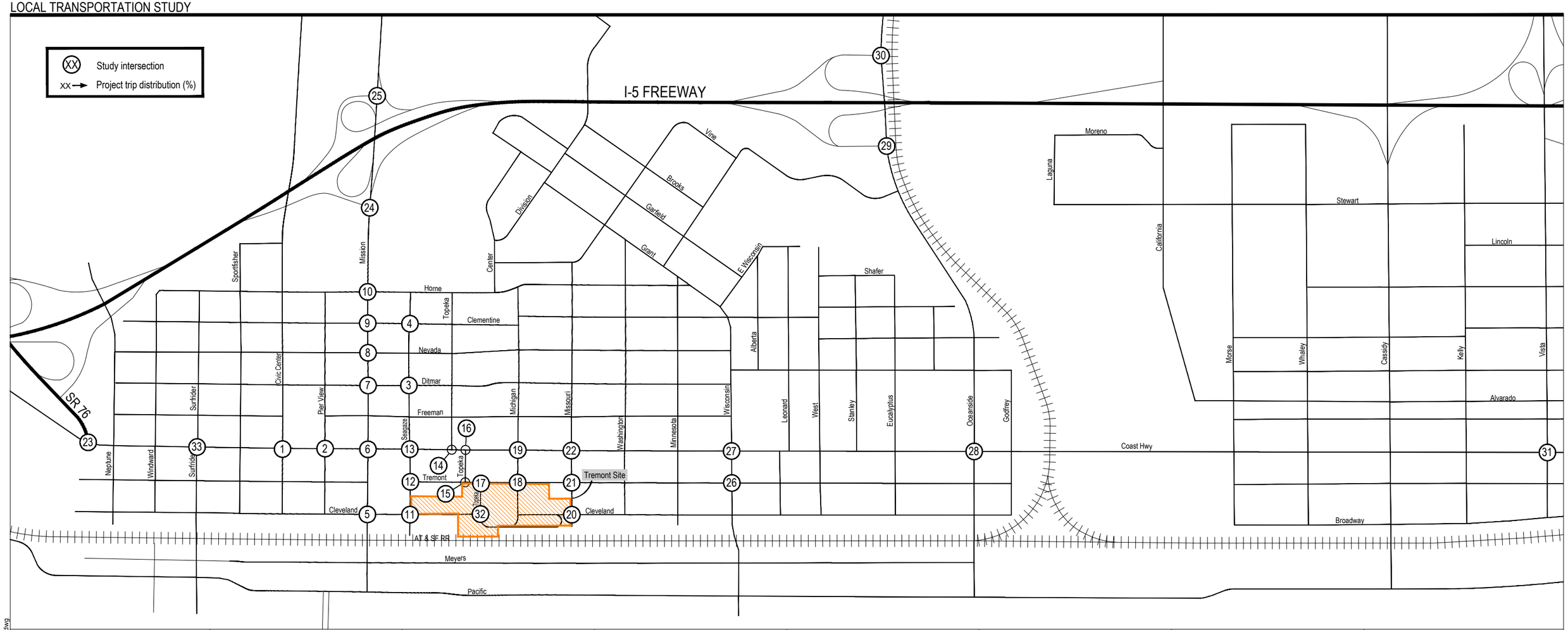


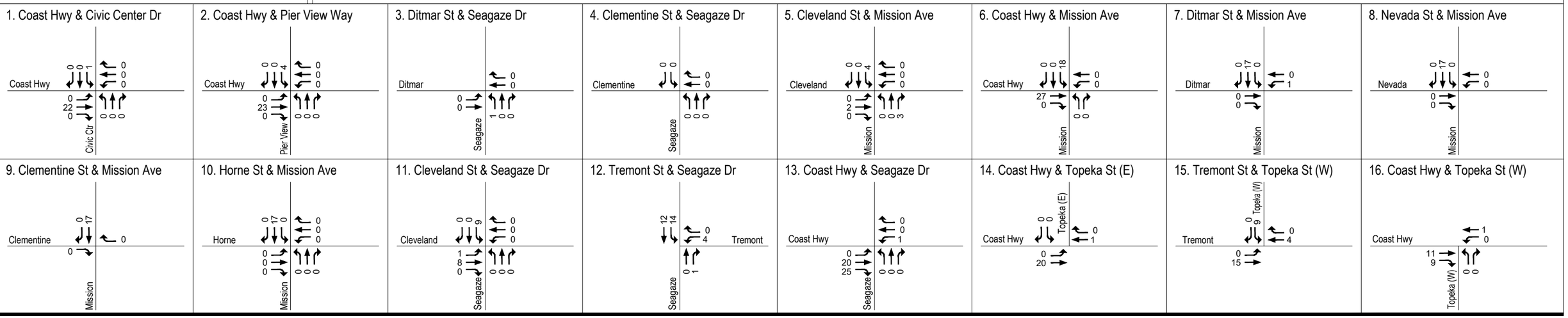
33. Coast Hwy & Surfrider Wy



\\us0300-ppfss01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

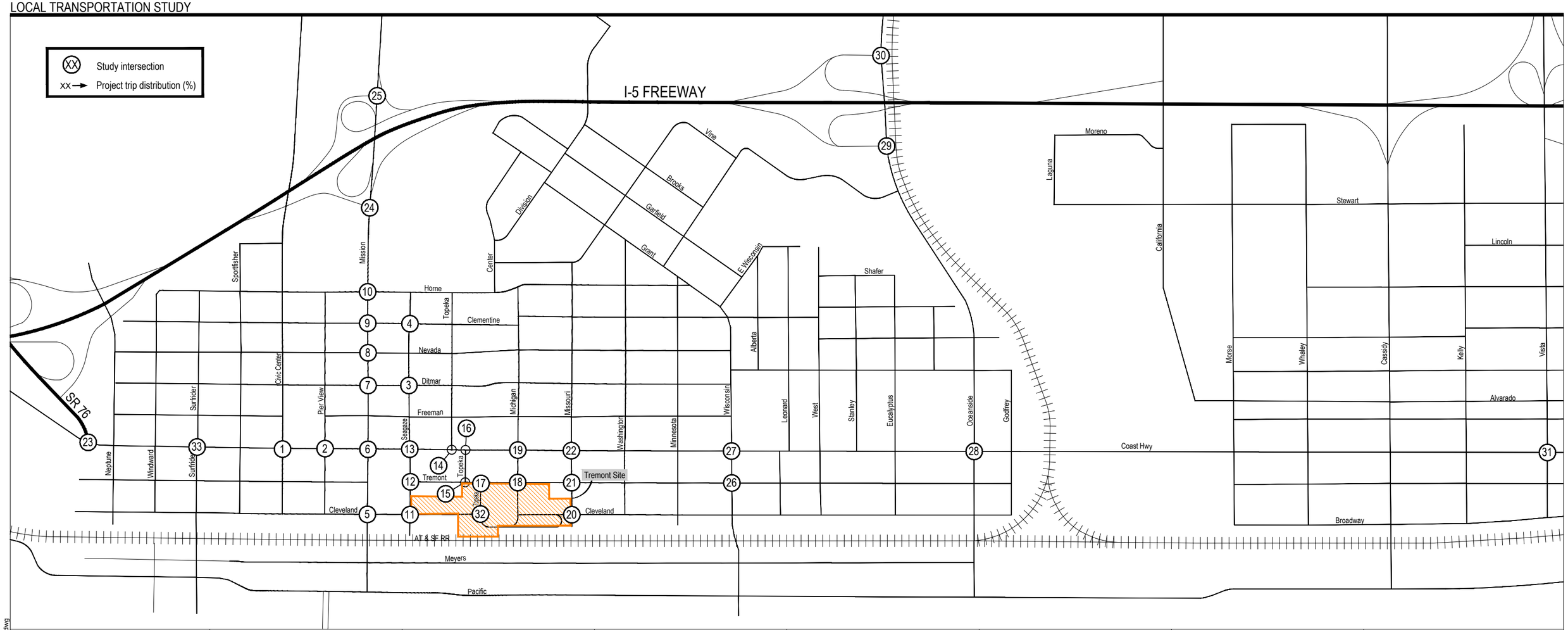
Figure 3-5
AM Peak Hour Inbound Project Trip Distribution Percentages (2 of 2)



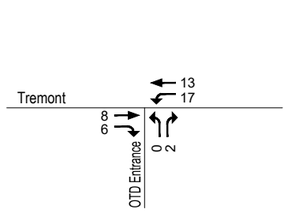


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

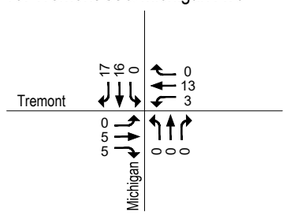
Figure 3-6
PM Peak Hour Inbound Project Trip Distribution Percentages (1 of 2)



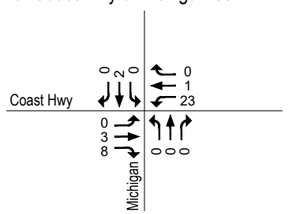
17. Tremont St & OTD Entrance



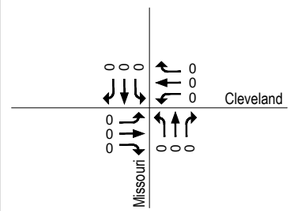
18. Tremont St & Michigan Ave



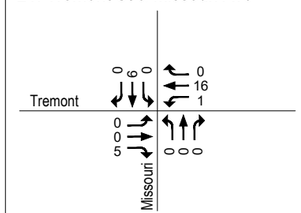
19. Coast Hwy & Michigan St



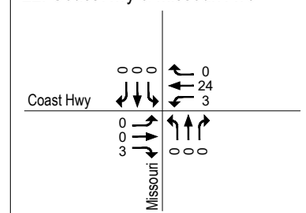
20. Cleveland St & Missouri Ave



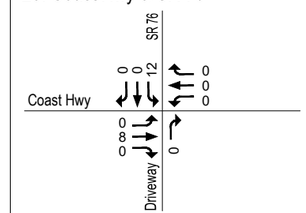
21. Tremont St & Missouri Ave



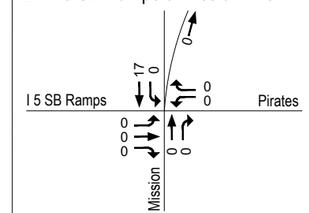
22. Coast Hwy & Missouri Ave



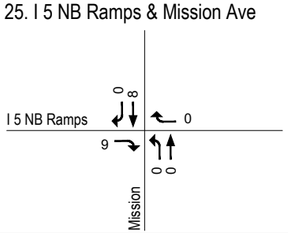
23. Coast Hwy & SR 76



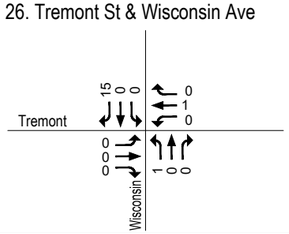
24. I 5 SB Ramps & Mission Ave



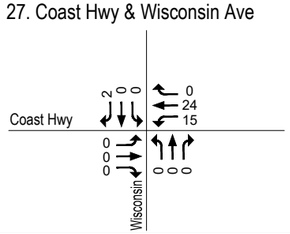
25. I 5 NB Ramps & Mission Ave



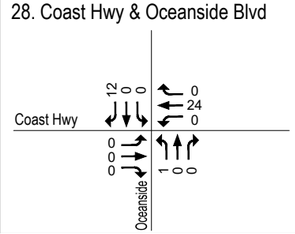
26. Tremont St & Wisconsin Ave



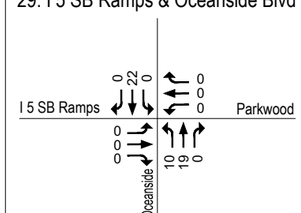
27. Coast Hwy & Wisconsin Ave



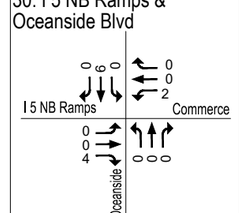
28. Coast Hwy & Oceanside Blvd



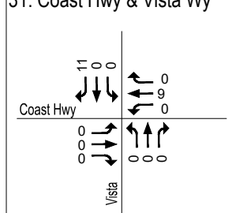
29. I 5 SB Ramps & Oceanside Blvd



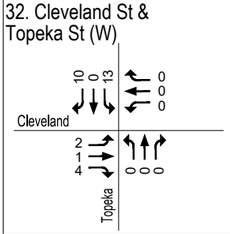
30. I 5 NB Ramps & Oceanside Blvd



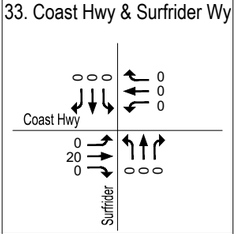
31. Coast Hwy & Vista Wy



32. Cleveland St & Topeka St (W)

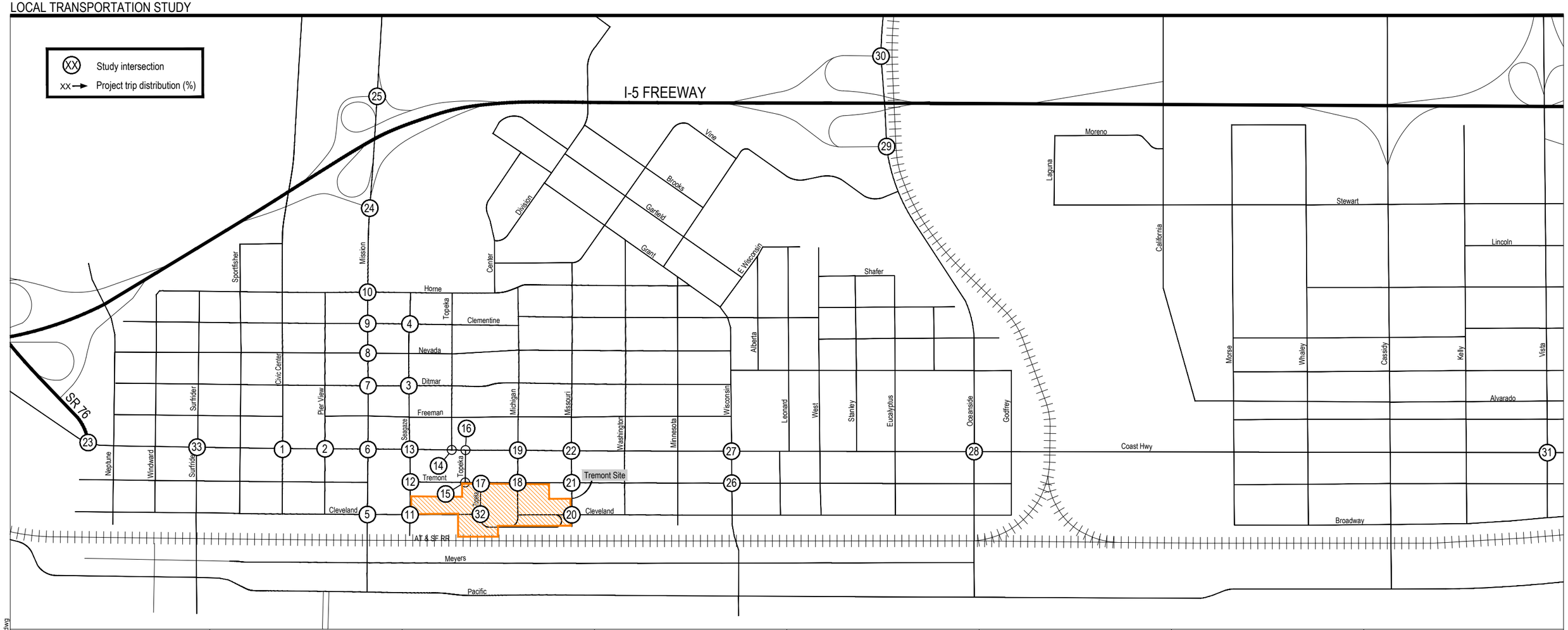


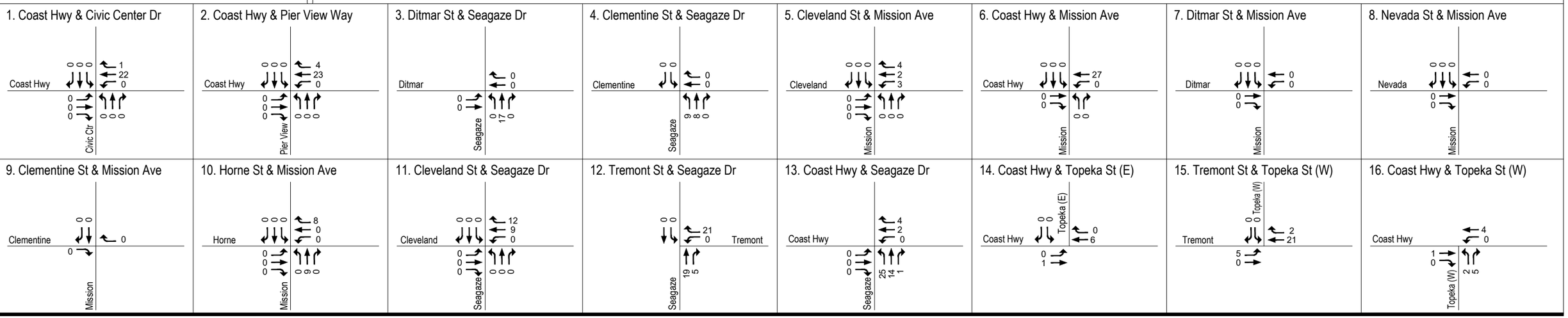
33. Coast Hwy & Surfrider Wy



\\us0300-ppfss01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

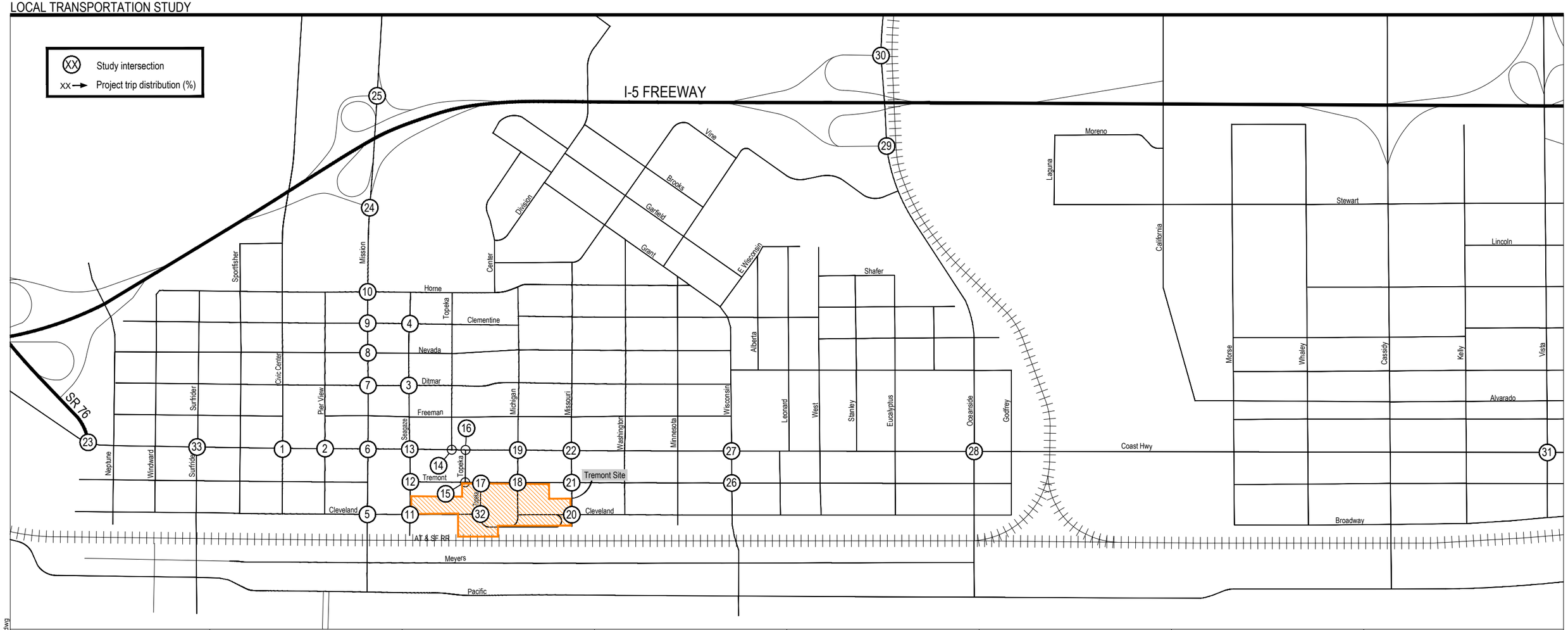
Figure 3-7
PM Peak Hour Inbound Project Trip Distribution Percentages (2 of 2)

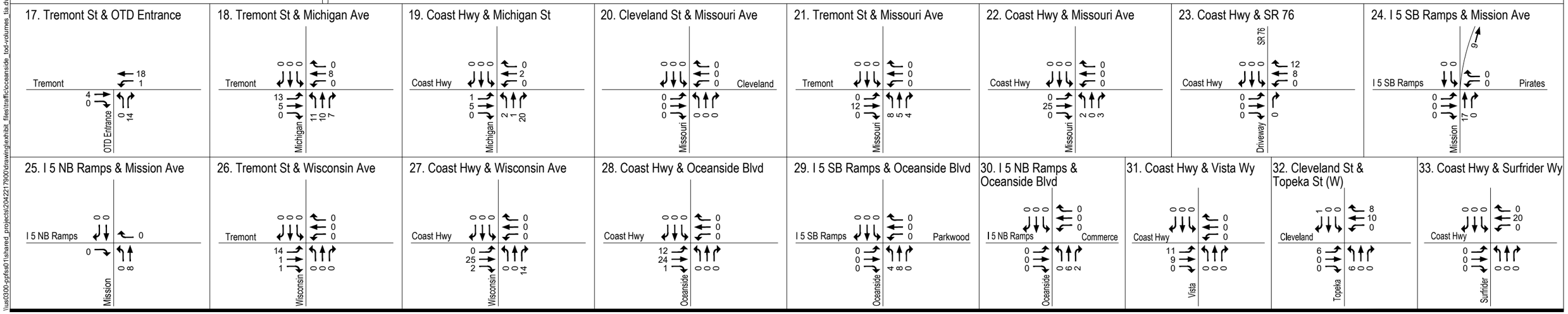




\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

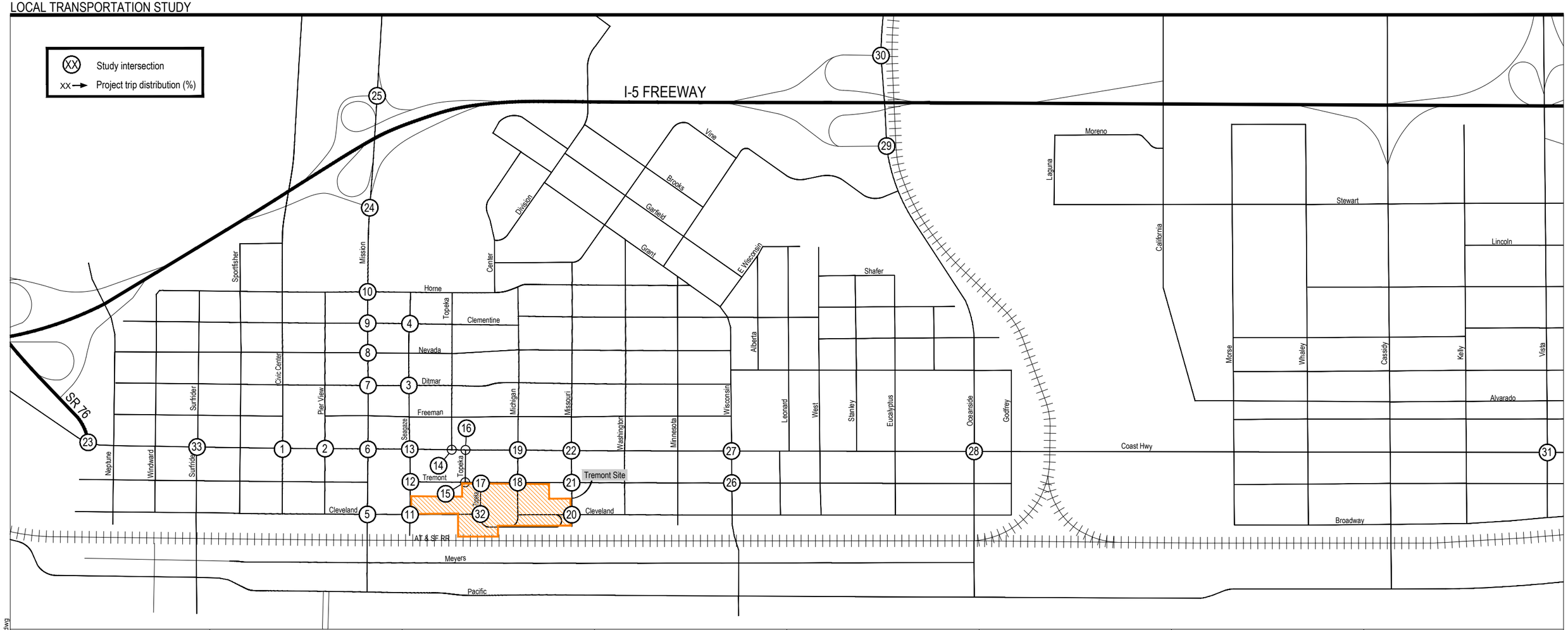
Figure 3-8
AM Peak Hour Outbound Project Trip Distribution Percentages (1 of 2)

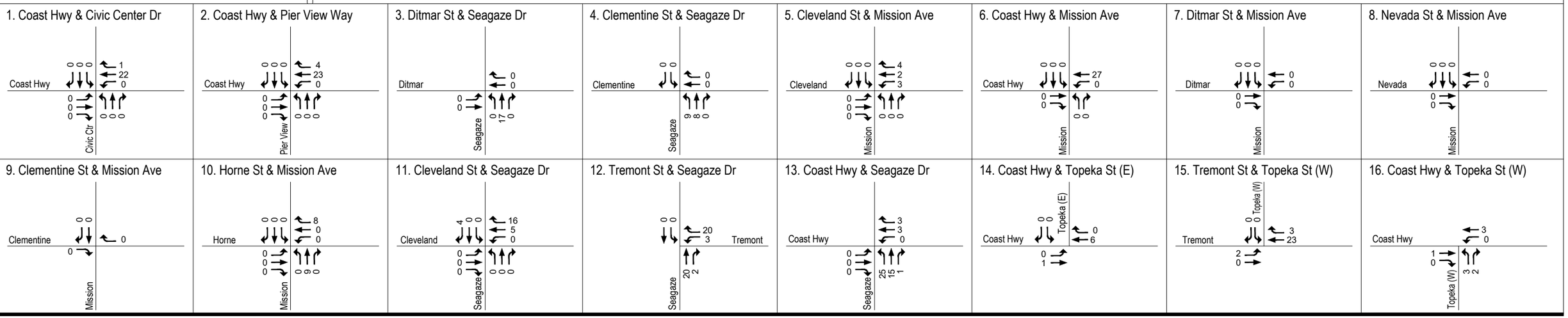




\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

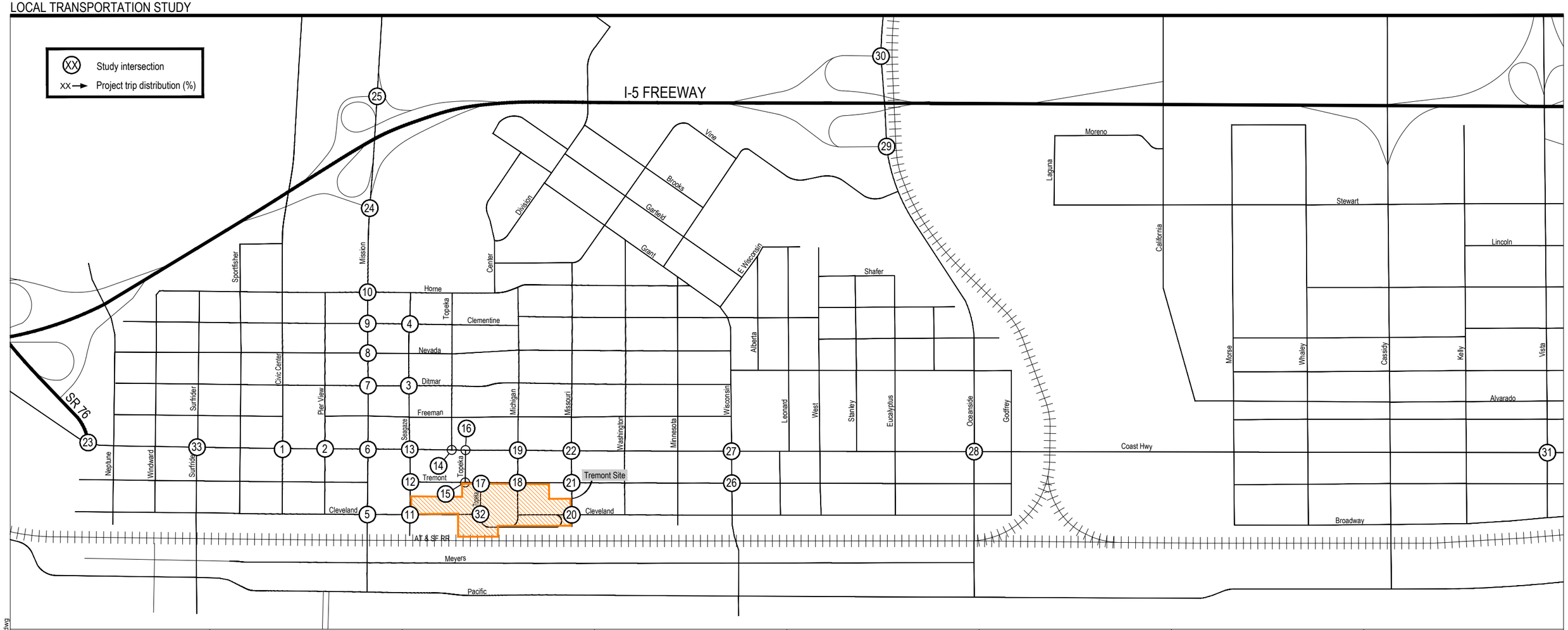
Figure 3-9
AM Peak Hour Outbound Project Trip Distribution Percentages (2 of 2)

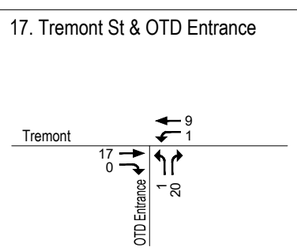


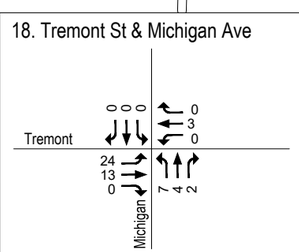


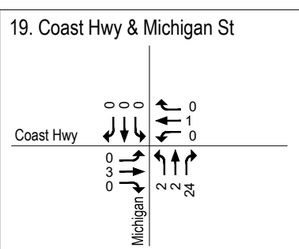
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

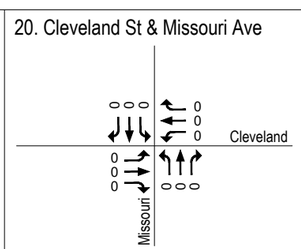
Figure 3-10
PM Peak Hour Outbound Project Trip Distribution Percentages (1 of 2)

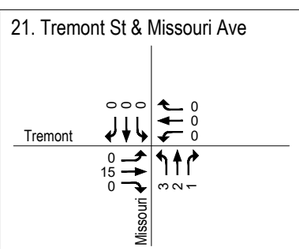


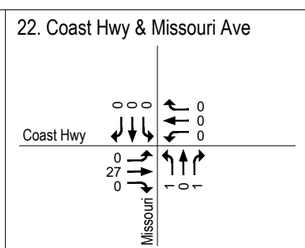


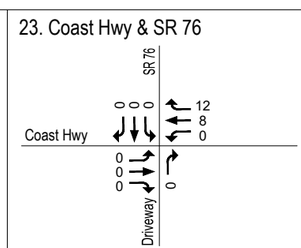


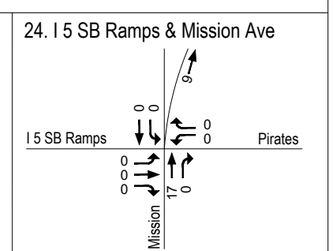


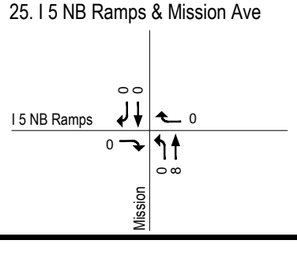


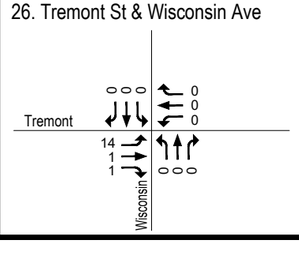


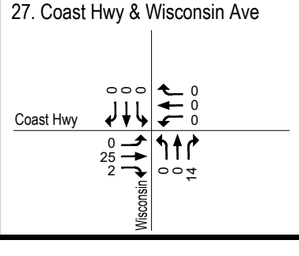


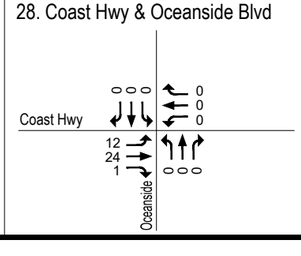


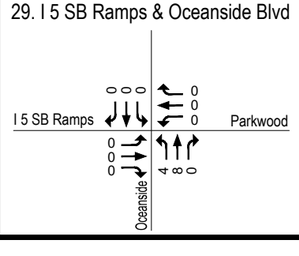


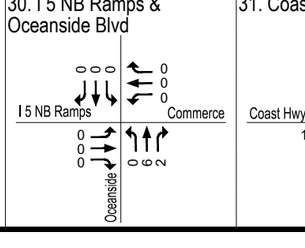


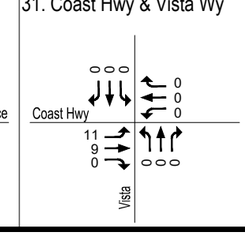


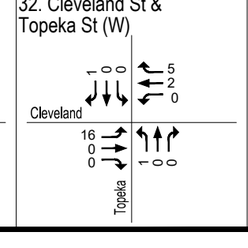


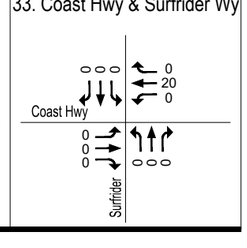






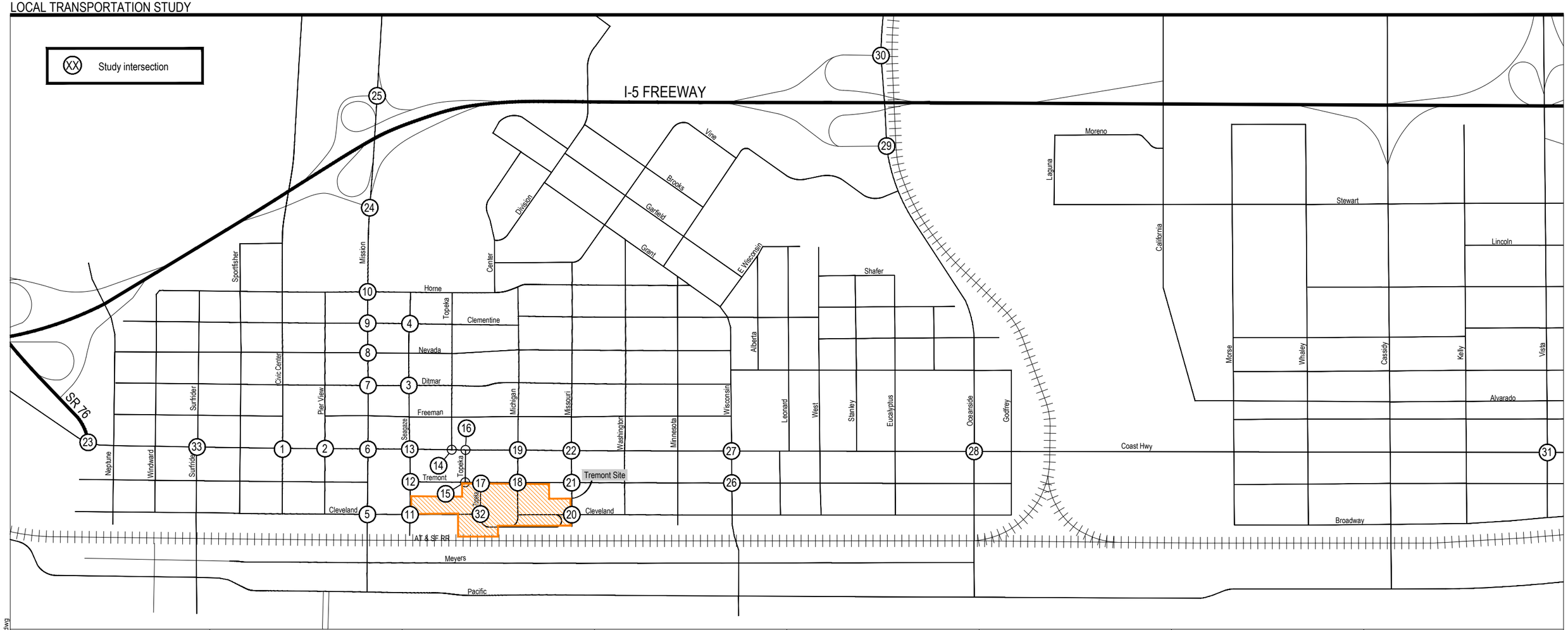




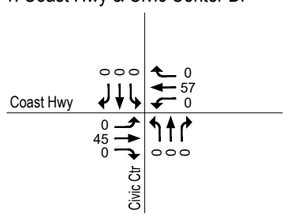


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

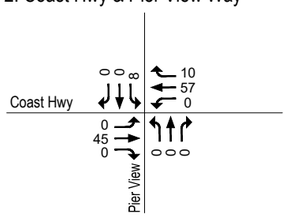
Figure 3-11
PM Peak Hour Outbound Project Trip Distribution Percentages (2 of 2)



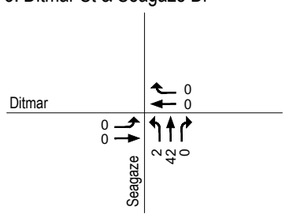
1. Coast Hwy & Civic Center Dr



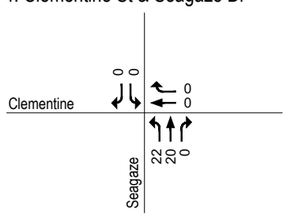
2. Coast Hwy & Pier View Way



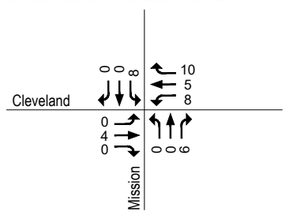
3. Ditmar St & Seagaze Dr



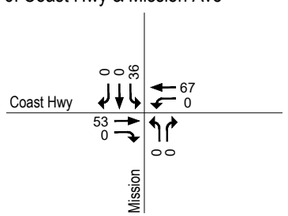
4. Clementine St & Seagaze Dr



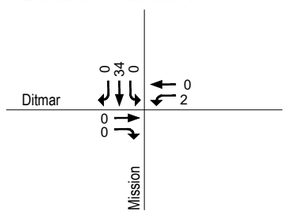
5. Cleveland St & Mission Ave



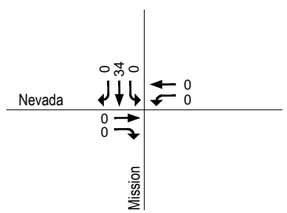
6. Coast Hwy & Mission Ave



7. Ditmar St & Mission Ave



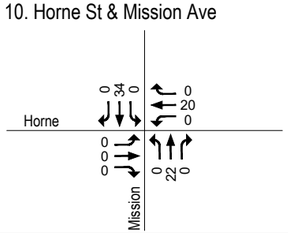
8. Nevada St & Mission Ave



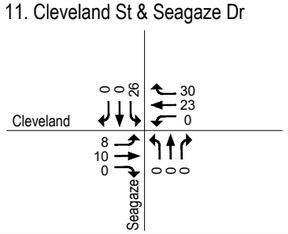
9. Clementine St & Mission Ave



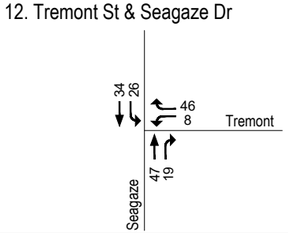
10. Horne St & Mission Ave



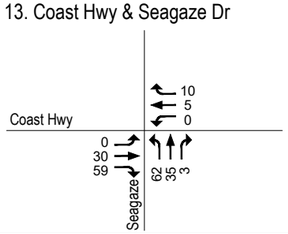
11. Cleveland St & Seagaze Dr



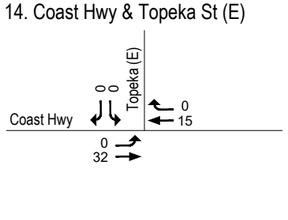
12. Tremont St & Seagaze Dr



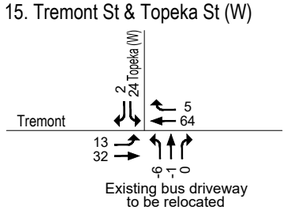
13. Coast Hwy & Seagaze Dr



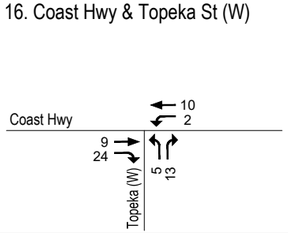
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)



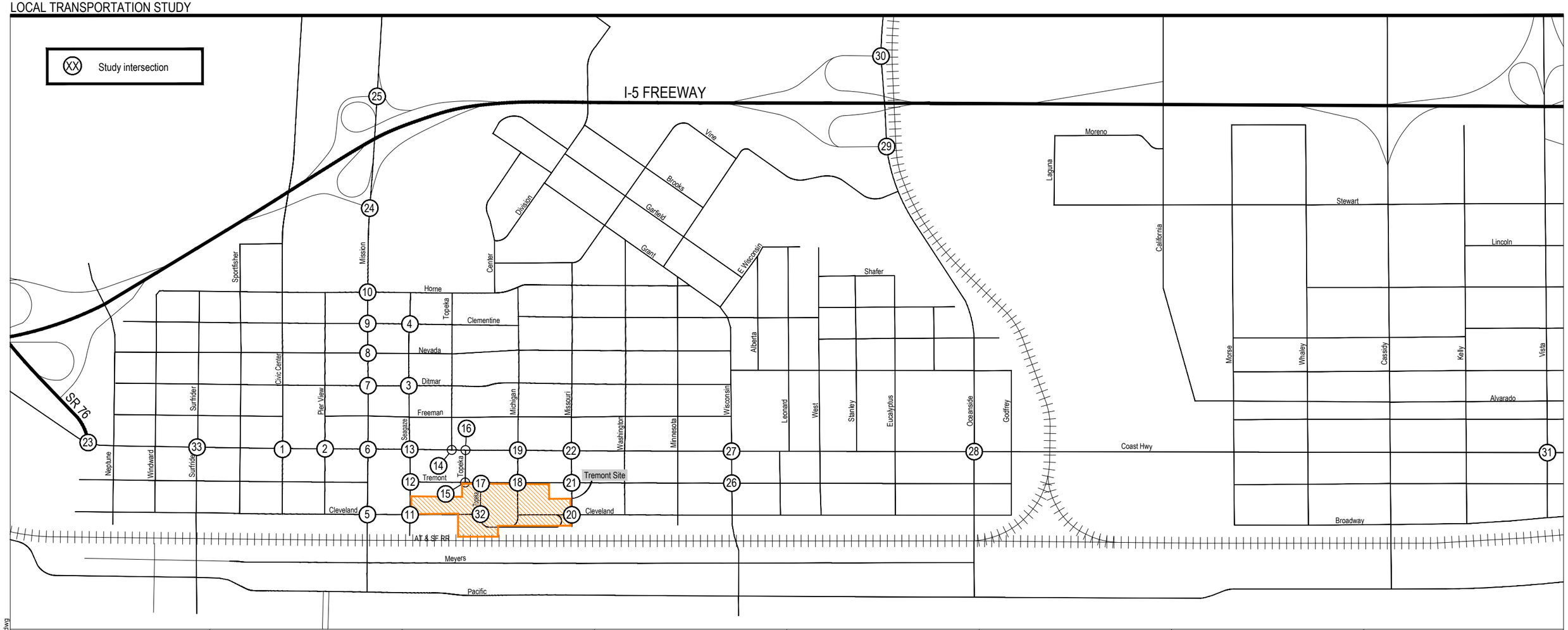
16. Coast Hwy & Topeka St (W)

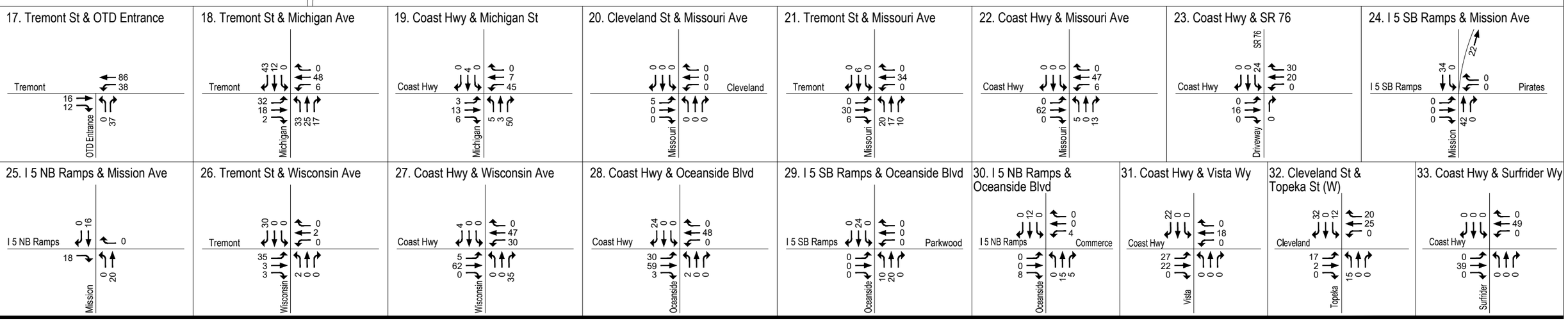


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 3-12

Project-Only AM Peak Hour Intersection Volumes (1 of 2)

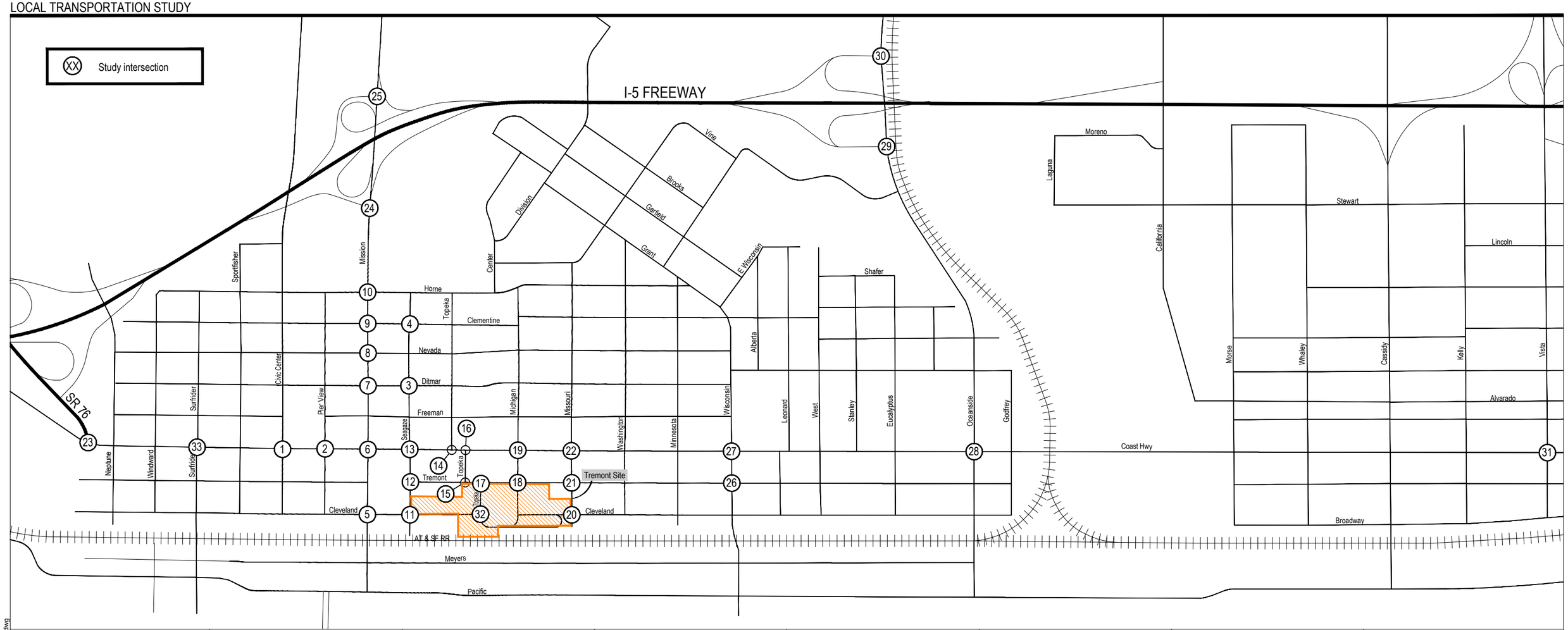


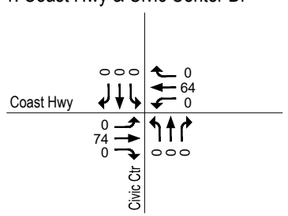


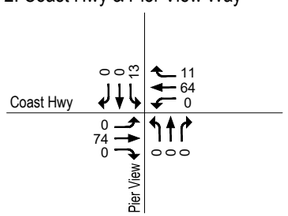
\\us0300-pptfs01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

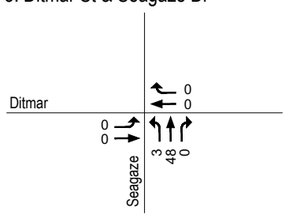
Figure 3-13

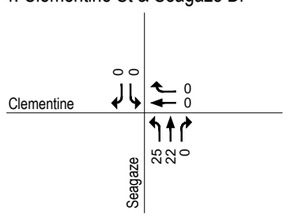
Project-Only AM Peak Hour Intersection Volumes (2 of 2)

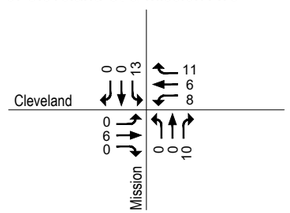


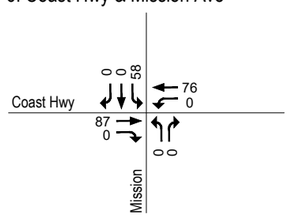


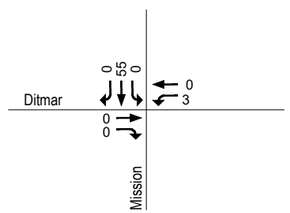


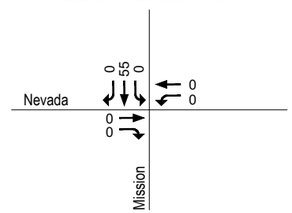




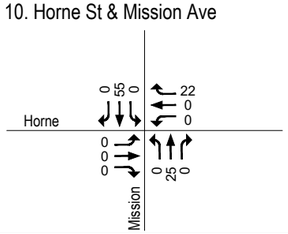


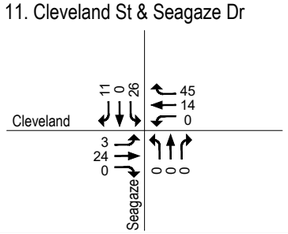


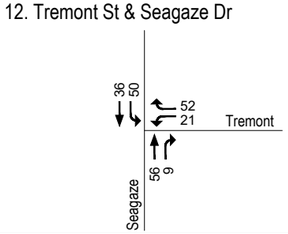


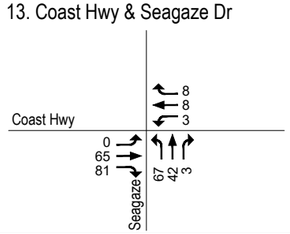


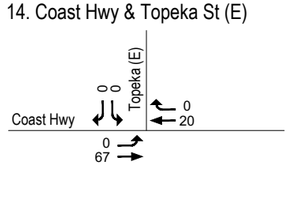


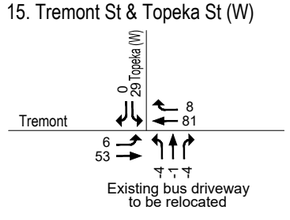


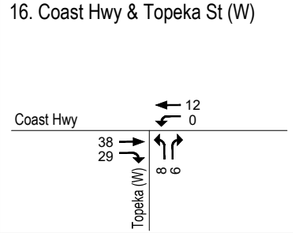








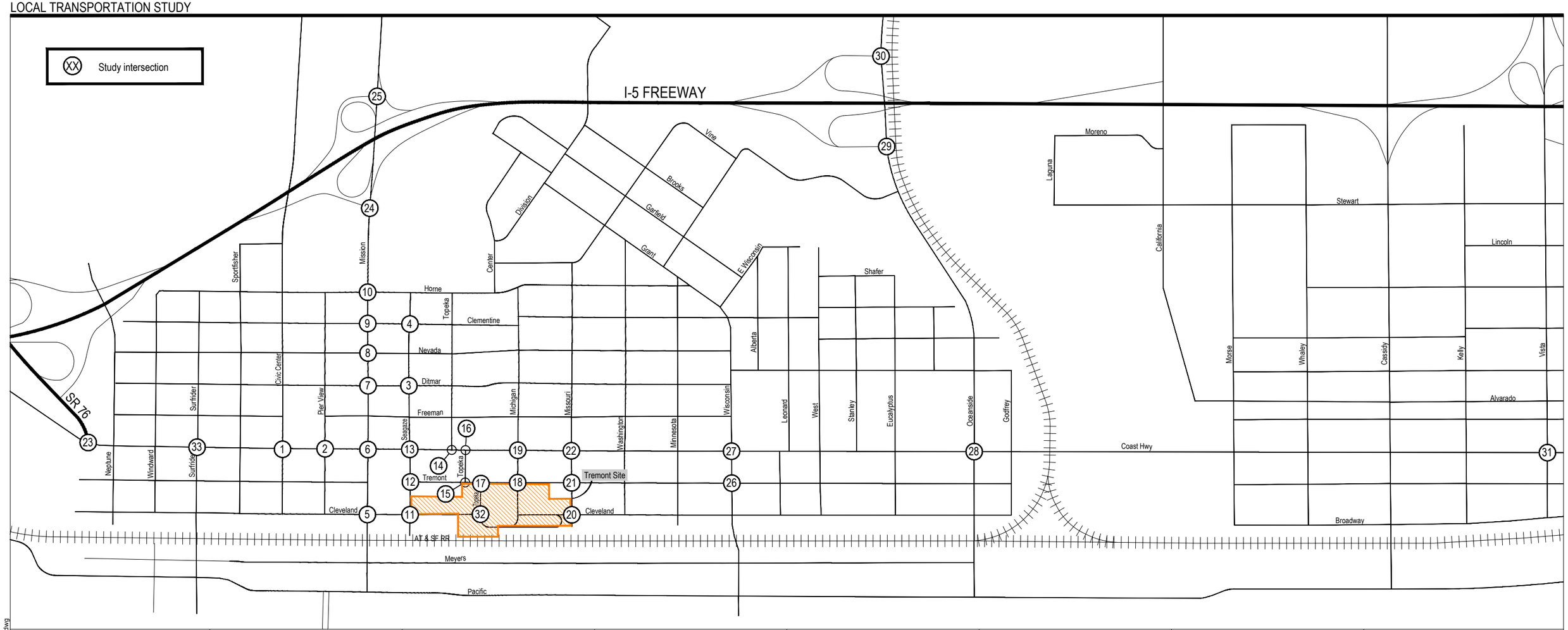


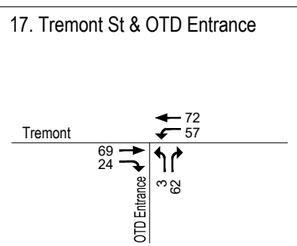


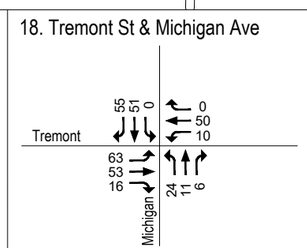
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

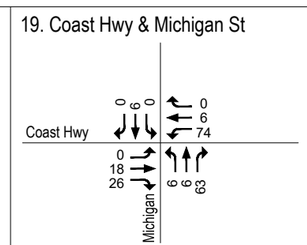
Figure 3-14

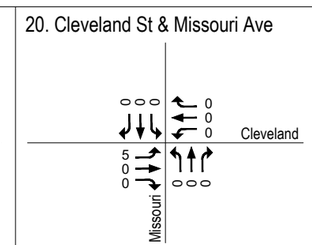
Project-Only PM Peak Hour Intersection Volumes (1 of 2)

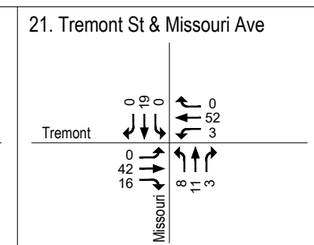


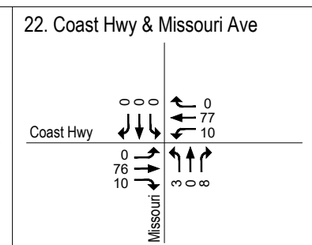


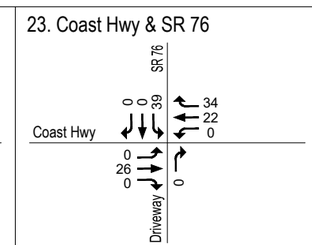


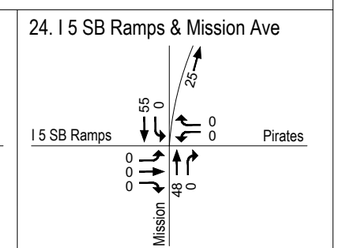


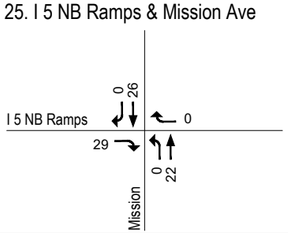


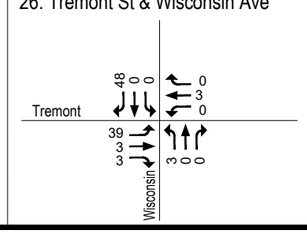


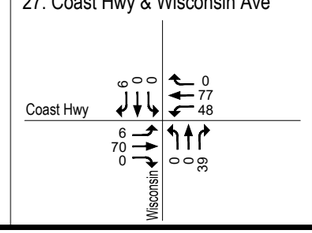


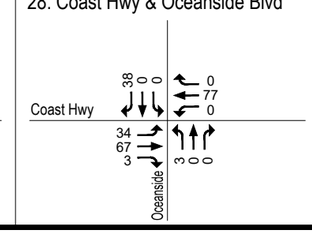


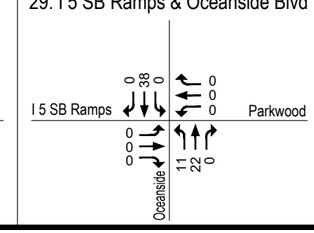


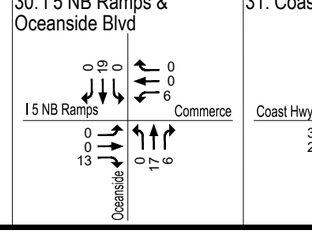


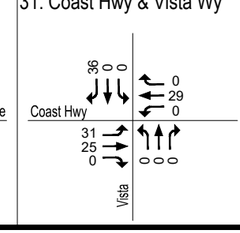


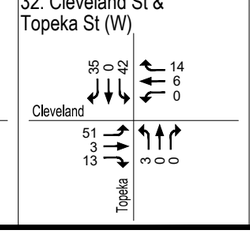


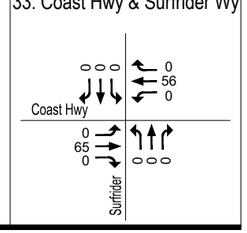












\\us0300-ppfss01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 3-15
Project-Only PM Peak Hour Intersection Volumes (2 of 2)

4 LOS Analysis

4.1 Existing Conditions Plus Project Analysis

This section presents an evaluation of the Project based on existing conditions (refer to Section 2.6 for discussion of existing conditions without the Project). Existing conditions plus Project traffic volume forecasts were derived by incrementally adding the Project-generated trips (refer to Section 3.3 for discussion of Project volumes) to the existing traffic volumes at each study location.

Table 4-1 summarizes the roadway ADT and V/C for existing conditions and for existing plus Project conditions. ADT volumes for existing plus Project conditions are shown in **Figure 4-1**.

With the addition of Project generated traffic, each roadway segment continues to operate at the same performance level, except for the following segments where the Project exceeds the performance threshold (i.e., increases the V/C ratio by 0.02 or more) and the segment exceeds the target performance standard:

- Coast Highway between Mission Avenue and Seagaze Drive
- Tremont Street between Seagaze Drive and Topeka Street
- Tremont Street between Michigan Avenue and Missouri Avenue
- Tremont Street between Missouri Avenue and Washington Avenue
- Michigan between Coast Highway and Tremont Street

City guidelines state that improvements should be considered on a case-by-case basis when roadways exceed the established performance standards. A discussion of recommended improvements for these locations is provided in Section 4.1.1.

Table 4-1 Roadway Segment Volume Summary – Existing Conditions plus Project

Segment	Classification	Lanes	Capacity[1]	Existing			Existing plus Project			Increase
				ADT	LOS	V/C	ADT	LOS	V/C	
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	11,300	B	0.45	12,100	B	0.48	0.03
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	9,500	C	0.63	10,100	D	0.67	0.04
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	11,300	D	0.75	11,900	D	0.79	0.04
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**15,000**	**E**	**1.00**	**15,000**	**E**	**1.00**	0.00
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**13,400**	**E**	**0.89**	**13,700**	**E**	**0.91**	0.02
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	10,200	B	0.41	10,400	B	0.42	0.01
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	5,600	B	0.37	6,100	B	0.41	0.04
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	5,500	B	0.37	6,100	B	0.41	0.04
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	7,200	C	0.48	9,300	C	0.62	0.14
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	6,900	C	0.69	7,900	D	0.79	0.10
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	16,400	C	0.66	17,800	C	0.71	0.05
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	16,700	C	0.67	18,400	D	0.74	0.07
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	21,400	D	0.86	**23,700**	**E**	**0.95**	**0.09**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	17,800	C	0.71	18,200	D	0.73	0.02
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	17,200	C	0.69	18,900	D	0.76	0.07
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,500	≤C	0.68	**2,900**	**>C**	**1.32**	**0.64**
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,000	≤C	0.45	**2,300**	**>C**	**1.05**	**0.60**
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,200	≤C	0.55	**2,300**	**>C**	**1.05**	**0.50**
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,000	≤C	0.45	1,500	≤C	0.68	0.23
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,400	≤C	0.64	1,500	≤C	0.68	0.04
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	1,900	≤C	0.86	**3,400**	**>C**	**1.55**	**0.69**
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	900	≤C	0.41	1,400	≤C	0.64	0.23
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	1,800	A	0.12	1,900	A	0.13	0.01
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	200	≤C	0.09	200	≤C	0.09	0.00

25. Pier View btwn. Horne & Clementine	Local	2	2,200	500	≤C	0.23	700	≤C	0.32	0.09
26. Pier View btwn. Clementine & Ditmar	Local	2	2,200	1,200	≤C	0.55	1,400	≤C	0.64	0.09
27. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	1,200	≤C	0.55	1,500	≤C	0.68	0.13

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

Shaded cells indicate roadways that exceed LOS D (or local streets not in the Circulation Element that exceed LOS C) and where the Project increases the V/C by more than 0.02.

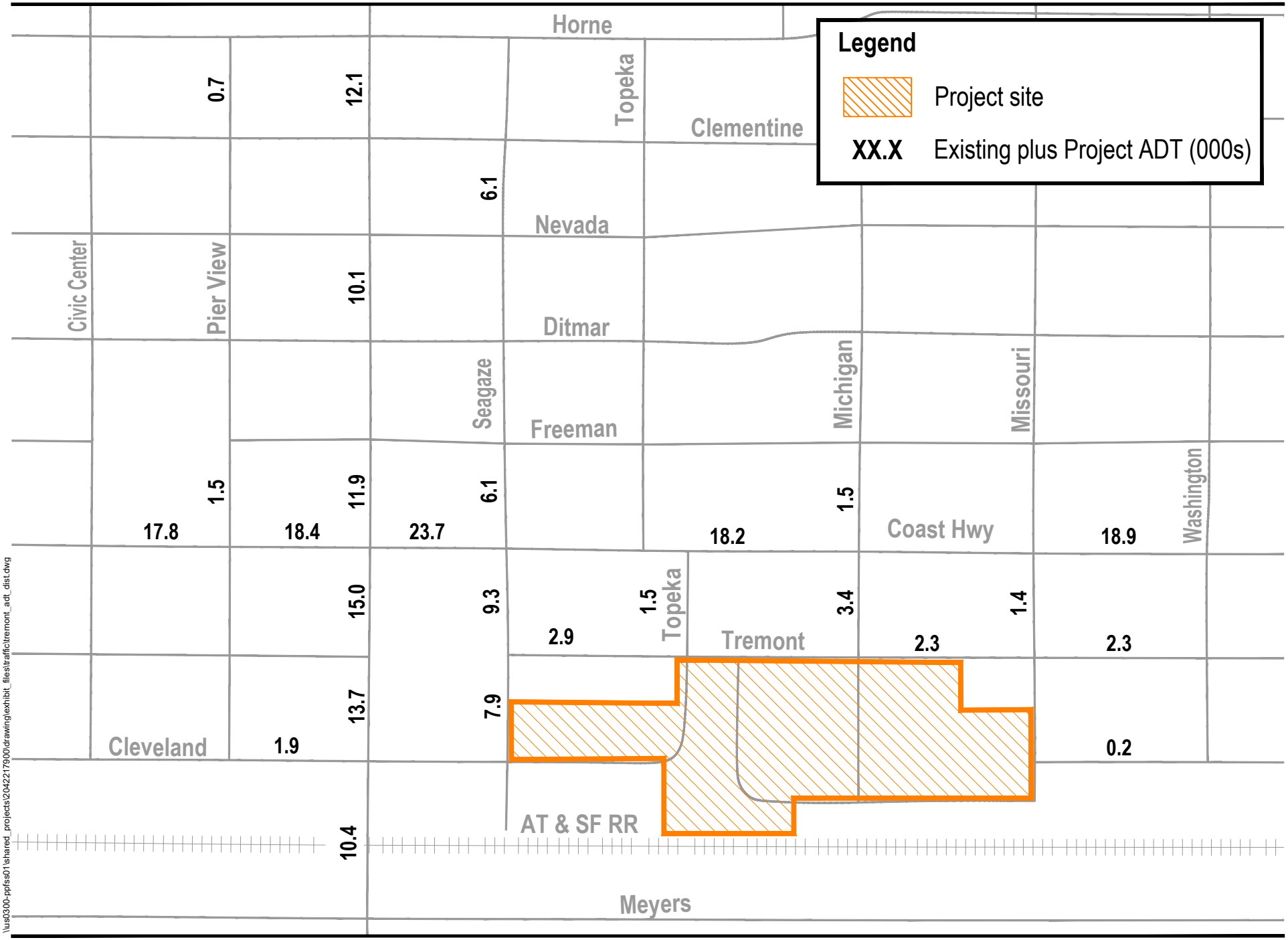


Figure 4-1

Existing Conditions plus Project ADT Volumes

Intersection traffic volume forecasts for existing conditions plus Project for the AM peak hour are illustrated in **Figure 4-2** and **Figure 4-3**, and existing conditions plus Project PM peak hour intersection volumes are illustrated in **Figure 4-4** and **Figure 4-5**.

Table 4-2 summarizes the delay and LOS for existing conditions and for existing plus Project conditions. In certain cases, average intersection delay will decrease when Project trips are added to movements with lower than average delay, thereby reducing the intersection's overall average delay. As shown, under existing conditions each intersection within the study area operates at LOS D or better with the exception of the I-5 Northbound Ramps and Oceanside Boulevard intersection, which operates at LOS E under conditions with and without the Project. The noted increase would exceed the City's allowable change of 2.0 seconds per vehicle and, as such, City guidelines state that improvements should be considered on a case-by-case basis. Since the intersection is part of a state highway, it is under Caltrans jurisdiction. A discussion of potential improvements for this location is provided in Section 4.1.1.

4.1.1 ROADWAY IMPROVEMENTS FOR EXISTING CONDITIONS PLUS PROJECT

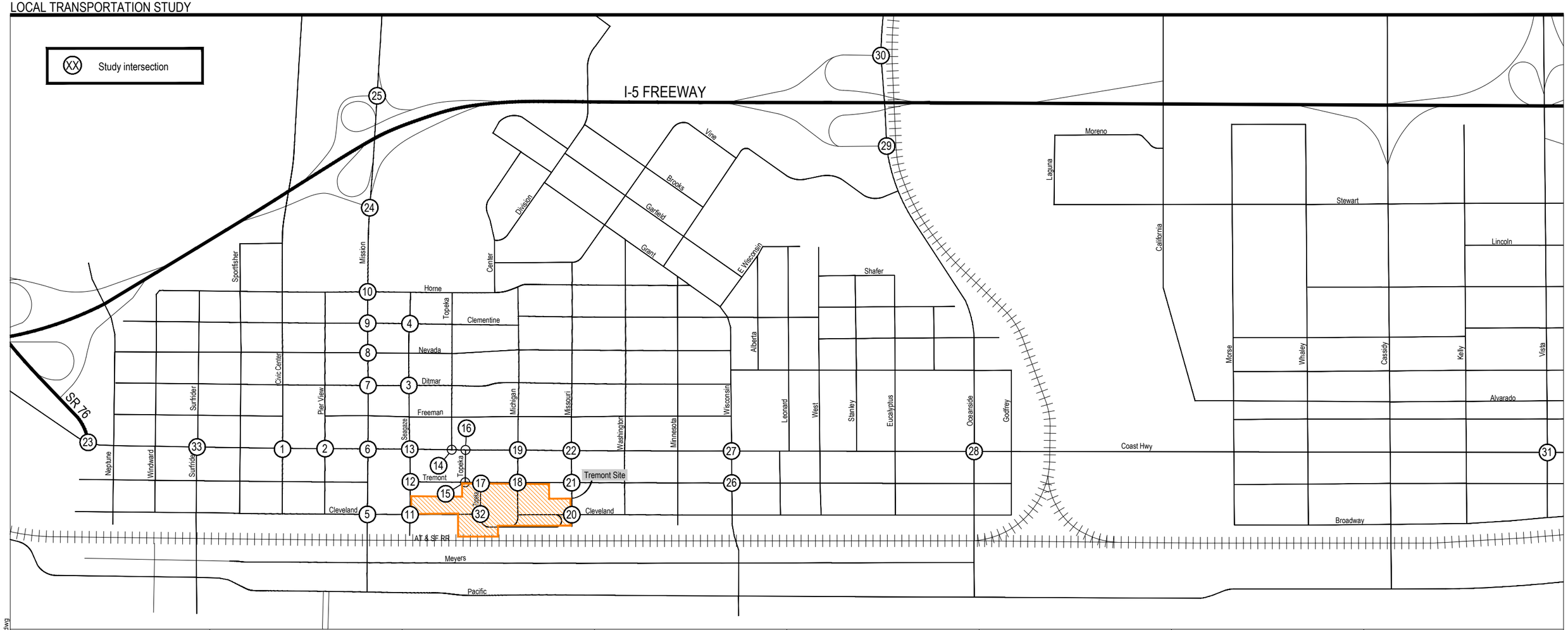
City guidelines state that for locations forecast to exceed the City's target LOS and where a project's effect on a roadway segment increases the V/C ratio by more than 0.02, or where a project's effect at an intersection adds more than 2.0 seconds of average vehicle delay, roadway improvements that are consistent with the General Plan should be considered. Furthermore, since the Project is located in a Transit Priority Area and a Smart Growth Opportunity Area as identified by SANDAG, the guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. As discussed above, five roadway segments and one intersection meet the City's criteria under existing conditions with the Project. The Project is 100% responsible for the cost of improvements identified for existing plus Project conditions for locations that are under the jurisdiction of the City.

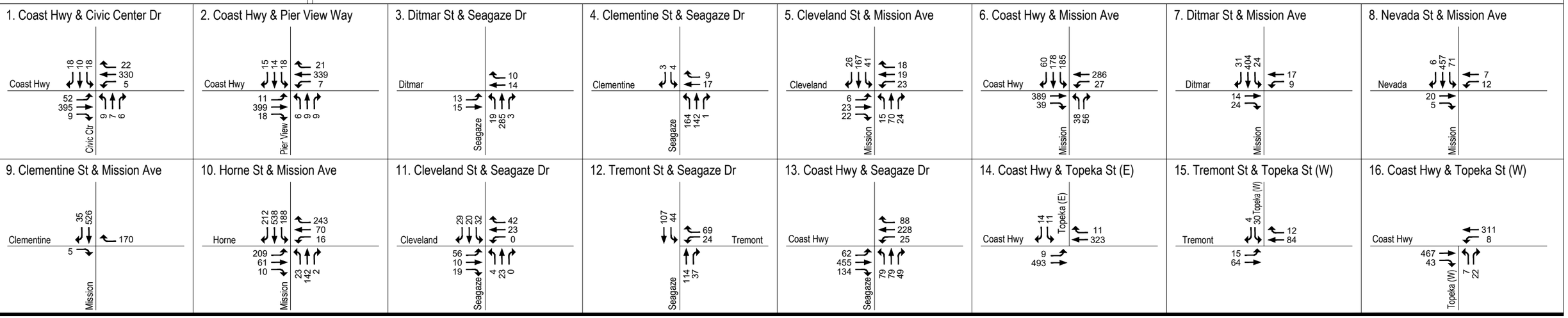
Coast Highway

The ADT volume for the segment of **Coast Highway between Mission Avenue and Seagaze Drive** is forecast to increase by approximately 2,300 ADT due to the Project.

This segment of Coast Highway is classified as a Secondary Collector and is configured with two lanes in each direction (four lanes total). Separate left-turn lanes are provided at the intersections at the ends of the segment, which are controlled by traffic signals. Parking is not allowed and bicyclists share a lane with vehicular traffic.

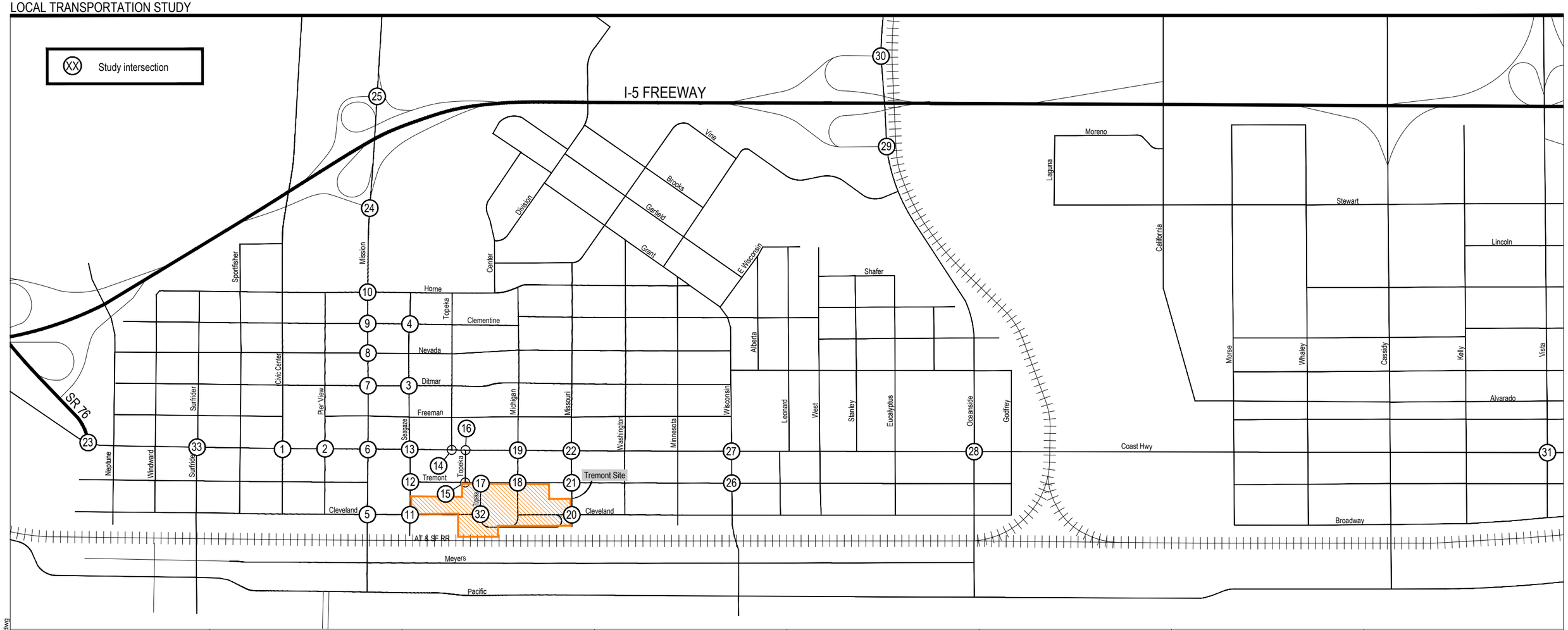
Theoretically, additional roadway capacity could be provided by adding a two-way left-turn lane to the existing roadway, which would increase the roadway capacity by approximately 5,000 ADT (see **Table 1-3**) and exceed the volume of Project traffic added to the roadway. However, this segment of Coast Highway is part of Segment 2 of the planned Coast Highway Improvement Project, which will include a comprehensive reconfiguration of the roadway to implement complete street improvements to include two vehicle lanes, two Class II bike lanes, buffered curbside parking, landscaping, and a raised median. As such, the addition of a two-way left-turn lane would conflict with the City's plans for this roadway.



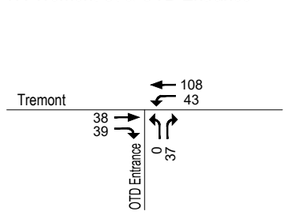


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

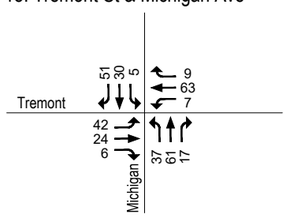
Figure 4-2
Existing conditions plus Project AM Peak Hour Intersection Volumes (1 of 2)



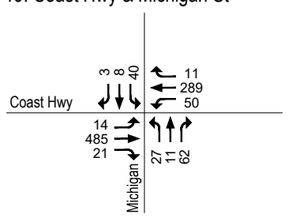
17. Tremont St & OTD Entrance



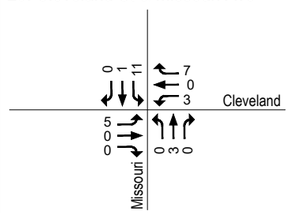
18. Tremont St & Michigan Ave



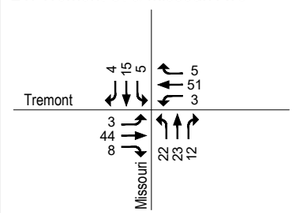
19. Coast Hwy & Michigan St



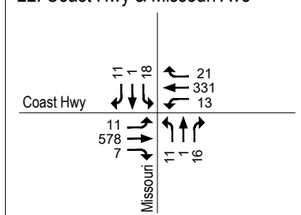
20. Cleveland St & Missouri Ave



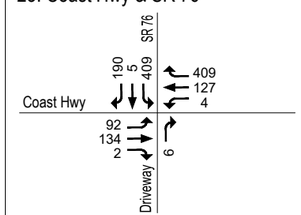
21. Tremont St & Missouri Ave



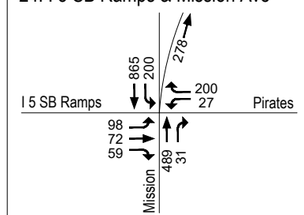
22. Coast Hwy & Missouri Ave



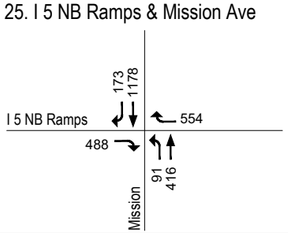
23. Coast Hwy & SR 76



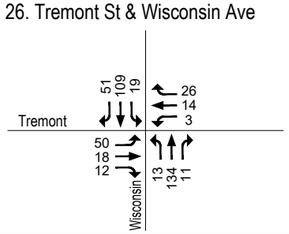
24. I 5 SB Ramps & Mission Ave



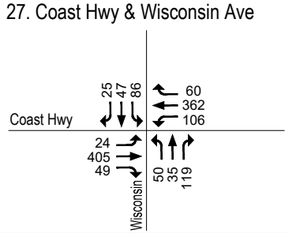
25. I 5 NB Ramps & Mission Ave



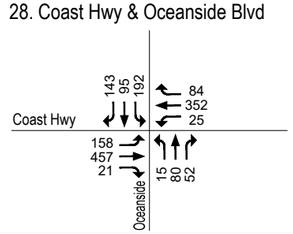
26. Tremont St & Wisconsin Ave



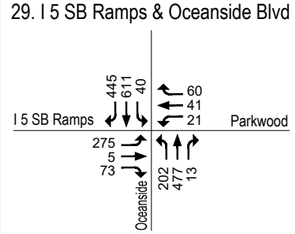
27. Coast Hwy & Wisconsin Ave



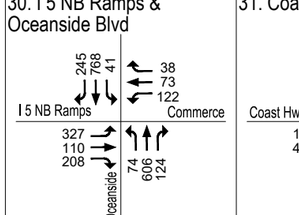
28. Coast Hwy & Oceanside Blvd



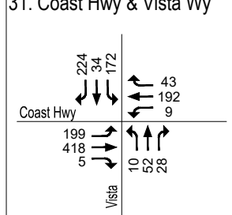
29. I 5 SB Ramps & Oceanside Blvd



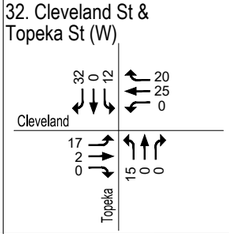
30. I 5 NB Ramps & Oceanside Blvd



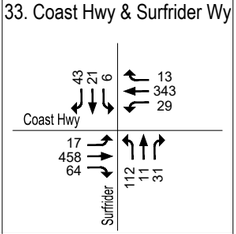
31. Coast Hwy & Vista Wy



32. Cleveland St & Topeka St (W)

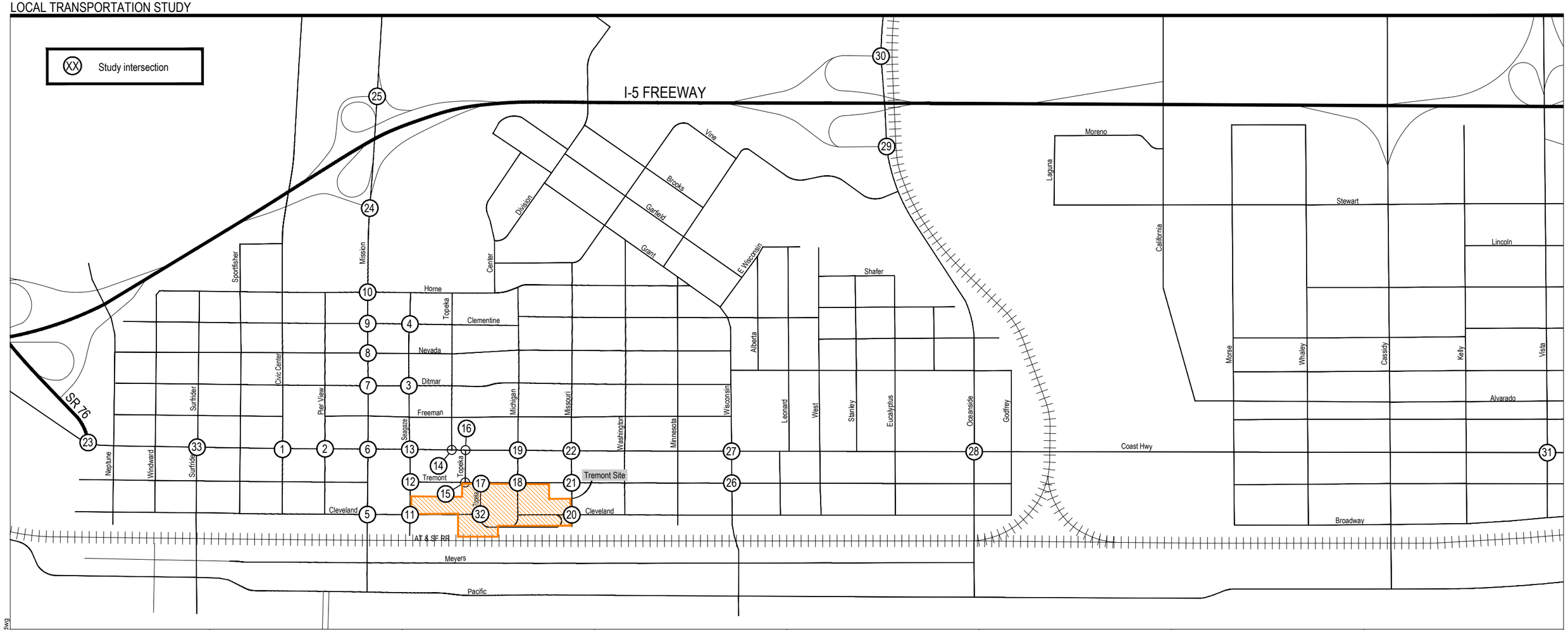


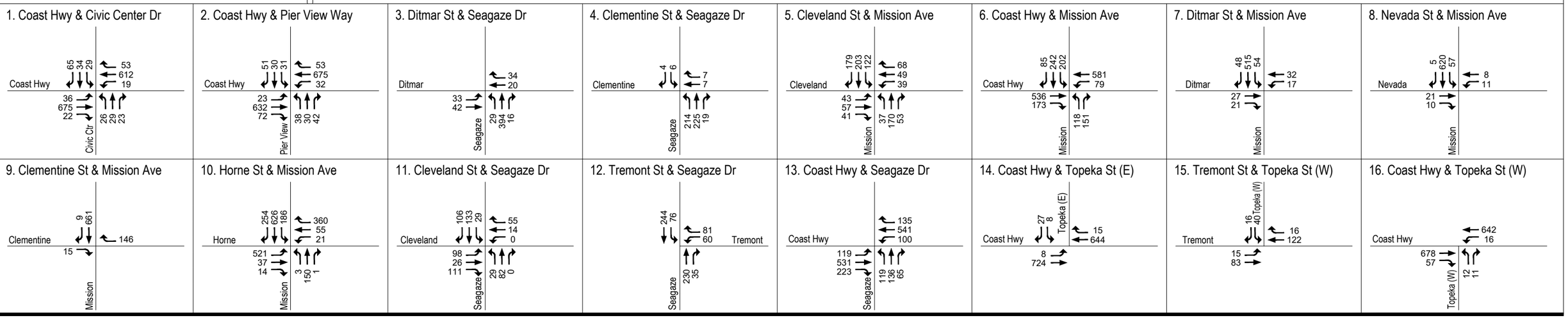
33. Coast Hwy & Surfrider Wy



\\us0300-pptfs01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

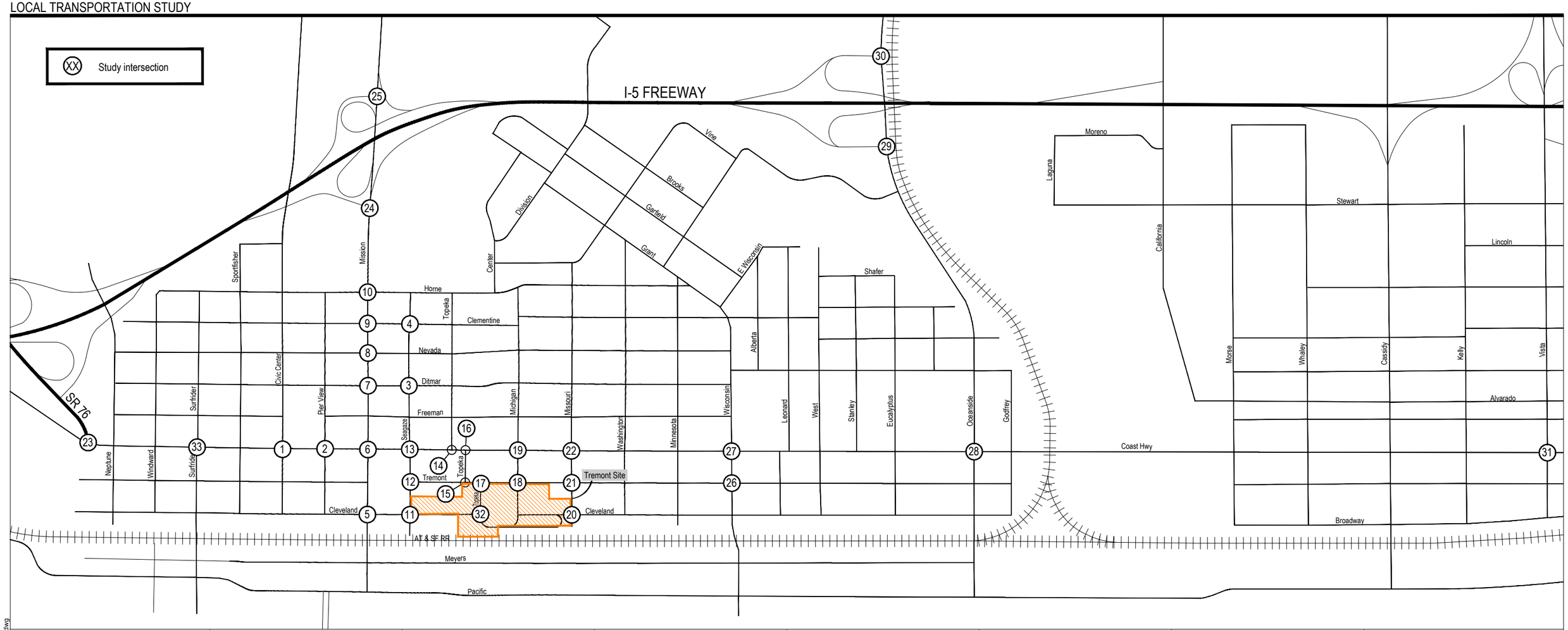
Figure 4-3
Existing conditions plus Project AM Peak Hour Intersection Volumes (2 of 2)

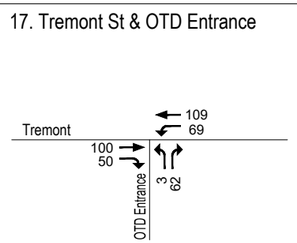


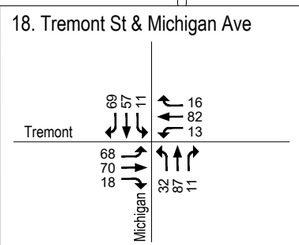


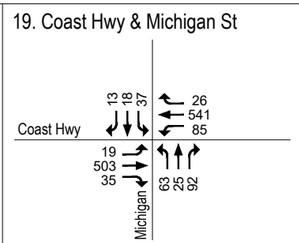
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

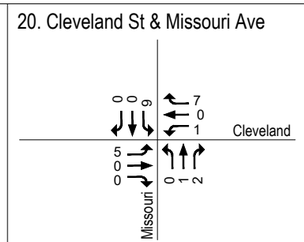
Figure 4-4
Existing conditions plus Project PM Peak Hour Intersection Volumes (1 of 2)

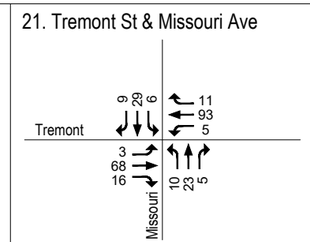


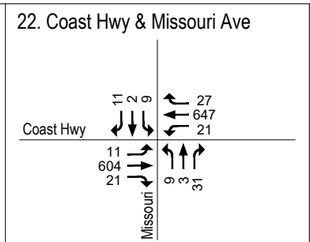


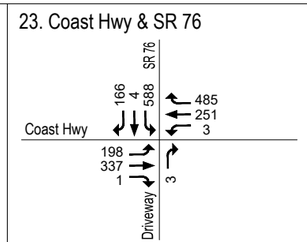


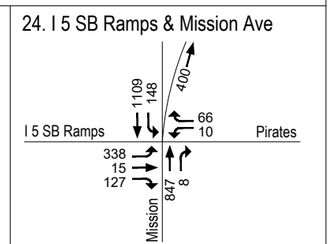


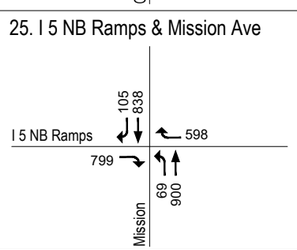


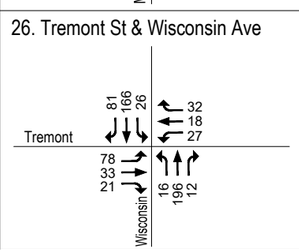


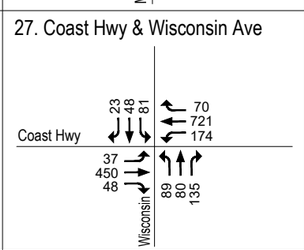


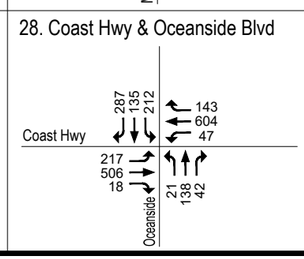


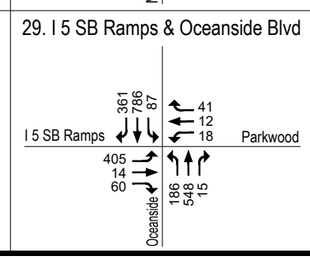


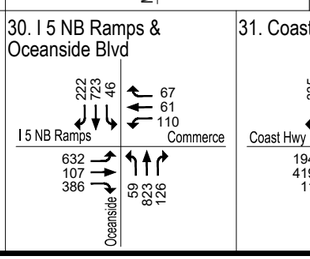


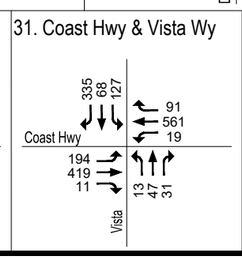


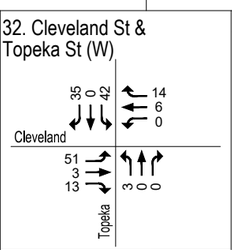


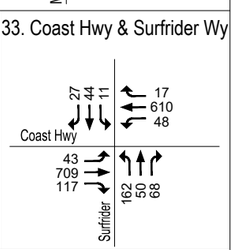












\\us0300-pdfs01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-5
Existing conditions plus Project PM Peak Hour Intersection Volumes (2 of 2)

Table 4-2 Intersection LOS Summary – Existing Conditions Plus Project

Intersection	Traffic Control	Existing				Existing Plus Project				Difference	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Coast Hwy & Civic Center	Signal	4.3	A	6.0	A	4.3	A	5.9	A	0.0	-0.1
2. Coast Hwy & Pier View	Signal	4.3	A	6.0	A	4.4	A	6.1	A	0.1	0.1
3. Ditmar & Seagaze	AWSC	8.4	A	9.2	A	8.6	A	9.6	A	0.2	0.4
4. Clementine & Seagaze	TWSC	9.0	A	9.5	A	9.2	A	9.6	A	0.2	0.1
5. Cleveland & Mission	Signal	7.6	A	10.7	B	8.2	A	10.9	B	0.6	0.2
6. Coast Hwy & Mission	Signal	16.3	B	31.2	C	17.3	B	31.5	C	1.0	0.3
7. Ditmar & Mission	Signal	4.4	A	5.0	A	4.5	A	5.1	A	0.1	0.1
8. Nevada & Mission	TWSC	14.4	B	15.6	C	14.9	B	16.6	C	0.5	1.0
9. Clementine & Mission	TWSC	10.4	B	11.0	B	10.6	B	11.3	B	0.2	0.3
10. Horne & Mission	Signal	35.2	D	47.4	D	35.9	D	53.0	D	0.7	5.6
11. Seagaze & Cleveland	AWSC	7.9	A	10.4	B	7.7	A	10.1	B	-0.2	-0.3
12. Tremont & Seagaze	TWSC	9.4	A	11.8	B	10.2	B	15.3	C	0.8	3.5
13. Coast Hwy & Seagaze	Signal	8.8	A	16.5	B	9.7	A	17.6	B	0.9	1.1
14. Coast Hwy & Topeka (E)	TWSC	11.2	B	13.2	B	11.4	B	13.6	B	0.2	0.4
15. Tremont & Topeka (W)	TWSC	9.0	A	9.0	A	9.8	A	10.2	B	0.8	1.2
16. Coast Hwy & Topeka (W)	TWSC	10.7	B	16.0	C	11.5	B	18.9	C	0.8	2.9
17. Tremont & Topeka[2]	AWSC	1.4	A	1.8	A	7.8	A	9.6	A	6.4	7.8
18. Tremont & Michigan	AWSC	7.2	A	7.4	A	8.0	A	9.0	A	0.8	1.6
19. Coast Hwy & Michigan	Signal	4.8	A	8.5	A	5.7	A	13.4	B	0.9	4.9
20. Cleveland & Missouri	AWSC	7.0	A	6.8	A	7.0	A	6.9	A	0.0	0.1
21. Tremont & Missouri	TWSC	9.2	A	9.5	A	10.2	B	10.5	B	1.0	1.0
22. Coast Hwy & Missouri	TWSC	16.1	C	19.0	C	15.9	C	23.6	C	-0.2	4.6
23. Coast Hwy & SR 76 / Driveway	Signal	11.0	B	13.8	B	11.1	B	14.5	B	0.1	0.7
24. I-5 SB Ramps & Mission Ave	Signal	20.7	C	18.7	B	21.3	C	19.5	B	0.6	0.8
25. I-5 NB Ramps & Mission Ave	n/a[1]	--	--	--	--	--	--	--	--	--	--
26. Tremont & Wisconsin	TWSC	11.2	B	14.0	B	12.3	B	16.5	C	1.1	2.5
27. Coast Hwy & Wisconsin	Signal	10.8	B	12.2	B	11.7	B	13.5	B	0.9	1.3
28. Coast Hwy & Oceanside	Signal	17.9	B	26.1	C	18.6	B	29.9	C	0.7	3.8
29. I-5 SB Ramps & Oceanside	Signal	28.8	C	21.9	C	26.6	C	21.9	C	-2.2	0.0
30. I-5 NB Ramps & Oceanside	Signal	33.7	C	**65.1**	**E**	34.0	C	**67.3**	**E**	0.3	**2.2**
31. Coast Hwy & Vista	Signal	19.0	B	21.5	C	19.3	B	23.1	C	0.3	1.6
32. Cleveland & Topeka[2]	AWSC	--	--	--	--	7.1	A	7.4	A	--	--
33. Coast Hwy & Surfrider	Signal	9.2	A	11.7	B	9.2	A	12.3	B	0.0	0.6

Notes:
TWSC – Two-way stop-control
AWSC – All-way stop-control

LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
AWSC Delay represents the intersection average vehicle delay (total vehicles)
TWSC Delay represents the side street movement with highest average vehicle delay
[1]All intersection movements are free or yield-control
[2]Future intersection with Project
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

A conceptual design plan for adding additional capacity along Coast Highway has been prepared to determine the feasibility and associated cost of such improvements. The segment between Pier View Way and Mission Avenue, a segment adjacent to this location, was selected as representative for the affected area, and a concept plan for adding a two-way left-turn lane is provided in **Appendix G** for cost estimating purposes. The cost of the improvement on this adjacent segment would be similar to that of Coast Highway between Mission Avenue and Seagaze Drive.

With the implementation of the Coast Highway Improvement Project, the affected segment will include a set of complete street improvements consistent with the City's goals for this corridor. While the segment is forecast to exceed LOS D conditions, the finding is consistent with the traffic study prepared for the Coast Highway Improvement Project, which indicated certain portions of the corridor would exceed LOS D with implementation of the complete street improvements.

Since this segment of Coast Highway is within a Transit Priority Area and a Smart Growth Opportunity Area, City guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. To address the Project's contribution of traffic added to this location, it is recommended that the Project pay the cost of restriping the roadway to provide a two-way left-turn lane, the cost of which would be applied to other multi-model improvements in this area, such as the Coast Highway Improvement Project.

Tremont Street

As noted above, the following three segments of Tremont Street are shown to be affected by the Project:

- **Tremont Street between Seagaze Drive and Topeka Street**
- **Tremont Street between Michigan Avenue and Missouri Avenue**
- **Tremont Street between Missouri Avenue and Washington Avenue**

Each of the above segments are either along the Project frontage or represent the segment immediately adjacent to the Project site. Existing ADT volumes along these segments of Tremont Street range from approximately 1,000 to 1,500 ADT. The Project is forecast to add an additional 1,100 to 1,400 ADT to these segments, resulting in total ADT volumes ranging from approximately 2,300 to 2,900 ADT. These segments of Tremont Street are local streets not in the City's Circulation Element. The City generally strives to maintain LOS C conditions for local streets, which equates to approximately 2,200 ADT. As such, the forecast traffic volumes exceed the LOS C threshold by approximately 100 to 700 ADT.

Since these segments of Tremont Street are within a Transit Priority Area and a Smart Growth Opportunity Area, City guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. The Project site is expected to experience a high number of pedestrians due to its proximity to downtown and major transit services on-site. To address potential vehicle/pedestrian

conflicts, high visibility crosswalks (e.g., continental striping) and all-way stop control[1] is recommended for the key intersections that provide access to the Project site, such as the reconfigured Tremont Street/Topeka Street intersection and the Tremont Street/Michigan Avenue. Therefore, it is recommended that the Project enhance the local street character of the effected segments of Tremont Street by constructing enhanced high-visibility crosswalks and provide all-way-stop control at the reconfigured Topeka Street intersection and at the Michigan Avenue intersection. The effect of the all-way stop control and the high-visibility crosswalks will enhance pedestrian circulation and will slow vehicle traffic through the affected segments.

A conceptual design plan for improvements along Tremont Street between Seagaze Drive and Topeka Street is provided in **Appendix G** for cost estimating purposes. The cost of the improvement on this segment would be similar to that of each of the other two affected Tremont Street segments and, therefore, is representative of each affected Tremont Street segment.

Michigan Avenue

The ADT volume for the segment of **Michigan Avenue between Coast Highway and Tremont Street** is forecast to increase by approximately 1,500 ADT due to the Project, resulting in a total volume of approximately 3,400 ADT. Michigan Avenue is a local street not in the City's Circulation Element.

Since this segment of Michigan Avenue is within a Transit Priority Area and a Smart Growth Opportunity Area, it is recommended that the Project enhance the local street character of this street by constructing enhanced high-visibility crosswalks and provide all-way-stop control at the Tremont Street intersection as discussed above. The effect of the all-way stop control and the high-visibility crosswalks will enhance pedestrian circulation and will slow vehicle traffic through the affected segments. A conceptual design plan for improvements along Tremont Street, consistent with those recommended for the Tremont Street/Michigan Avenue intersection, is provided in **Appendix G** for cost estimating purposes.

Intersection Improvements

I-5 Northbound Ramps and Oceanside Boulevard – This intersection is part of the state highway system and is under the jurisdiction of Caltrans. As such, Caltrans would be responsible for determining the specific type of any improvements at this location. To reduce vehicle delay and improve LOS, a potential modification to the existing traffic signal could consist of adding right-turn overlap phasing for right-turns from the off-ramp to westbound Oceanside Boulevard. With the potential improvement, average vehicle delay with the Project would reduce to 55.0 seconds per vehicle during the critical PM peak hour, which is less than conditions without the Project (65.1 seconds per vehicle).

[1] Per CA MUTCD Chapter 2B, Section 2B.07 Option B: Multi-way stop control is applicable based on "(t)he need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes".

4.2 Near-Term Cumulative Analysis

4.2.1 EXISTING CONDITIONS PLUS NEAR-TERM CUMULATIVE PROJECTS

This section presents an evaluation of the Project in the near-term based on conditions that account for other projects that are reasonably expected to occur within the next few years. **Table 4-3** lists the near-term cumulative projects within the Project study area that were planned or under construction at the time traffic counts were conducted for this analysis. The location of the near-term cumulative projects is shown in **Figure 4-6** and trip generation estimates are provided in **Appendix E**.

In addition to the specific projects noted above, a background growth rate has been derived to account for additional unspecified cumulative development outside the immediate Project area. Based on traffic model forecast data for long-range buildout conditions (see Section 4.3 for discussion of year-2050 buildout conditions), an annual ambient growth rate of approximately 1% per year was estimated for near-term conditions. For analysis, a year-2030 horizon is assumed for near-term conditions. To conservatively approximate near-term cumulative conditions for the year-2030, an 8% growth factor was applied to the 2022 and 2023 traffic counts and traffic volume estimates for the development projects listed below were incrementally added to the factored counts.

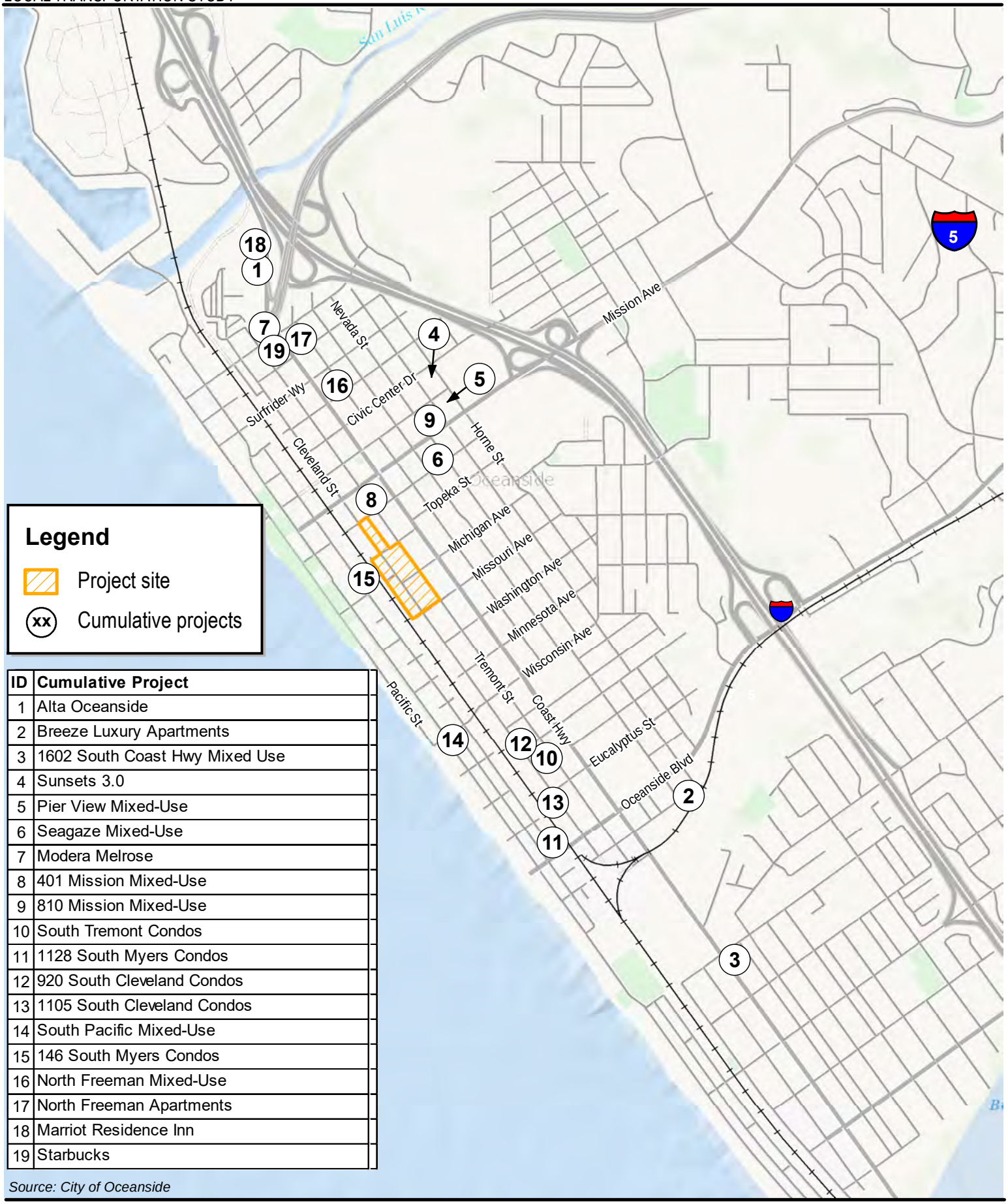
Forecasts of ADT volumes for existing conditions plus near-term cumulative projects are listed in **Table 4-4** and ADT volumes are illustrated in **Figure 4-7**. As shown, each road segment operates at the target LOS or better, except for the following segments:

- Mission Avenue between Freeman Street and Coast Highway
- Mission Avenue between Coast Highway and Tremont Street
- Mission Avenue between Tremont Street and Cleveland Avenue
- Coast Highway between Civic Center Drive and Pier View Way
- Coast Highway between Pier View Way and Mission Avenue
- Coast Highway between Mission Avenue and Seagaze Drive
- Coast Highway between Topeka Street and Michigan Avenue
- Coast Highway between Missouri Avenue and Washington Avenue
- Pier View Lane between Clementine Street and Ditmar Street
- Pier View Lane between Ditmar Street and Coast Highway

Intersection traffic volume forecasts for the AM peak hour for existing conditions plus near-term cumulative projects are illustrated in **Figure 4-8** and **Figure 4-9**, and PM peak hour intersection volumes for existing conditions plus near-term cumulative projects are illustrated in **Figure 4-10** and **Figure 4-11**. LOS for each intersection is presented in the following section.

Table 4-3 Near-Term Cumulative Projects

Cumulative Project	Location	Project Description
Alta Oceanside	1001 N. Coast Hwy	Mixed-use development with 309 apartments and commercial space on 5.31 acres
Breeze Luxury Apartments	Nevada Street & Oceanside Boulevard	6 story 146-unit apartment building on 2.67 acres
1602 South Coast Hwy Mixed Use	1602 S. Coast Hwy	Four story mixed-use development with 54 condos and 3,244 SF commercial space on 0.91 acres
Sunsets 3.0	Horne Street & Pier View Way	Mixed-use development with 180 apartments and 5,000 SF commercial space on 0.70 acres
Pier View Mixed-Use	901 Pier View Way	Mixed-use development with 64 units and 2,474 SF of commercial space on a 13,249 SF site
Seagaze Mixed-Use	712 Seagaze Way	Mixed-use development with 115 apartments and 64 hotel rooms on 0.36 acres
Modera Melrose	815 N. Coast Hwy	Mixed-use development with 360 apartments and 62-room hotel with 5,000 SF of lobby/commercial space on 1.72 acres
401 Mission Mixed-Use	401 Mission Avenue	Mixed-use redevelopment of Regal Cinema site with 332 units and commercial space
810 Mission Mixed-Use	810 Mission Avenue	Mixed-use development with 206 units (5 units designated as live work) along Mission Ave on 1.42 acres
South Tremont Condos	1011 S. Tremont Street	20 condominium townhomes on 0.57 acres
1128 South Myers Condos	1128 S. Myers Street	6 condominiums on a 6,746 SF site
920 South Cleveland Condos	920 S. Cleveland Street	3 condominiums on a 5,000 SF site
1105 South Cleveland Condos	1105 S. Cleveland Street	14 condominiums on 0.41 acres
South Pacific Mixed-Use	802 S. Pacific Street	Mixed-use development with 10 condominiums, 3 hotel units, and 1,034 SF ground floor commercial on a 10,000 SF site
146 South Myers Condos	146 S. Myers Street	4 condominiums on a 4,500 SF site
North Freeman Mixed-Use	513 N. Freeman Street	5-unit multi-family development on a 7,500 SF lot
North Freeman Apartments	701-713 N. Freeman Street	4-story apartment building with 24 units on a 20,000 SF site
Marriot Residence Inn	1103 N. Coast Hwy	117-unit hotel with a 1,928 SF event space and 3,531 SF restaurant on 2.5 acres
Starbucks	801 N. Coast Hwy	A 1,068 SF drive-thru coffee shop on a 10,987 SF site
Source: City of Oceanside See **Figure 4-6** for locations of the above near-term cumulative projects		



ID	Cumulative Project
1	Alta Oceanside
2	Breeze Luxury Apartments
3	1602 South Coast Hwy Mixed Use
4	Sunsets 3.0
5	Pier View Mixed-Use
6	Seagaze Mixed-Use
7	Modera Melrose
8	401 Mission Mixed-Use
9	810 Mission Mixed-Use
10	South Tremont Condos
11	1128 South Myers Condos
12	920 South Cleveland Condos
13	1105 South Cleveland Condos
14	South Pacific Mixed-Use
15	146 South Myers Condos
16	North Freeman Mixed-Use
17	North Freeman Apartments
18	Marriot Residence Inn
19	Starbucks

Source: City of Oceanside

Figure 4-6
Near-Term Cumulative Project Locations

Table 4-4 Roadway Segment Volume Summary – Existing Conditions Plus Near-Term Cumulative Projects

Segment	Classification	Lanes	Capacity[1]	ADT	LOS[2]
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	14,200	C
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	11,900	D
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	**14,400**	**E**
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**16,700**	**F**
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**15,000**	**E**
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	11,900	B
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	6,300	B
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	7,200	C
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	9,200	C
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	7,900	D
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	**23,200**	**E**
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	**23,100**	**E**
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	**28,400**	**F**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	**24,100**	**E**
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	**23,300**	**E**
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,700	≤C
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,200	≤C
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,400	≤C
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,100	≤C
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,600	≤C
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	2,100	≤C
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	1,100	≤C
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	2,100	A
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	200	≤C
25. Pier View btwn. Horne & Clementine	Local	2	2,200	1,900	≤C
26. Pier View btwn. Clementine & Ditmar	Local	2	2,200	**2,800**	**>C**
27. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	**2,600**	**>C**

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

[2]See **Table 1-3** for LOS thresholds.

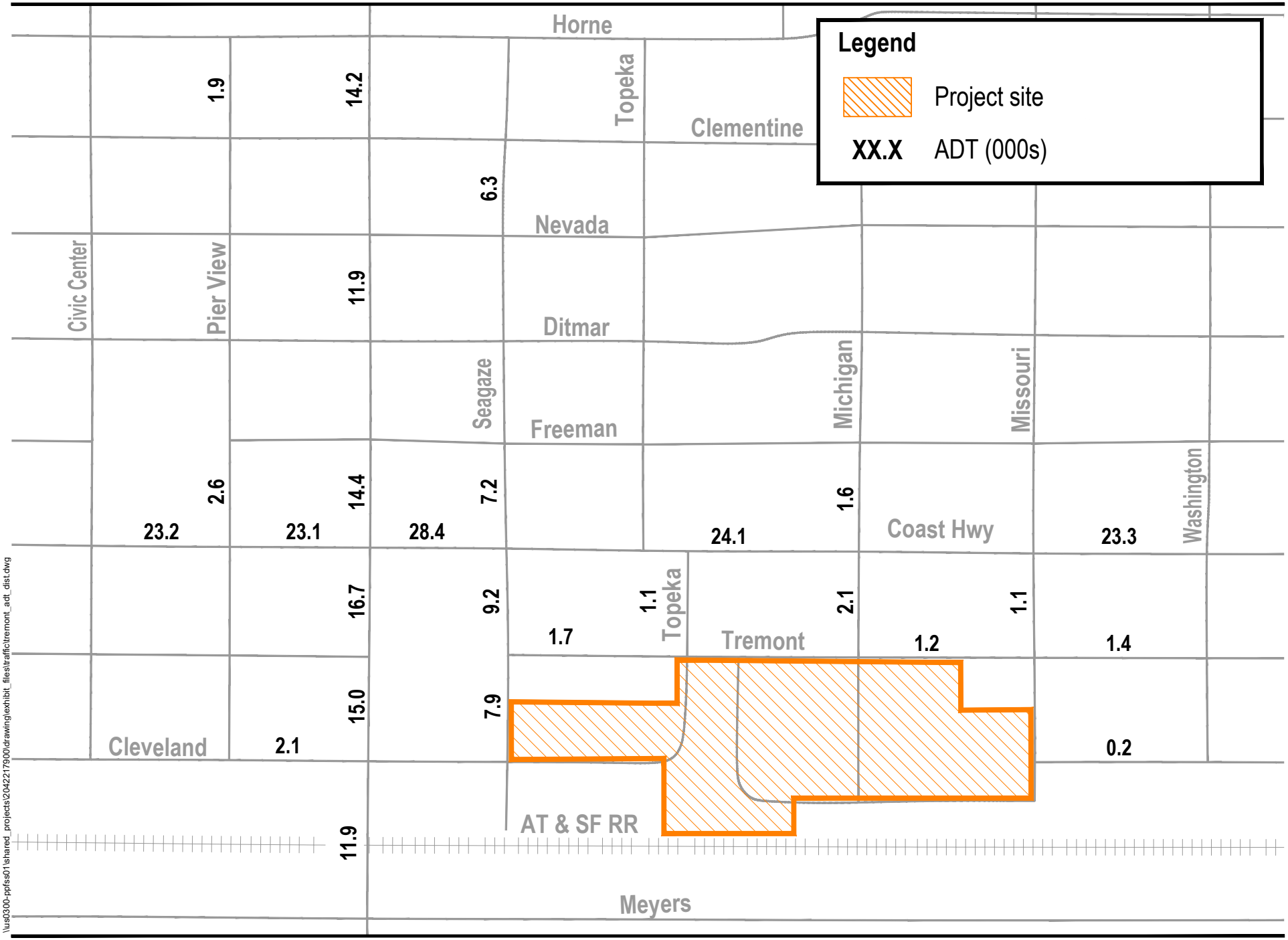
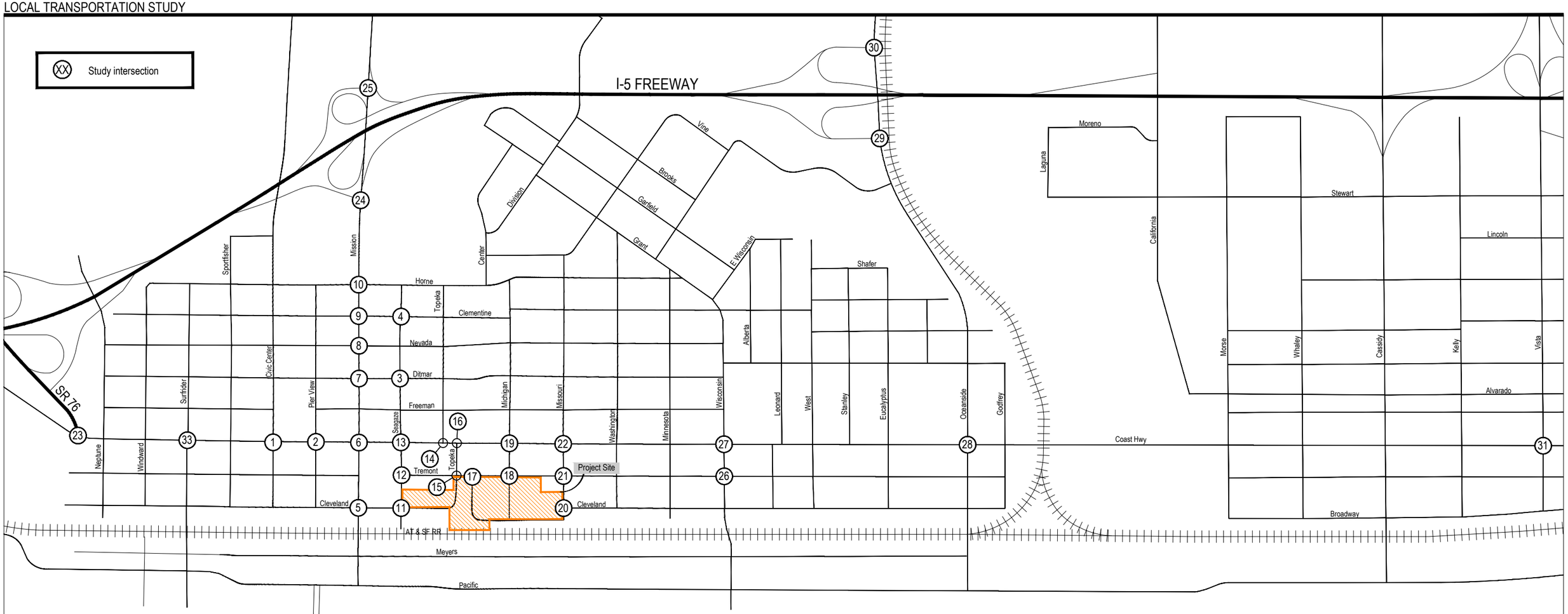
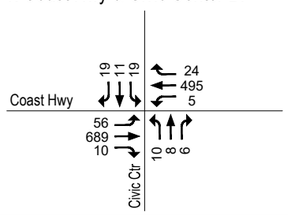


Figure 4-7

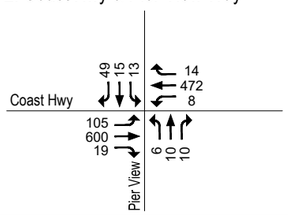
Existing Conditions plus Near-Term Cumulative Projects ADT
Volumes 4.18



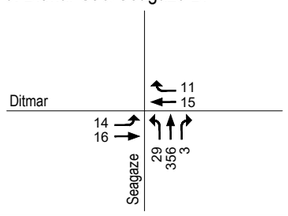
1. Coast Hwy & Civic Center Dr



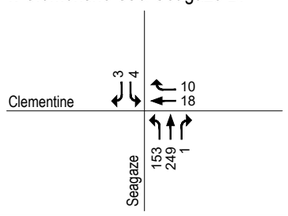
2. Coast Hwy & Pier View Way



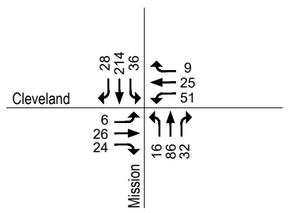
3. Ditmar St & Seagaze Dr



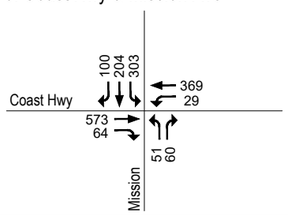
4. Clementine St & Seagaze Dr



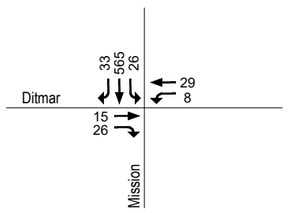
5. Cleveland St & Mission Ave



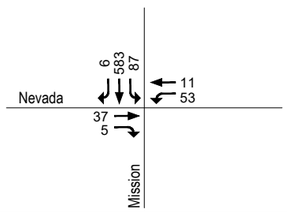
6. Coast Hwy & Mission Ave



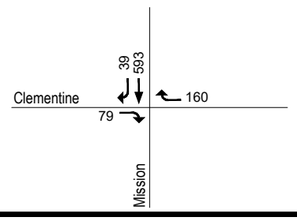
7. Ditmar St & Mission Ave



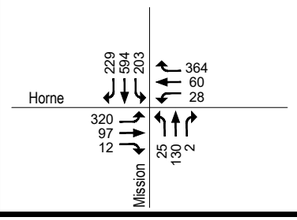
8. Nevada St & Mission Ave



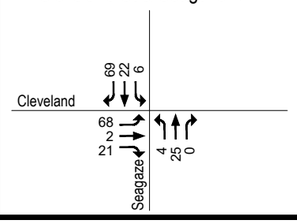
9. Clementine St & Mission Ave



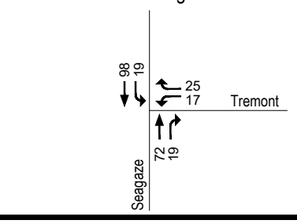
10. Horne St & Mission Ave



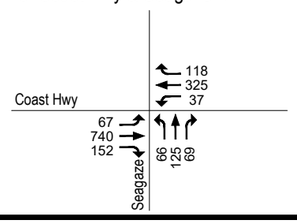
11. Cleveland St & Seagaze Dr



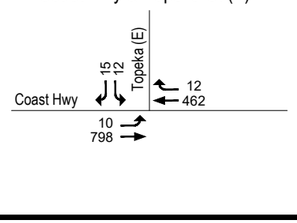
12. Tremont St & Seagaze Dr



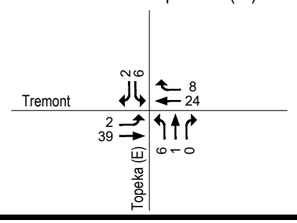
13. Coast Hwy & Seagaze Dr



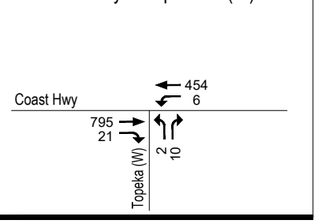
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)



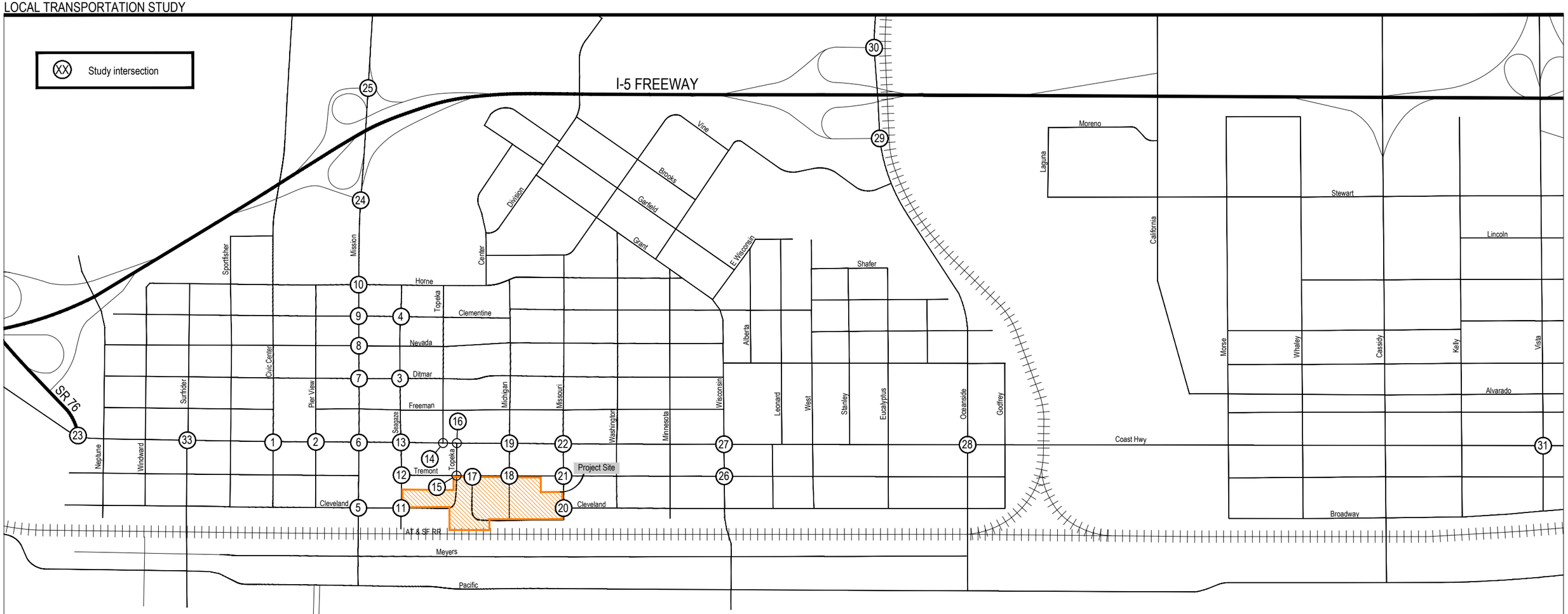
16. Coast Hwy & Topeka St (W)

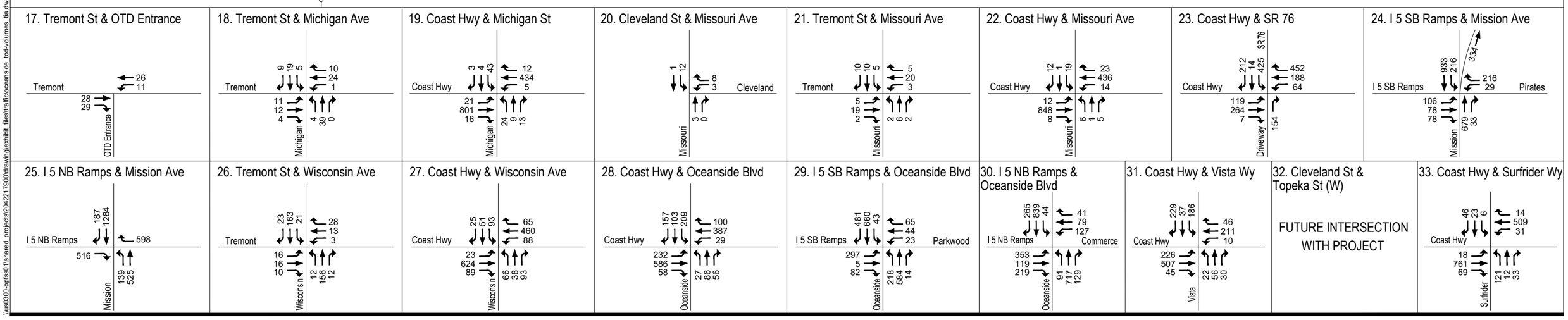


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-8

Existing Conditions plus Near-Term Cumulative Projects AM Peak Hour Intersection Volumes (1 of 2)

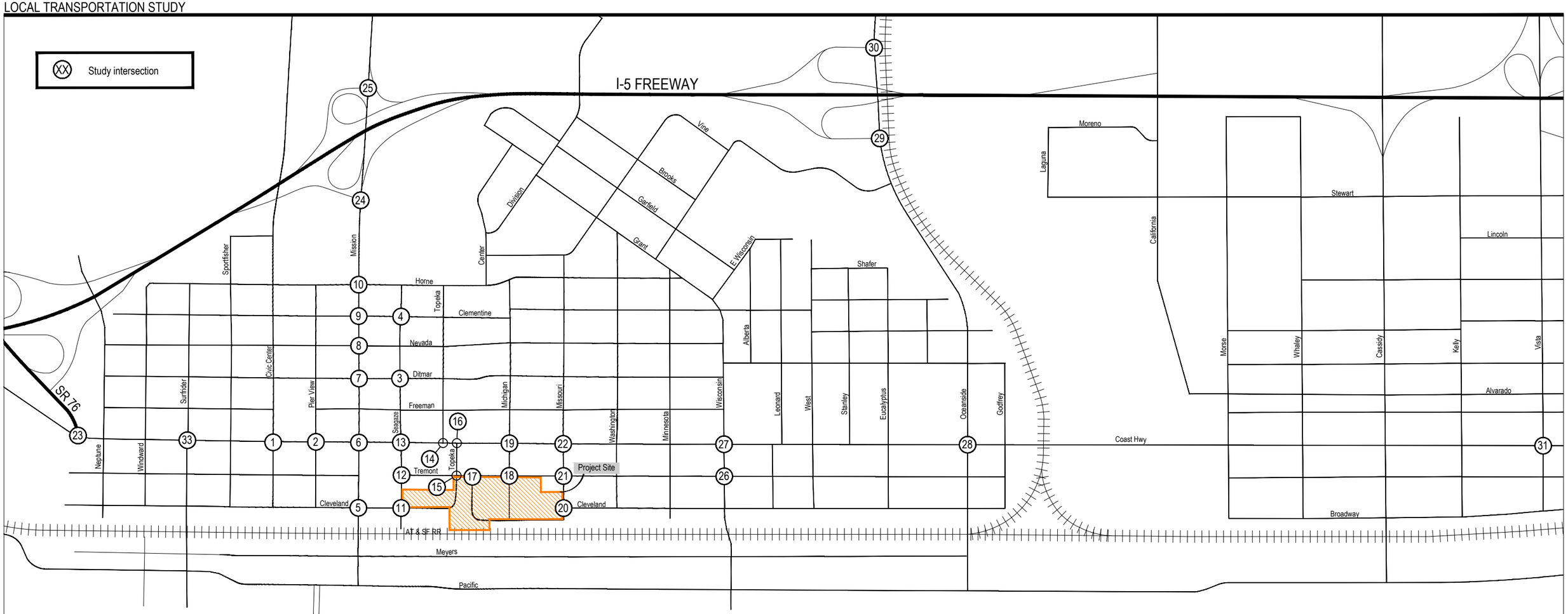




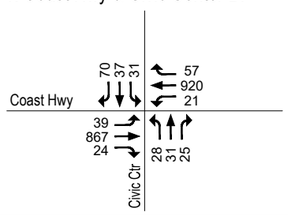
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-9

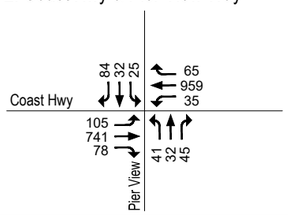
Existing Conditions plus Near-Term Cumulative Projects AM Peak Hour Intersection Volumes (2 of 2)



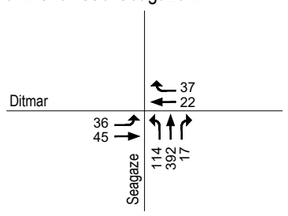
1. Coast Hwy & Civic Center Dr



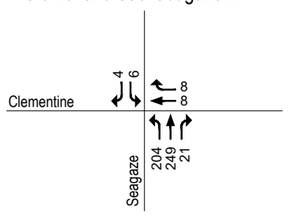
2. Coast Hwy & Pier View Way



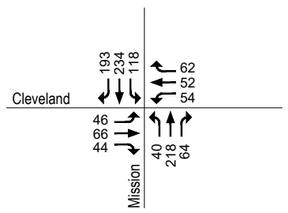
3. Ditmar St & Seagaze Dr



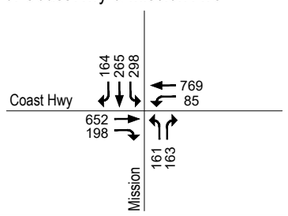
4. Clementine St & Seagaze Dr



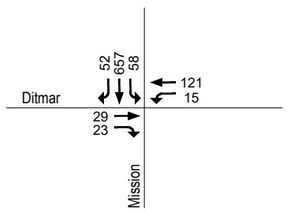
5. Cleveland St & Mission Ave



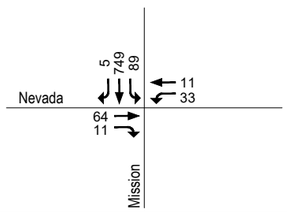
6. Coast Hwy & Mission Ave



7. Ditmar St & Mission Ave



8. Nevada St & Mission Ave



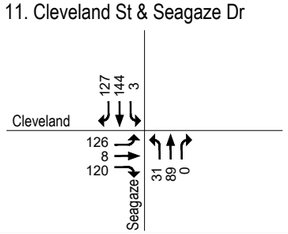
9. Clementine St & Mission Ave



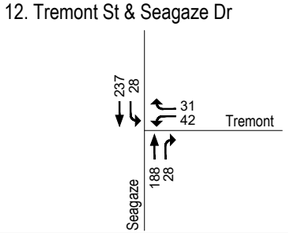
10. Horne St & Mission Ave



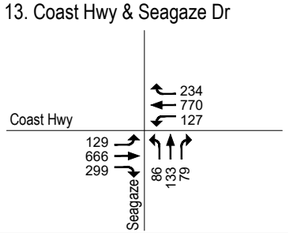
11. Cleveland St & Seagaze Dr



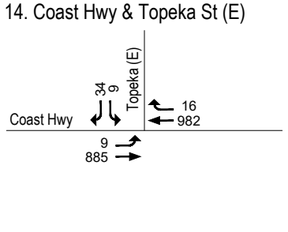
12. Tremont St & Seagaze Dr



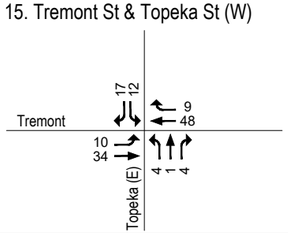
13. Coast Hwy & Seagaze Dr



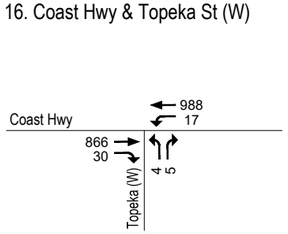
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)



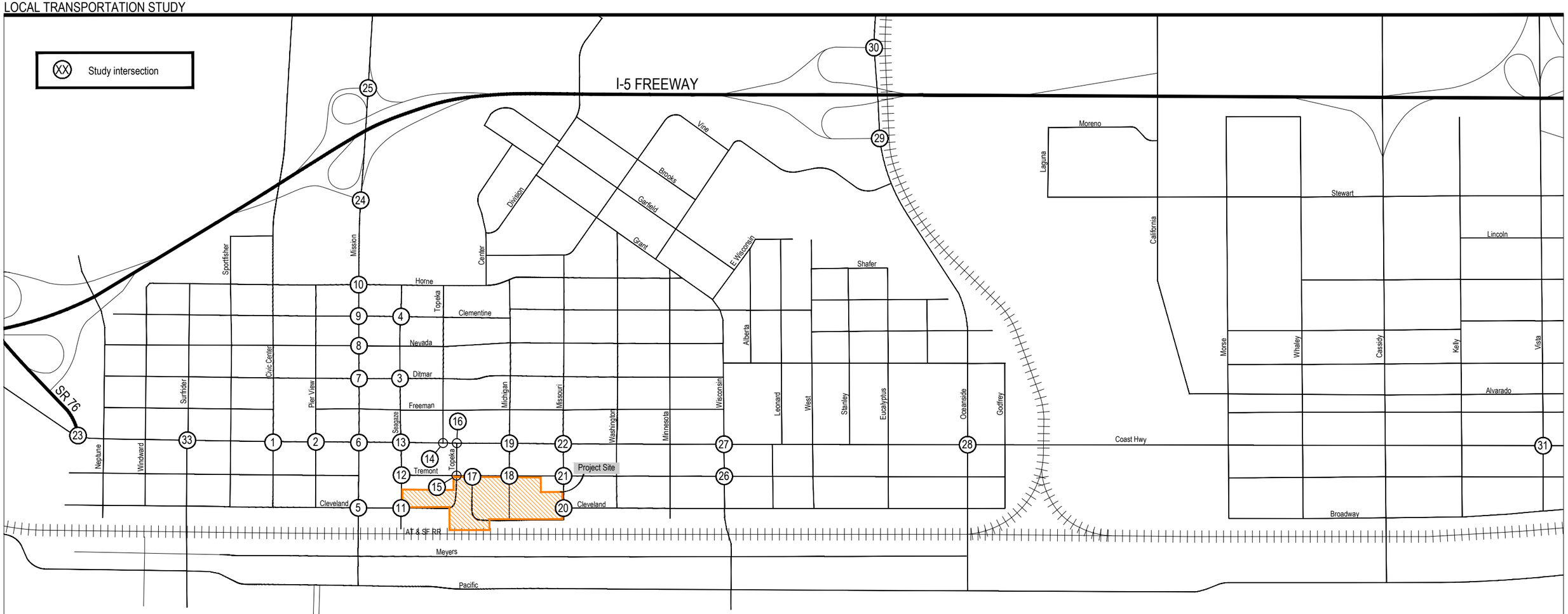
16. Coast Hwy & Topeka St (W)

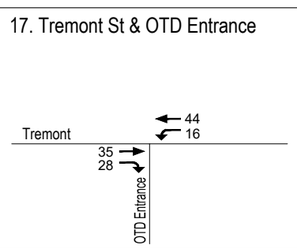


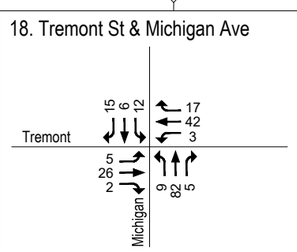
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

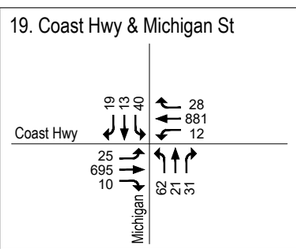
Figure 4-10

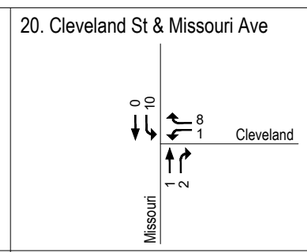
Existing Conditions plus Near-Term Cumulative Projects PM Peak Hour Intersection Volumes (1 of 2)

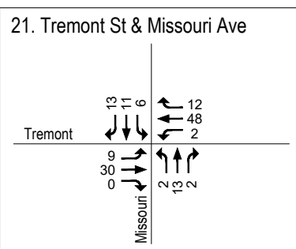


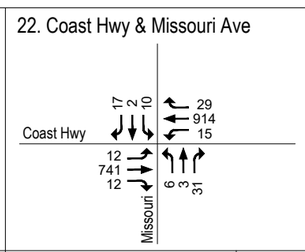


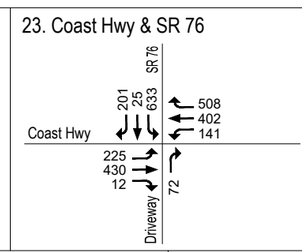


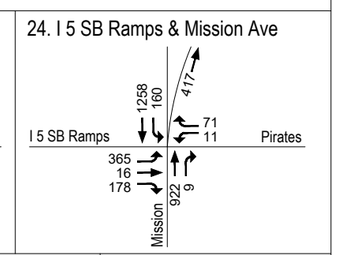


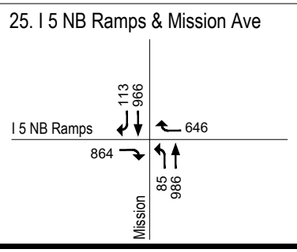


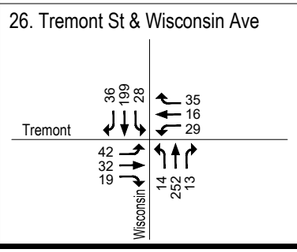


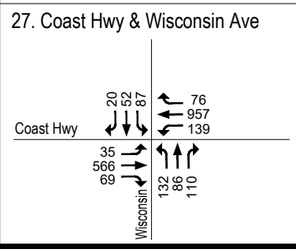


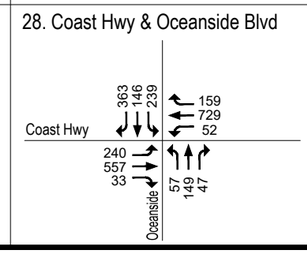


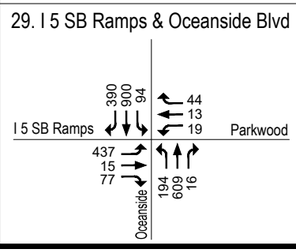


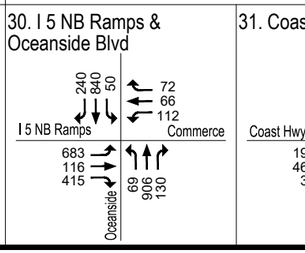


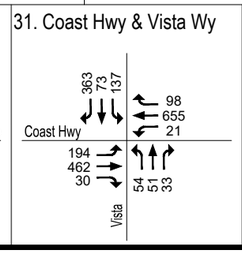






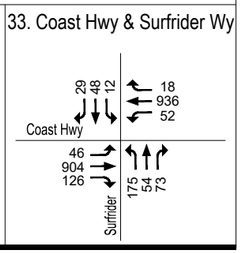






32. Cleveland St & Topeka St (W)

FUTURE INTERSECTION WITH PROJECT



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-11

Existing Conditions plus Near-Term Cumulative Projects PM Peak Hour Intersection Volumes (2 of 2)

4.2.2 EXISTING CONDITIONS PLUS NEAR-TERM CUMULATIVE PROJECTS PLUS PROJECT

Existing conditions plus near-term cumulative projects plus Project traffic volumes were obtained by adding the Project-generated trips to the existing conditions plus near-term cumulative projects volumes presented in Section 4.2.1.

Table 4-5 summarizes the roadway ADT and V/C for existing conditions plus near-term cumulative projects for conditions with and without the Project. ADT Volumes for existing conditions plus near-term cumulative projects are shown in **Figure 4-12**.

With the addition of Project generated traffic, each roadway segment operates at the same performance level, except for the following segments where the Project exceeds the performance threshold (i.e., increases the V/C ratio by 0.02 or more) and the segment exceeds the target performance standard:

- Mission Avenue between Freeman Street and Coast Highway
- Coast Highway between Civic Center Drive and Pier View Way
- Coast Highway between Pier View Way and Mission Avenue
- Coast Highway between Mission Avenue and Seagaze Drive
- Coast Highway between Missouri Avenue and Washington Avenue
- Tremont Street between Seagaze Drive and Topeka Street
- Tremont Street between Michigan Avenue and Missouri Avenue
- Tremont Street between Missouri Avenue and Washington Avenue
- Michigan between Coast Highway and Tremont Street
- Pier View Way between Clementine Street and Ditmar Street
- Pier View Way between Ditmar Street and Coast Highway

City guidelines state that improvements should be considered on a case-by-case basis when roadways exceed the established performance standards. Potential roadway modifications for the above locations, and the Project's recommended contribution, are discussed in Section 4.2.3.

Intersection traffic volume forecasts for the AM peak hour for existing conditions plus near-term cumulative projects plus Project are illustrated in **Figure 4-13** and **Figure 4-14**, and PM peak hour intersection volumes for existing conditions plus near-term cumulative projects plus Project are illustrated in **Figure 4-15** and **Figure 4-16**.

Table 4-5 Roadway Segment Volume Summary – Existing Conditions Plus Near-Term Cumulative Projects – with and without the Project

Segment	Classification	Lanes	Capacity[1]	Existing plus Near-Term Cumulative			Existing plus Near-Term Cumulative plus Project			Increase
				ADT	LOS	V/C	ADT	LOS	V/C	
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	14,200	C	0.57	15,000	C	0.60	0.03
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	11,900	D	0.79	12,500	D	0.83	0.04
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	**14,400**	**E**	**0.96**	**15,000**	**E**	**1.00**	**0.04**
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**16,700**	**F**	**1.11**	**16,700**	**F**	**1.11**	0.00
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**15,000**	**E**	**1.00**	**15,300**	**F**	**1.02**	0.02
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	11,900	B	0.48	12,100	B	0.48	0.00
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	6,300	B	0.42	6,800	B	0.45	0.03
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	7,200	C	0.48	7,800	C	0.52	0.04
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	9,200	C	0.61	11,300	D	0.75	0.14
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	7,900	D	0.79	8,900	D	0.89	0.10
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	**23,200**	**E**	**0.93**	**24,600**	**E**	**0.98**	**0.05**
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	**23,100**	**E**	**0.92**	**24,800**	**E**	**0.99**	**0.07**
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	**28,400**	**F**	**1.14**	**30,700**	**F**	**1.23**	**0.09**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	**24,100**	**E**	**0.96**	**24,500**	**E**	**0.98**	0.02
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	**23,300**	**E**	**0.93**	**25,000**	**E**	**1.00**	**0.07**
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,700	≤C	0.77	**3,100**	**>C**	**1.41**	**0.64**
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,200	≤C	0.55	**2,500**	**>C**	**1.14**	**0.59**
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,400	≤C	0.64	**2,500**	**>C**	**1.14**	**0.50**
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,100	≤C	0.50	1,600	≤C	0.73	0.23
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,600	≤C	0.73	1,700	≤C	0.77	0.04
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	2,100	≤C	0.95	**3,600**	**>C**	**1.64**	**0.69**
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	1,100	≤C	0.50	1,600	≤C	0.73	0.23
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	2,100	A	0.14	2,200	A	0.15	0.01

24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	200	≤C	0.09	200	≤C	0.09	0.00
25. Pier View btwn. Horne & Clementine	Local	2	2,200	1,900	≤C	0.86	2,100	≤C	0.95	0.09
26. Pier View btwn. Clementine & Ditmar	Local	2	2,200	**2,800**	**>C**	**1.27**	**3,000**	**>C**	**1.36**	**0.09**
27. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	**2,600**	**>C**	**1.18**	**2,900**	**>C**	**1.32**	**0.14**

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

Shaded cells indicate roadways that exceed LOS D (or local streets not in the Circulation Element that exceed LOS C) and where the Project increases the V/C by more than 0.02.

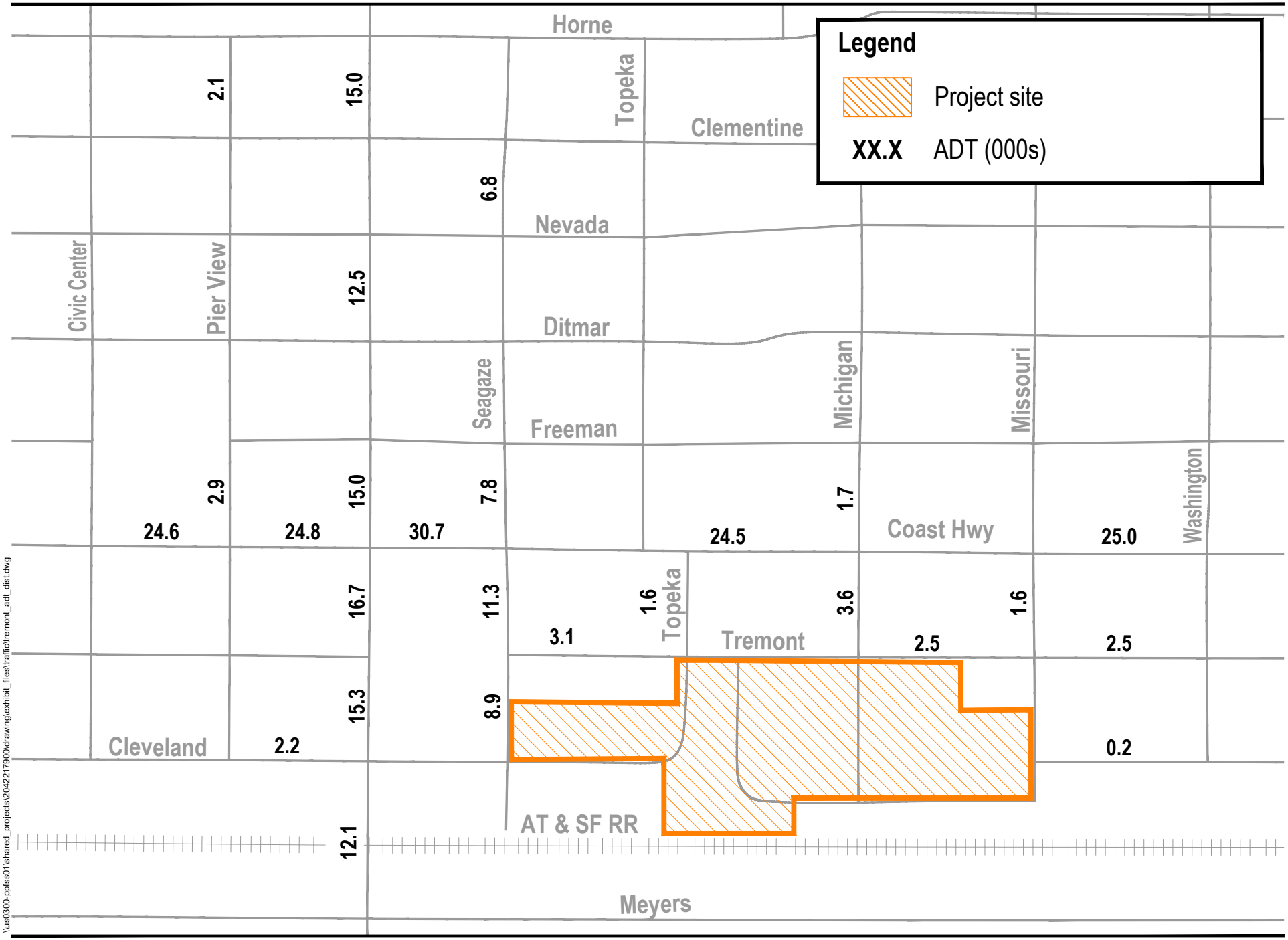
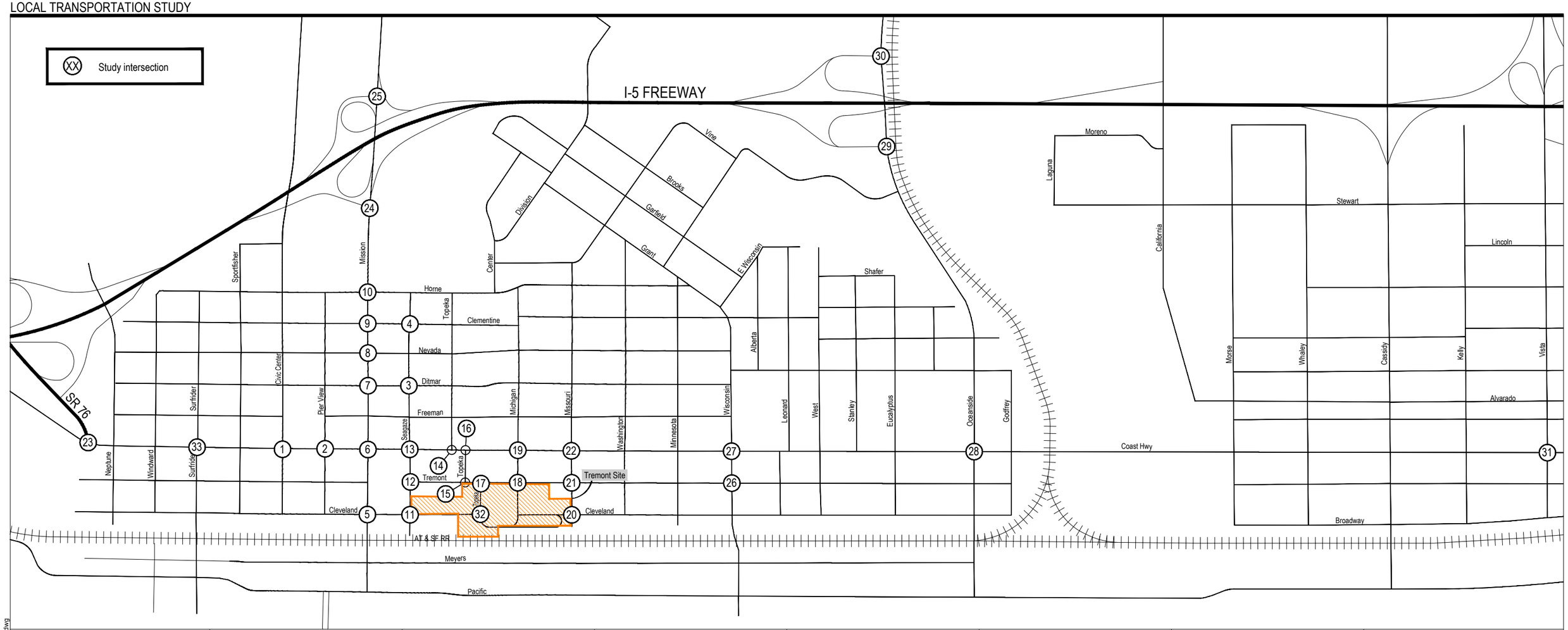
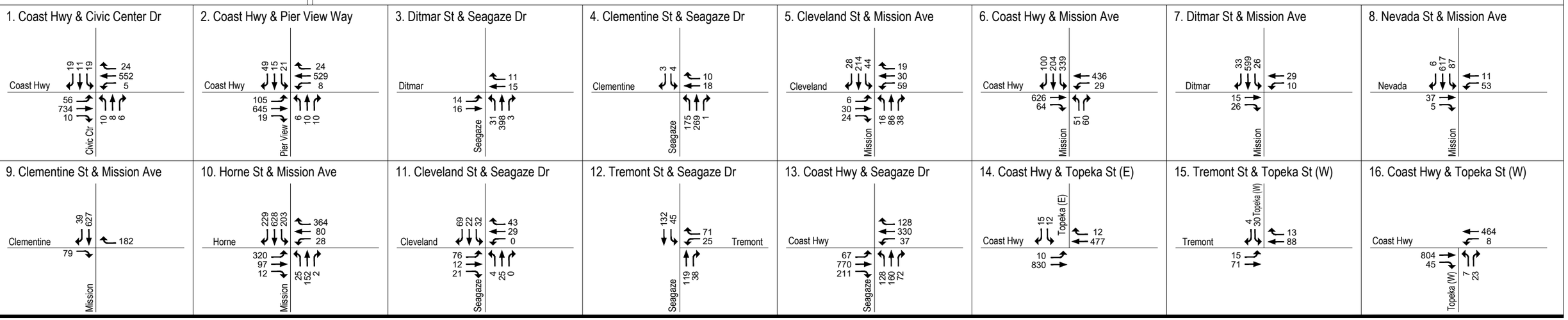


Figure 4-12

Existing Conditions plus Near-Term Cumulative Projects plus Project ADT Volumes

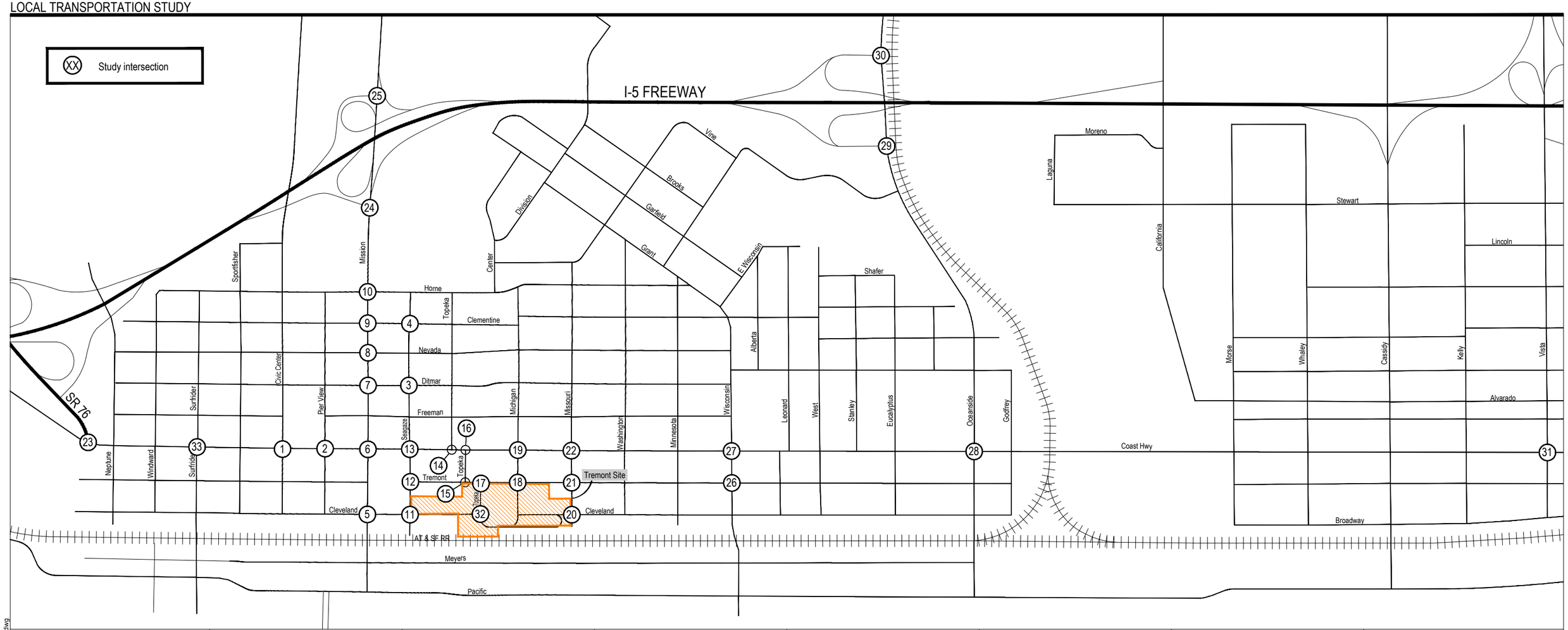


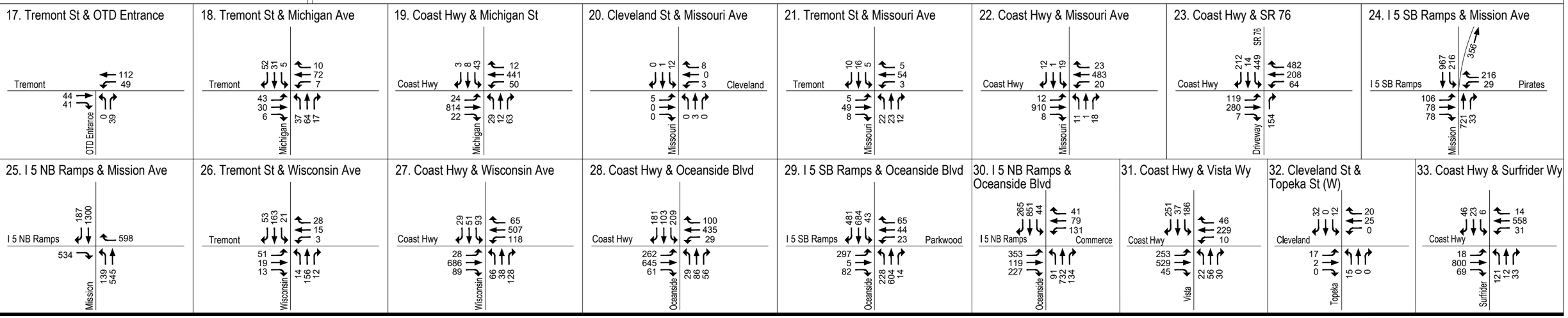


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-13

Existing Conditions plus Near-Term Cumulative Projects plus Project AM Peak Hour Intersection Volumes (1 of 2)

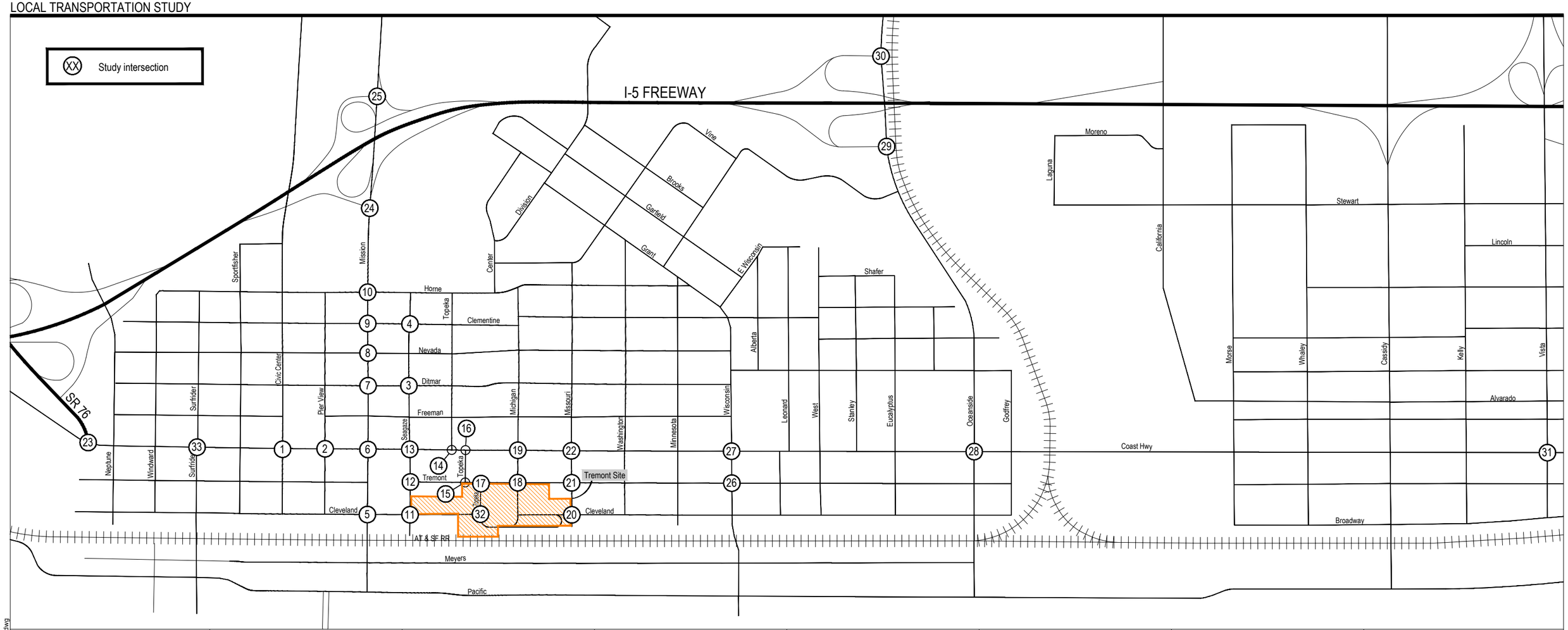




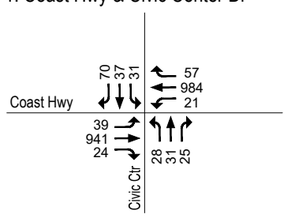
\\us0300-ppfss01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-14

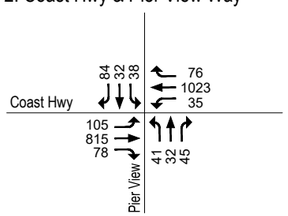
Existing Conditions plus Near-Term Cumulative Projects plus Project AM Peak Hour Intersection Volumes (2 of 2)



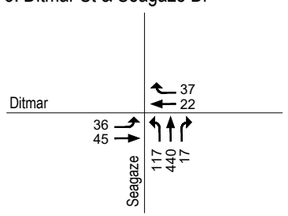
1. Coast Hwy & Civic Center Dr



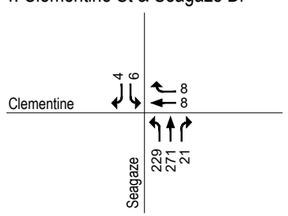
2. Coast Hwy & Pier View Way



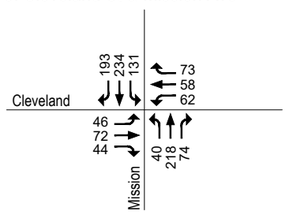
3. Ditmar St & Seagaze Dr



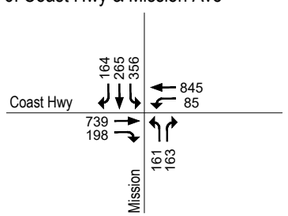
4. Clementine St & Seagaze Dr



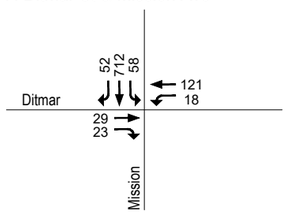
5. Cleveland St & Mission Ave



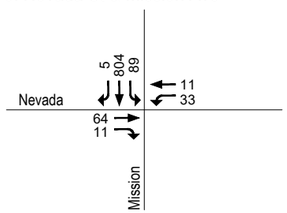
6. Coast Hwy & Mission Ave



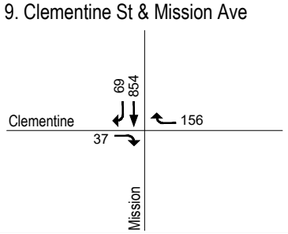
7. Ditmar St & Mission Ave



8. Nevada St & Mission Ave



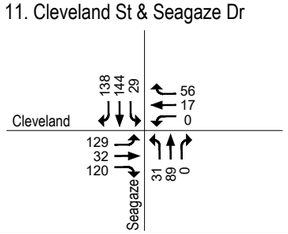
9. Clementine St & Mission Ave



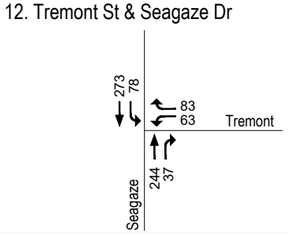
10. Horne St & Mission Ave



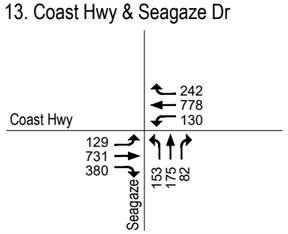
11. Cleveland St & Seagaze Dr



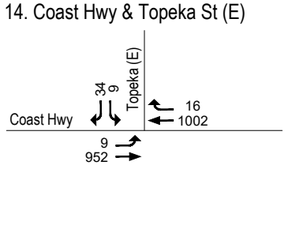
12. Tremont St & Seagaze Dr



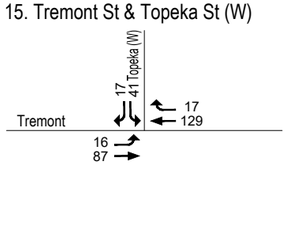
13. Coast Hwy & Seagaze Dr



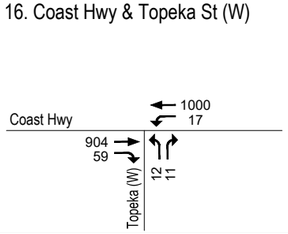
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)



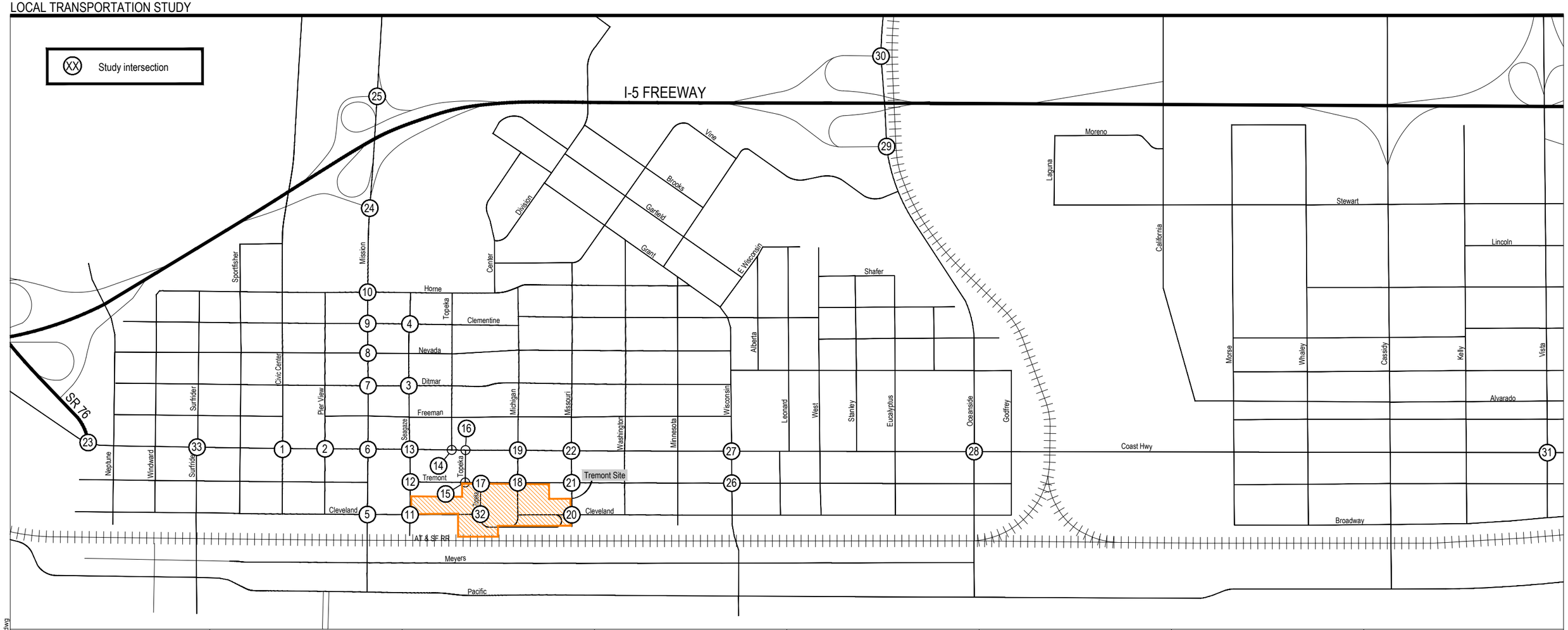
16. Coast Hwy & Topeka St (W)

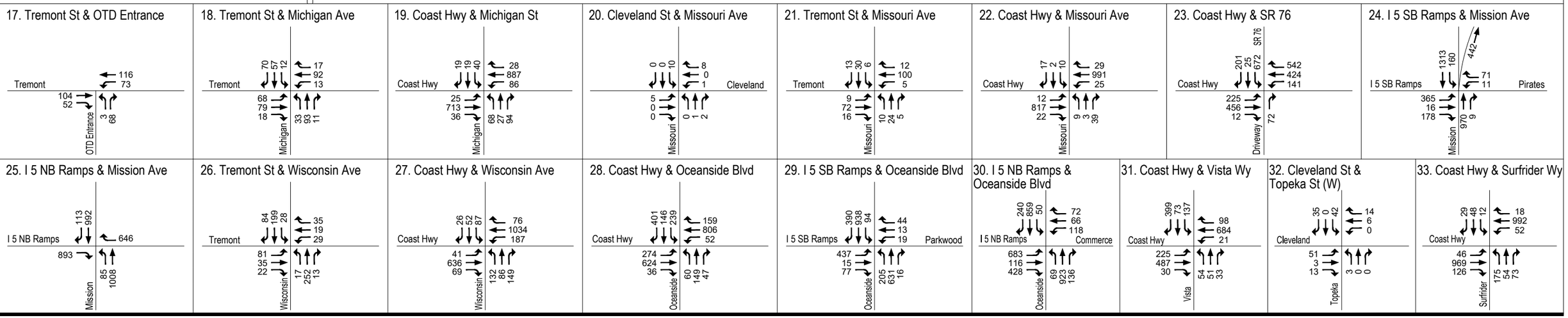


\\us0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-15

Existing Conditions plus Near-Term Cumulative Projects plus Project PM Peak Hour Intersection Volumes (1 of 2)





\\us0300-pptfs01\shared_projects\204217900\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-16

Existing Conditions plus Near-Term Cumulative Projects plus Project PM Peak Hour Intersection Volumes (2 of 2)

Table 4-6 summarizes the delay and LOS for existing conditions plus near-term cumulative projects for conditions with and without the Project. As shown, under existing conditions plus near-term cumulative projects each intersection within the study area operates at LOS D or better with the exception of the following locations:

10. Horne Street & Mission Avenue (Signal)

22. Coast Highway & Missouri Avenue (East Leg Stop Approach)

30. I-5 Northbound Ramps and Oceanside Boulevard (Signal)

The noted increases would exceed the City's allowable change of 2.0 seconds per vehicle and, as such, City guidelines state that improvements should be considered on a case-by-case basis. A discussion of recommended improvements for these locations is provided in Section 4.2.3.

Table 4-6 Intersection LOS Summary – Existing Conditions Plus Near-Term Cumulative Projects With and Without the Project

Intersection	Traffic Control	Existing plus Near-Term Cumulative Projects				Existing plus Near-Term Cumulative Projects plus Project				Difference	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Coast Hwy & Civic Center	Signal	4.2	A	6.2	A	4.2	A	6.3	A	0.0	0.1
2. Coast Hwy & Pier View	Signal	4.8	A	7.3	A	4.9	A	7.6	A	0.1	0.3
3. Ditmar & Seagaze	AWSC	9.1	A	10.7	B	9.3	A	10.8	B	0.2	0.1
4. Clementine & Seagaze	TWSC	9.8	A	9.8	A	10.0	B	9.8	A	0.2	0.0
5. Cleveland & Mission	Signal	8.7	A	11.2	B	9.0	A	11.4	B	0.3	0.2
6. Coast Hwy & Mission	Signal	20.8	C	35.6	D	23.0	C	38.7	D	2.2	3.1
7. Ditmar & Mission	Signal	4.8	A	6.3	A	4.8	A	6.4	A	0.0	0.1
8. Nevada & Mission	TWSC	19.7	C	30.2	D	20.7	C	29.8	D	1.0	-0.4
9. Clementine & Mission	TWSC	12.0	B	13.1	B	12.3	B	13.2	B	0.3	0.1
10. Horne & Mission	Signal	**69.4**	**E**	**78.8**	**E**	**70.1**	**E**	**82.9**	**F**	0.7	**4.1**
11. Seagaze & Cleveland	AWSC	8.2	A	11.6	B	7.9	A	10.7	B	-0.3	-0.9
12. Tremont & Seagaze	TWSC	9.5	A	12.4	B	10.4	B	15.5	C	0.9	3.1
13. Coast Hwy & Seagaze	Signal	11.4	B	19.2	B	12.9	B	20.4	C	1.5	1.2
14. Coast Hwy & Topeka (E)	TWSC	14.1	B	19.4	C	14.5	B	18.4	C	0.4	-1.0
15. Tremont & Topeka (W)	TWSC	9.1	A	9.1	A	9.9	A	10.3	B	0.8	1.2
16. Coast Hwy & Topeka (W)	TWSC	13.5	B	24.8	C	15.3	C	28.4	D	1.8	3.6
17. Tremont & Topeka[2]	AWSC	2.2	A	2.0	A	7.9	A	8.5	A	5.7	6.5
18. Tremont & Michigan	AWSC	7.3	A	7.6	A	8.1	A	9.0	A	0.8	1.4
19. Coast Hwy & Michigan	RAB	5.1	A	13.6	B	9.3	A	16.4	B	4.2	2.8
20. Cleveland & Missouri	AWSC	7.0	A	6.8	A	7.0	A	6.9	A	0.0	0.1
21. Tremont & Missouri	TWSC	9.3	A	9.6	A	10.3	B	10.6	B	1.0	1.0

22. Coast Hwy & Missouri	TWSC	27.0	D	**38.5**	**E**	27.9	D	**44.7**	**E**	0.9	**6.2**
23. Coast Hwy & SR 76 / Driveway	Signal	13.1	B	22.7	C	13.6	B	24.8	C	0.5	2.1
24. I 5 SB Ramps & Mission Ave	Signal	29.8	C	24.2	C	31.1	C	25.8	C	1.3	1.6
25. I 5 NB Ramps & Mission Ave	n/a[1]	--	--	--	--	--	--	--	--	--	--
26. Tremont & Wisconsin	TWSC	12.1	B	16.1	C	13.6	B	18.2	C	1.5	2.1
27. Coast Hwy & Wisconsin	RAB	12.0	B	14.4	B	13.4	B	16.9	B	1.4	2.5
28. Coast Hwy & Oceanside	Signal	21.1	C	41.8	D	22.2	C	47.1	D	1.1	5.3
29. I 5 SB Ramps & Oceanside	Signal	27.6	C	22.1	C	27.9	C	22.3	C	0.3	0.2
30. I 5 NB Ramps & Oceanside	Signal	36.2	D	**79.7**	**E**	36.6	D	**82.2**	**F**	0.4	**2.5**
31. Coast Hwy & Vista	Signal	20.0	B	25.7	C	20.3	C	27.8	C	0.3	2.1
32. Cleveland & Topeka[2]	AWSC	--	--	--	--	7.1	A	7.4	A	7.1	7.4
33. Coast Hwy & Surfrider	Signal	9.7	A	26.8	C	9.7	A	7.4	C	0.0	-19.4

Notes:
TWSC – Two-way stop-control
AWSC – All-way stop-control
LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
AWSC Delay represents the intersection average vehicle delay (total vehicles)
TWSC Delay represents the side street movement with highest average vehicle delay
[1]All intersection movements are free or yield-control
[2]Future intersection with Project
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

4.2.3 ROADWAY IMPROVEMENTS FOR EXISTING CONDITIONS PLUS NEAR-TERM CUMULATIVE PROJECTS PLUS PROJECT

City guidelines state that for locations forecast to exceed the City's target LOS and where a project's effect on a roadway segment increases the V/C ratio by more than 0.02, or where a project's effect at an intersection adds more than 2.0 seconds of average vehicle delay, roadway improvements that are consistent with the General Plan should be considered. Furthermore, since the Project is located in a Transit Priority Area and a Smart Growth Opportunity Area as identified by SANDAG, the guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. As discussed above, 10 roadway segments and 3 intersections meet the City's criteria under existing conditions plus near-term cumulative projects with the Project. The Project is responsible for its fair-share of the cost of improvements identified for cumulative conditions based on the following formula (see **Appendix F** for fair-share calculations):

$$\% = \frac{Project\ Traffic}{(Traffic\ from\ Cumualtive\ Projects + Project\ Traffic)}$$

Mission Avenue

The ADT volume for the segment of **Mission Avenue between Freeman Street and Coast Highway** is forecast to increase by approximately 3,100 ADT due to near-term cumulative projects and background growth estimates. The Project is forecast to add an additional 600 ADT to the segment, for a total increase of approximately 3,700 ADT.

This segment of Mission Avenue is classified as a Collector Road and is configured as a one-way street with two lanes in the westbound direction. Back-in angled parking is provided on the north side of the roadway and expanded sidewalks are used by several restaurants for outdoor dining. A separate left-turn lane is provided at the signalized Coast Highway intersection.

Theoretically, additional roadway capacity could be provided by extending the left-turn pocket for the length of the segment (effectively adding a third lane to the segment); however, such a change would significantly alter the character of the road and would have a substantial impact on the adjacent businesses as well as pedestrians and bicyclists. Such a change would undo the improvements constructed by the City approximately 10 years ago. As such, additional roadway capacity is not feasible for this segment. A conceptual design plan of adding a third lane is provided in **Appendix G** for cost estimating purposes.

Since this segment of Mission Avenue is within a Transit Priority Area and a Smart Growth Opportunity Area, City guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. To address the Project's share of additional traffic added to this location (approximately 15%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay the fair-share cost of additional roadway capacity (e.g., extend the left-turn pocket), with the fair-share contribution instead used by the City for other improvements in the downtown area to enhance safety and mobility for transit, pedestrians, and bicyclists.

Coast Highway

As noted above, the following four segments of Coast Highway are shown to be affected by the Project:

- **Coast Highway between Civic Center Drive and Pier View Way**
- **Coast Highway between Pier View Way and Mission Avenue**
- **Coast Highway between Mission Avenue and Seagaze Drive**
- **Coast Highway between Missouri Avenue and Washington Avenue**

For the four segments listed above, ADT volumes are forecast to increase by approximately 6,100 to 7,000 ADT due to near-term cumulative projects and background growth estimates. The Project is forecast to add an additional 1,400 to 2,300 ADT to the segments.

These segments of Coast Highway are classified as a Secondary Collector and are configured with two lanes in each direction (four lanes total). Separate left-turn lanes are provided at the Mission Avenue and

Seagaze Drive intersections and traffic signals are present at Civic Center Drive, Pier View Way, Mission Avenue, and Seagaze Drive. Parking is not allowed between Mission Avenue and Seagaze Drive and bicyclists share a lane with vehicular traffic.

Theoretically, additional roadway capacity could be provided by adding a two-way left-turn lane to the existing roadway, which would increase the roadway capacity by approximately 5,000 ADT (see **Table 1-3**) and exceed the volume of Project traffic added to the roadway. However, adding an additional two-way left-turn lane would require removing on-street parking, which would negatively affect the adjacent businesses and decrease comfort for pedestrians. This segment of Coast Highway is also part of Segment 2 of the planned Coast Highway Improvement Project, which will implement complete street improvements to include two vehicle lanes, two Class II bike lanes, buffered curbside parking, landscaping, and a raised median. Therefore, adding a two-way left-turn lane is not recommended.

With the implementation of the Coast Highway Improvement Project, the affected segments will include a comprehensive set of complete street improvements consistent with the City's goals for this corridor. While the segments are forecast to exceed LOS D conditions, the finding is consistent with the traffic study prepared for the Coast Highway Improvement Project, which indicated certain portions of the corridor would exceed LOS D with implementation of the complete street improvements.

Since these segments of Coast Highway are within a Transit Priority Area and a Smart Growth Opportunity Area, City guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. To address the Project's share of additional traffic added to these locations (approximately 18% to 24%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay the fair-share cost of restriping the roadway to provide a two-way left-turn lane, the cost of which would be applied to the other multi-modal improvements in this area, such as the Coast Highway Improvement Project.

A conceptual design plan of providing a two-way left-turn lane along Coast Highway between Pier View Way and Mission Avenue is provided in **Appendix G** for cost estimating purposes. The cost of the improvement on this segment would be similar to that of each of the other three affected Coast Highway segments and, therefore, is representative of each affected Coast Highway segment.

Tremont Street

The Project's direct improvements for Tremont Street, as outlined in Section 4.1.1, address the Project's cumulative effect on the following segments:

- **Tremont Street between Seagaze Drive and Topeka Street**
- **Tremont Street between Michigan Avenue and Missouri Avenue**
- **Tremont Street between Missouri Avenue and Washington Avenue**

Michigan Avenue

The Project's direct improvements for Michigan Avenue, as outlined in Section 4.1.1, address the Project's cumulative effect on the following segment:

- **Michigan Avenue between Coast Highway and Tremont Street**

Pier View Way

The ADT volumes for the segments of Pier View Way between Clementine Street and Coast Highway are forecast to increase by approximately 1,400 to 1,600 ADT due to near-term cumulative projects and background growth estimates. The Project is forecast to add an additional 200 to 300 ADT to these segments, for a total increase of approximately 1,700 to 1,800 ADT resulting in approximately 2,900 to 3,000 ADT for the segment.

These segments of Pier View Way are classified as a local street not in the City's Circulation Element. The City generally strives to maintain LOS C conditions for local streets, which equates to approximately 2,200 ADT. As such, the forecast traffic volumes exceed the LOS C threshold by approximately 700 to 800 ADT. A combination of angled and parallel parking is provided on each side of the roadway. A separate left-turn lane is provided at the signalized Coast Highway intersection and all-way stop control is provided at the Ditmar Street intersection. At each other intersection (i.e., Clementine Street, Nevada Street, and Freeman Street), only the side street is stop controlled.

Theoretically, additional roadway capacity could be provided by extending the left-turn pocket for the length of the segment between Freeman Street and Coast Highway and providing a two-way left-turn lane along the additional segments (effectively adding a third lane to each of the segments); however, such a change would significantly alter the character of the road and would require removal of on-street parking. As such, additional roadway capacity is not feasible for this segment. A conceptual design plan of adding a third lane is provided in **Appendix G** for cost estimating purposes.

Since these segments of Pier View Way are within a Transit Priority Area and a Smart Growth Opportunity Area, City guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. To address the Project's share of additional traffic added to these locations (approximately 11 to 16%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay the fair-share cost of additional roadway capacity (e.g., extending the left-turn pocket at Coast Highway and adding a two-way left-turn lane along the additional segments), with the fair-share contribution instead used by the City for other improvements in the downtown area to enhance safety and mobility for transit, pedestrians, and bicyclists.

Intersection Improvements

Horne Street and Mission Avenue – To reduce vehicle delay and improve LOS, a modification to the existing traffic signal is a potential improvement. Specifically, to optimize the traffic signal timing based on the anticipated increases in traffic volumes. With the recommended improvement, average vehicle delay for near-term cumulative conditions with the Project would reduce to 77.5 seconds per vehicle during the

critical PM peak hour, which is less than conditions without the Project (78.8 seconds per vehicle). The AM peak hour delay would similarly decrease with the Project to 62.2 seconds per vehicle, which is less than conditions without the Project (69.4 seconds per vehicle). However, the City regularly implements the retiming of traffic signals to address increases in traffic. As such, optimizing the traffic signal timing at this location would likely occur with or without the Project. Intersection modifications to add additional vehicle capacity are not feasible at this location due to right-of-way constraints and secondary impacts to pedestrians and bicyclists. Therefore, to address the Project's share of additional traffic added to this location (approximately 27%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay a fair-share cost of the installation of an adaptive traffic signal control system that the City will be constructing along Coast Highway between Mission Avenue and Oceanside Boulevard.

Coast Highway and Missouri Avenue – To reduce side-street vehicle delay and improve LOS for this stop-control intersection, installation of a traffic signal is a potential improvement. Alternatively, implementation of the comprehensive Coast Highway Improvement Project improvements would improve multi-modal conditions for this location. With the installation of a traffic signal, average vehicle delay for near-term cumulative conditions with the Project would reduce to 4.1 seconds per vehicle during the critical PM peak hour, which is less than conditions without the Project under side-street stop control (38.5 seconds per vehicle). To address the Project's share of additional traffic added to this location (approximately 27%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay the fair-share cost of installing a traffic signal at this location.

I-5 Northbound Ramps and Oceanside Boulevard – This intersection is part of the state highway system and is under the jurisdiction of Caltrans. As such, Caltrans would be responsible for determining the specific type of any improvements at this location. To reduce vehicle delay and improve LOS, a modification to the existing traffic signal is a potential improvement. With the potential improvement outlined in Section 4.1.1, average vehicle delay for near-term cumulative conditions with the Project would reduce to 67.9 seconds per vehicle during the critical PM peak hour, which is less than conditions without the Project (79.7 seconds per vehicle). .

Nevada Street and Mission Avenue – This intersection has been identified by the City as requiring installation of a traffic signal in the Near-Term Cumulative condition based on the traffic study for the 712 Seagaze Mixed Use Development. It is recommended that the Project pay the fair-share cost of installing a traffic signal at this location (approximately 22%, see **Appendix F** for fair-share calculations).

4.3 Buildout Conditions Analysis

4.3.1 BUILDOUT CONDITIONS (YEAR 2050) ROADWAY NETWORK

The baseline roadway network assumed for buildout conditions (Year 2050) consists of the City's planned Circulation Element improvements. Conditions with the Coast Highway Improvement Project discussed in Section 2.1 are also evaluated as an alternative scenario.

4.3.2 BUILDOUT CONDITIONS (YEAR 2050) WITHOUT PROJECT

For analysis of buildout conditions (Year 2050), traffic volume forecasts were prepared using the SANDAG ABM2+ travel demand forecasting model. The baseline traffic modeling was prepared as part of the City's General Plan Update, which is currently underway. Post-processed ADT link volumes and intersection turning movement volumes were provided by City staff for use in this analysis. For locations not included in the General Plan modeling (primarily local streets and collector/arterial intersections with local streets), year-2050 traffic volumes were derived based on growth factoring and balancing with upstream/downstream forecasts.

Forecasts of ADT volumes for buildout conditions (Year 2050) without the Project are listed in **Table 4-7** and illustrated in **Figure 4-17**. As shown, each road segment operates at the target LOS or better, except for the following segments:

- Mission Avenue between Freeman Street and Coast Highway
- Mission Avenue between Coast Highway and Tremont Street
- Mission Avenue between Tremont Street and Cleveland Avenue
- Coast Highway between Civic Center Drive and Pier View Way
- Coast Highway between Pier View Way and Mission Avenue
- Coast Highway between Mission Avenue and Seagaze Drive
- Coast Highway between Topeka Street and Michigan Avenue
- Coast Highway between Missouri Avenue and Washington Avenue
- Michigan Avenue between Coast Highway and Tremont Street
- Pier View Lane between Clementine Street and Ditmar Street
- Pier View Lane between Ditmar Street and Coast Highway

Buildout conditions (Year 2050) baseline volumes without the Project are shown for the AM peak hour in **Figure 4-18** and **Figure 4-19**, and volumes for the PM peak hour are shown in **Figure 4-20** and **Figure 4-21**. LOS for each intersection is presented in the following section.

Table 4-7 Roadway Segment Volume Summary – Buildout Conditions (Year 2050)

Segment	Classification	Lanes	Capacity[1]	ADT	LOS[2]
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	14,400	C
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	12,000	D
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	**16,800**	**F**
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**16,800**	**F**
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**15,100**	**F**

6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	12,000	B
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	6,600	B
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	7,300	C
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	9,300	C
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	8,900	D
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	**24,500**	**E**
	Coast Hwy Project	2	19,000	**24,500**	**F**
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	**26,100**	**F**
	Coast Hwy Project	2	19,000	**26,100**	**F**
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	**28,500**	**F**
	Coast Hwy Project	2	19,000	**28,500**	**F**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	**24,300**	**E**
	Coast Hwy Project	2	19,000	**24,300**	**F**
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	**23,600**	**E**
	Coast Hwy Project	2	19,000	**23,600**	**F**
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,900	≤C
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,300	≤C
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,500	≤C
19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,300	≤C
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,800	≤C
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	**2,500**	**>C**
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	1,200	≤C
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	2,300	A
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	300	≤C
25. Pier View btwn. Horne & Clementine	Local	2	2,200	2,000	≤C
26. Pier View btwn. Clementine & Ditmar	Local	2	2,200	**2,900**	**>C**
26. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	**2,700**	**>C**

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

[2]See Table 1-3 for LOS thresholds.

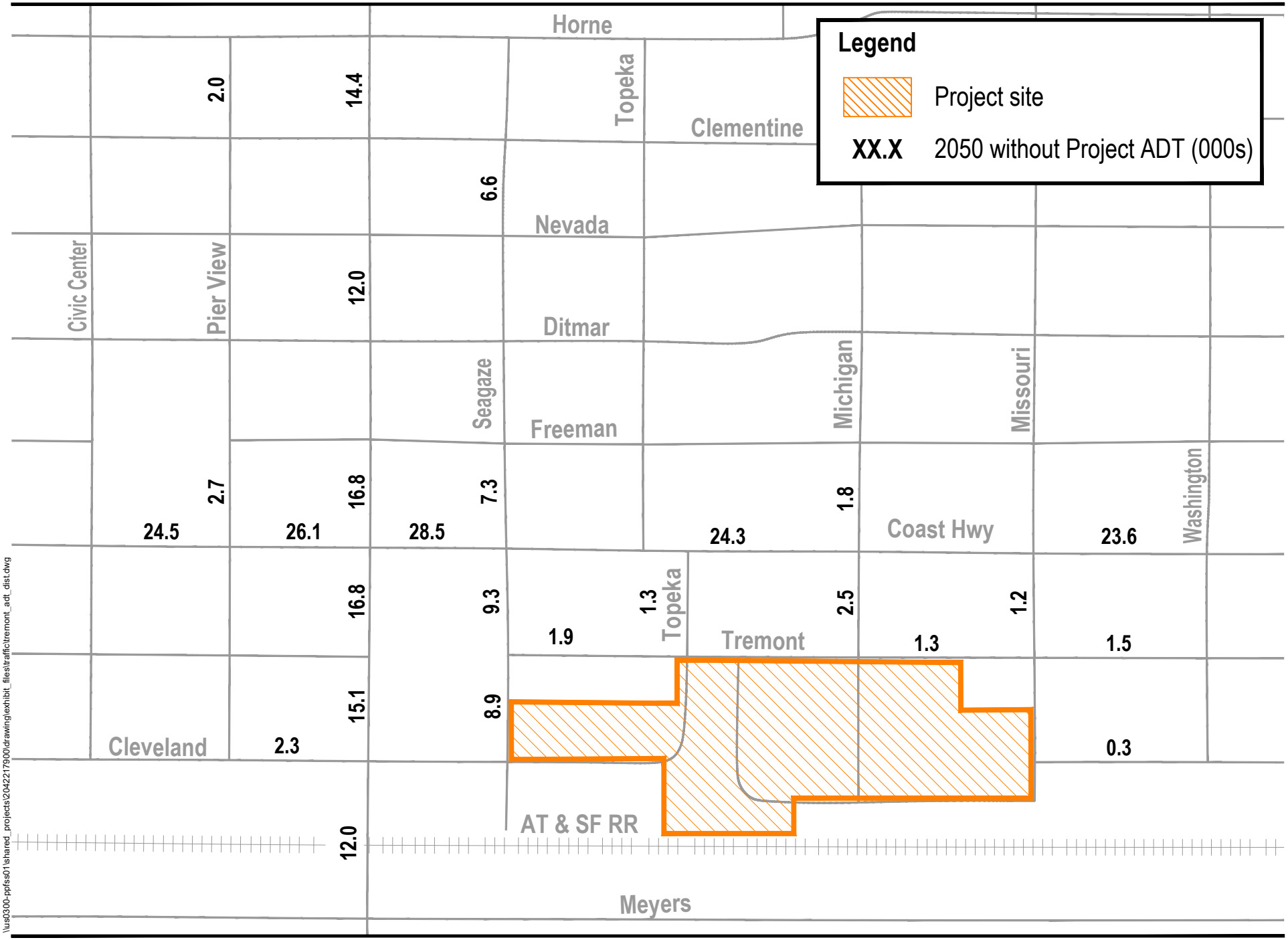


Figure 4-17

2050 Buildout without Project ADT Volumes

XX Study intersection

I-5 FREEWAY

Project Site

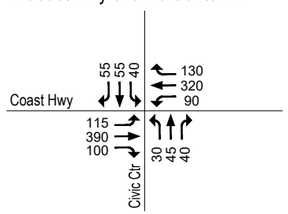
SR 76

Sportfisher | Mission | Center | Division | Vine | Brooks | Garfield | Grant | N Wisconsin | Shafer | Moreno | Laguna | California | Stewart | Lincoln

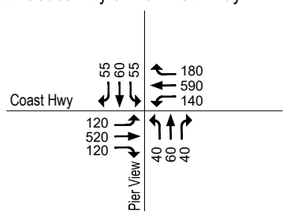
Horne | Clementine | Nevada | Ditmar | Freeman | Cleveland | Tremont | Coast Hwy | Broadway | Meyers | Pacific | AT & SF RR

Topeka | Civic Center | Pier View | Surfrider | Seagaze | Michigan | Missouri | Washington | Minnesota | Wisconsin | Alberta | Leonard | West | Stanley | Eucalyptus | Oceanside | Godfrey | Neptune | Windward | Morse | Whaley | Cassidy | Kelly | Vista | Alvarado

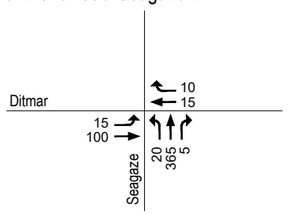
1. Coast Hwy & Civic Center Dr



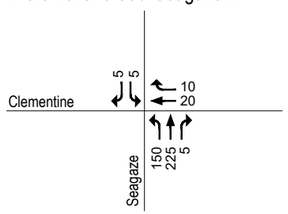
2. Coast Hwy & Pier View Way



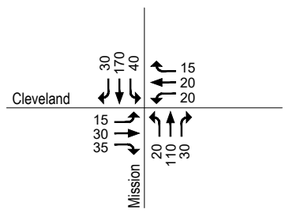
3. Ditmar St & Seagaze Dr



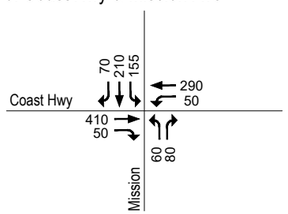
4. Clementine St & Seagaze Dr



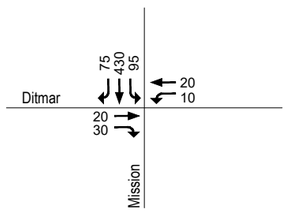
5. Cleveland St & Mission Ave



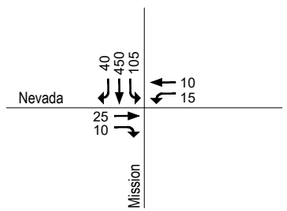
6. Coast Hwy & Mission Ave



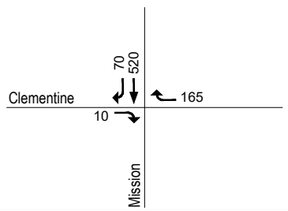
7. Ditmar St & Mission Ave



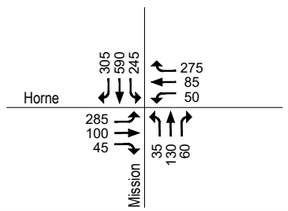
8. Nevada St & Mission Ave



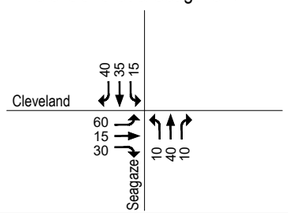
9. Clementine St & Mission Ave



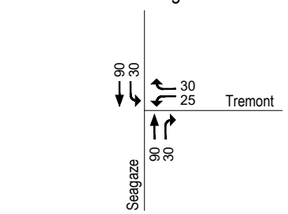
10. Horne St & Mission Ave



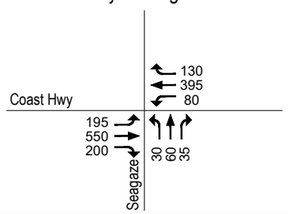
11. Cleveland St & Seagaze Dr



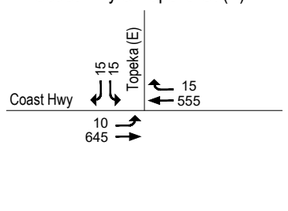
12. Tremont St & Seagaze Dr



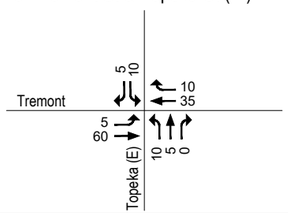
13. Coast Hwy & Seagaze Dr



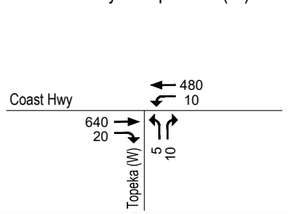
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)

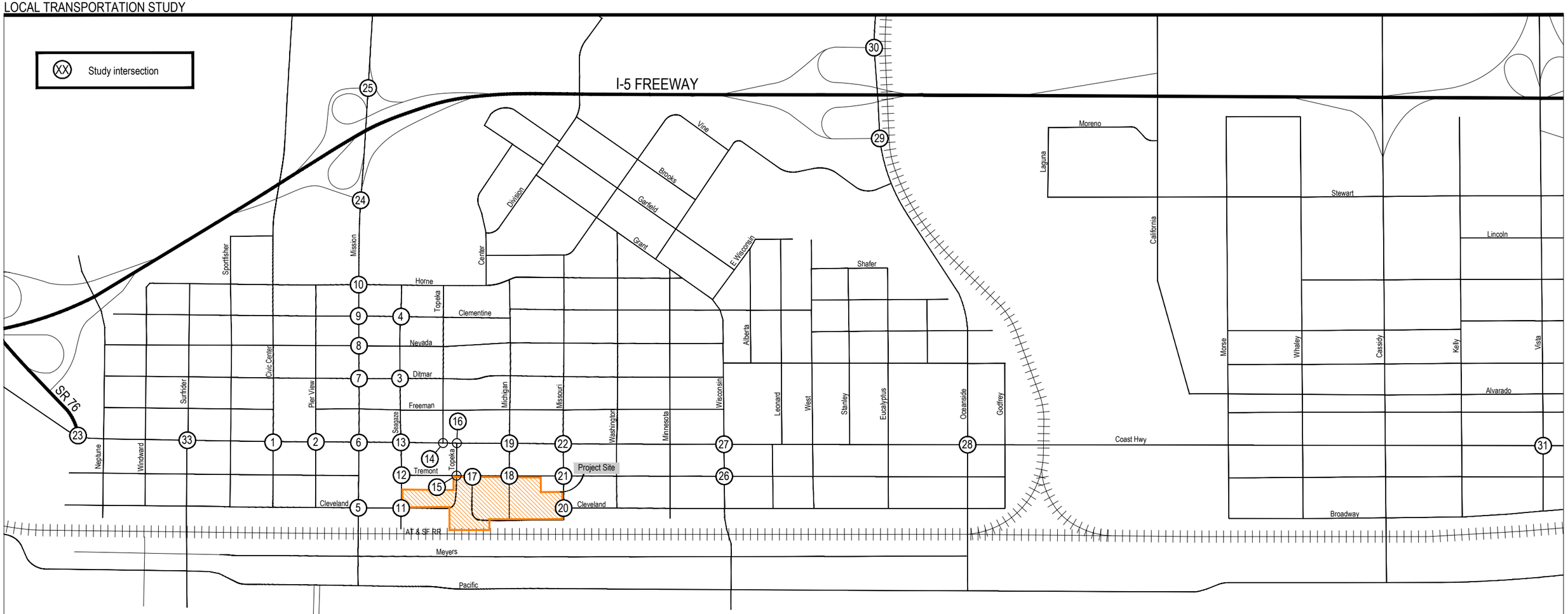


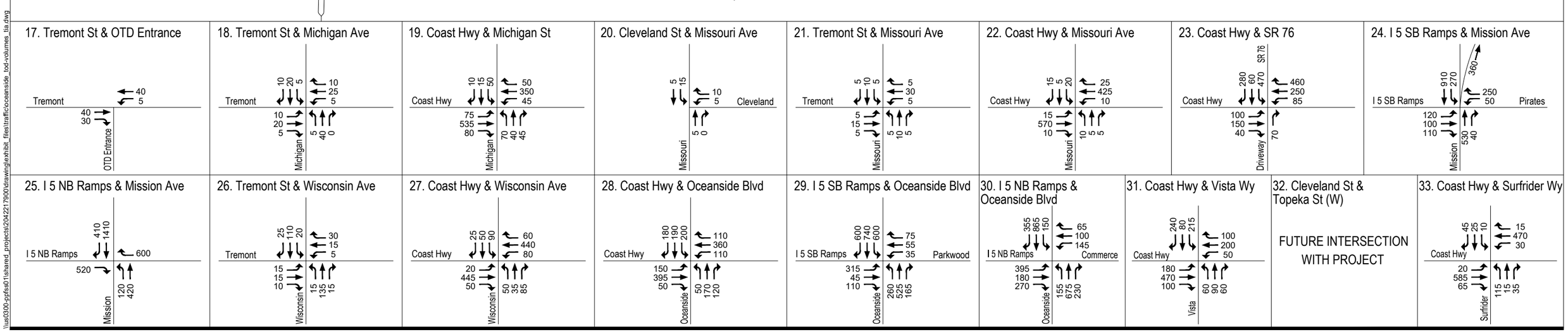
16. Coast Hwy & Topeka St (W)



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-18
2050 Buildout without Project AM Peak Hour Intersection Volumes (1 of 2)

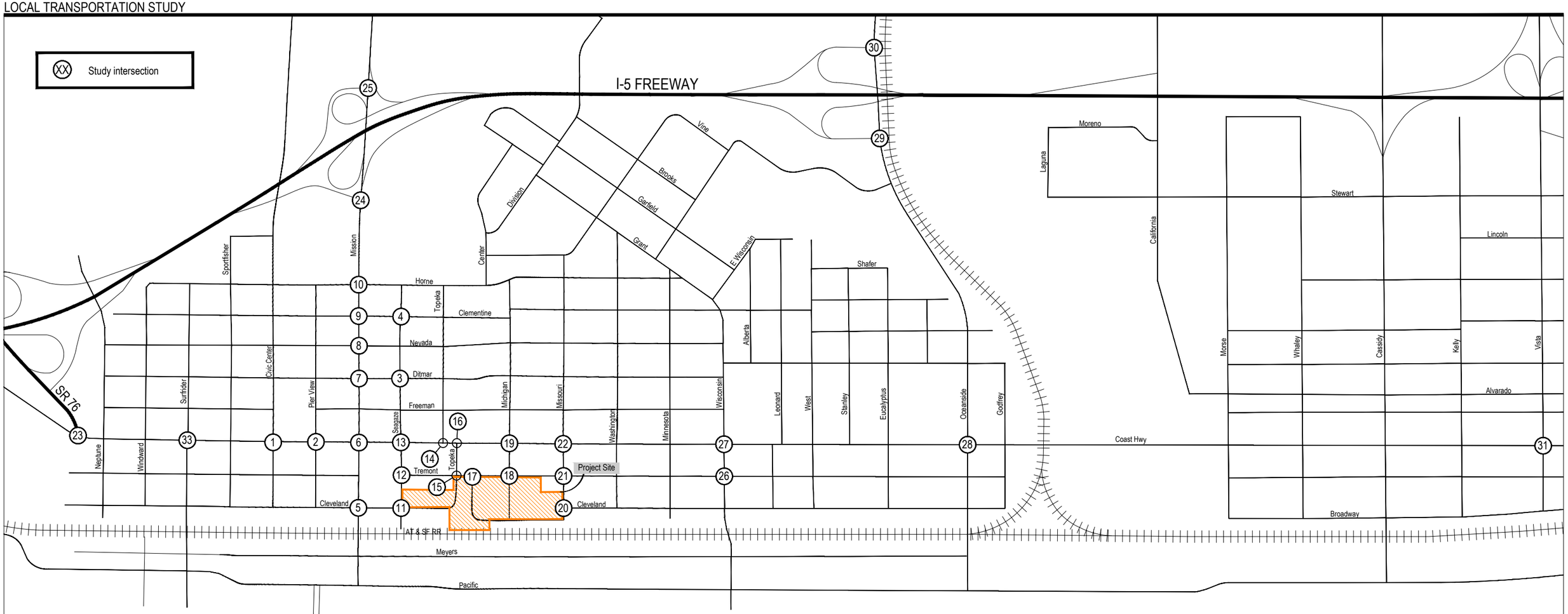


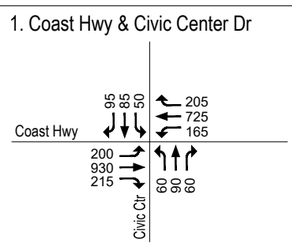


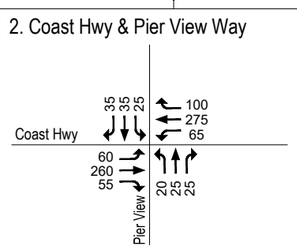
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

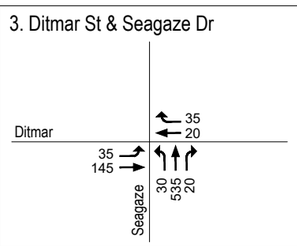
Figure 4-19

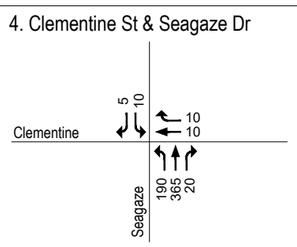
2050 Buildout without Project AM Peak Hour Intersection Volumes (2 of 2)

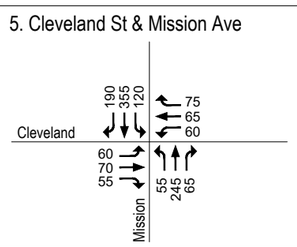


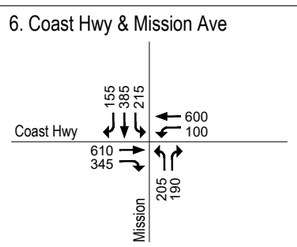


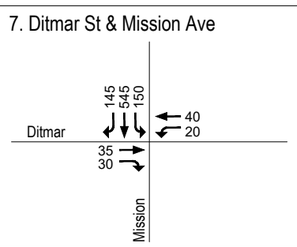


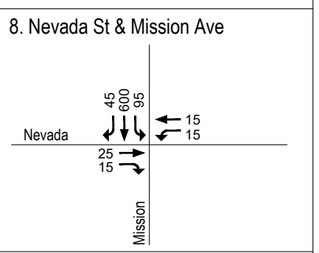


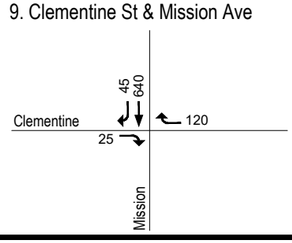


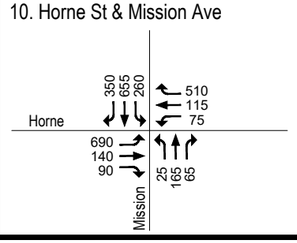


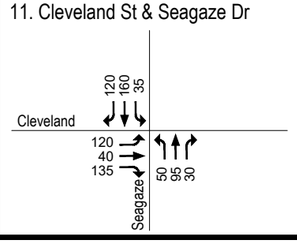


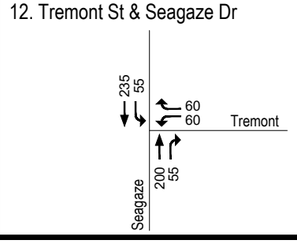


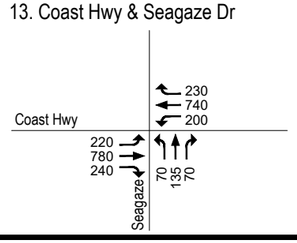


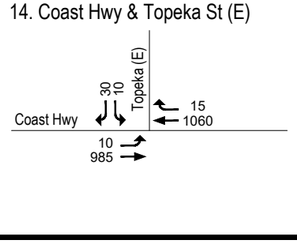


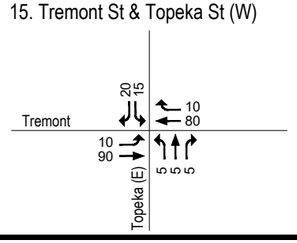


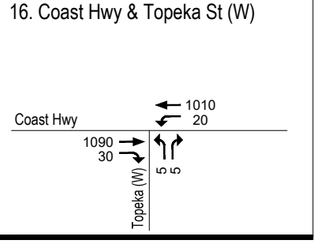






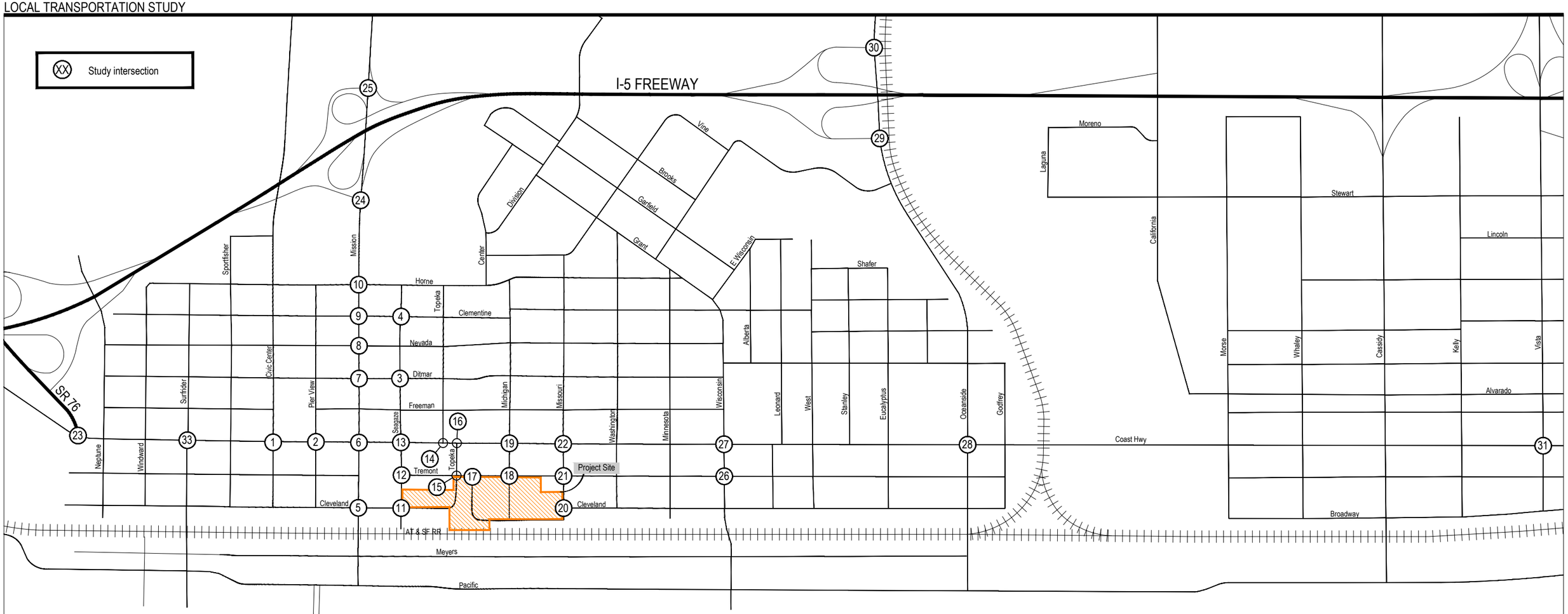


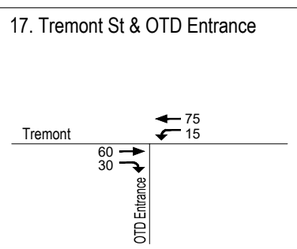


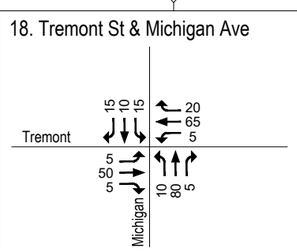


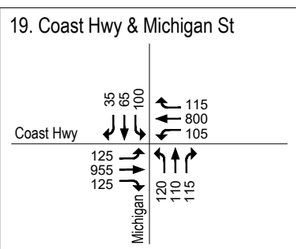
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

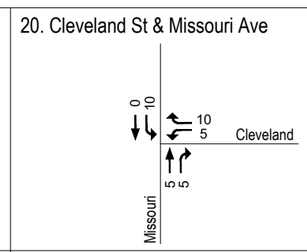
Figure 4-20
2050 Buildout without Project PM Peak Hour Intersection Volumes (1 of 2)

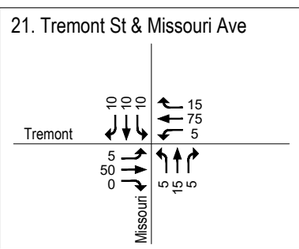


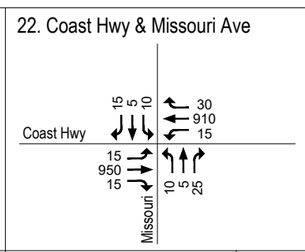


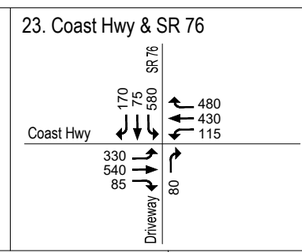


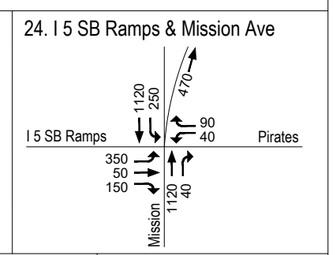


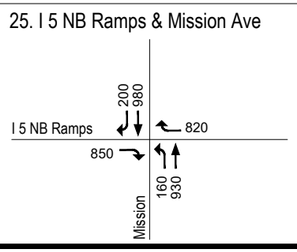


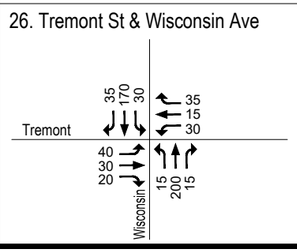


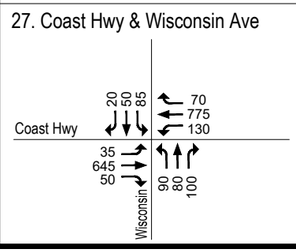


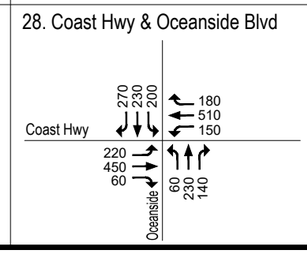


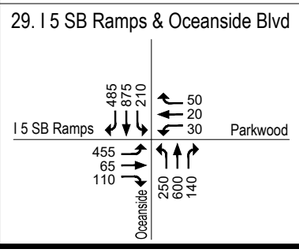


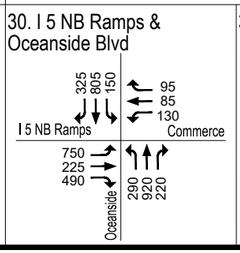


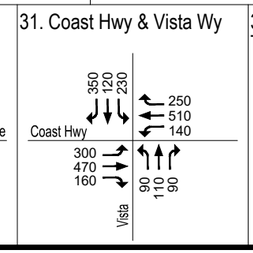






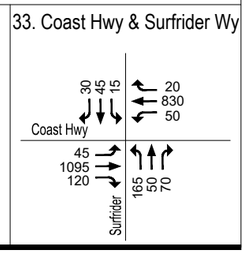






32. Cleveland St & Topeka St (W)

FUTURE INTERSECTION WITH PROJECT



\\us0300-ppfss01\shared_projects\204221790\0\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-21
2050 Buildout without Project PM Peak Hour Intersection Volumes (2 of 2)

4.3.3 BUILDOUT CONDITIONS (YEAR 2050) WITH PROJECT

Buildout conditions (Year 2050) plus Project traffic volumes were derived by incrementally adding Project trips to the Buildout conditions (Year 2050) baseline volumes outlined in Section 4.3.1.

Table 4-8 summarizes the roadway ADT and V/C for buildout conditions (Year 2050) with and without the Project. ADT volumes for buildout conditions (Year 2050) with the Project are shown in **Figure 4-22**.

With the addition of Project generated traffic, each roadway segment operates at the same performance level, except for the following segments where the Project exceeds the performance threshold (i.e., increases the V/C ratio by 0.02 or more) and the segment exceeds the target performance standard:

- Mission Avenue between Freeman Street and Coast Highway
- Seagaze Drive between Tremont Street and Cleveland Street
- Coast Highway between Civic Center Drive and Pier View Way
- Coast Highway between Pier View Way and Mission Avenue
- Coast Highway between Mission Avenue and Seagaze Drive
- Coast Highway between Missouri Avenue and Washington Avenue
- Tremont Street between Seagaze Drive and Topeka Street
- Tremont Street between Michigan Avenue and Missouri Avenue
- Tremont Street between Missouri Avenue and Washington Avenue
- Michigan between Coast Highway and Tremont Street
- Pier View Way between Clementine Street and Ditmar Street
- Pier View Way between Ditmar Street and Coast Highway

City guidelines state that improvements should be considered on a case-by-case basis when roadways exceed the established performance standards. Potential roadway modifications for the above locations, and the Project's recommended contribution, are discussed in Section 4.3.4.

Buildout conditions (Year 2050) with Project peak hour intersection volumes are shown for the AM peak hour in **Figure 4-23** and **Figure 4-24**, and volumes for the PM peak hour are shown in **Figure 4-25** and **Figure 4-26**.

Table 4-9 summarizes the delay and LOS for each of the study area intersections (see **Table 4-10** for summary of conditions with construction of the Coast Highway Improvement Project).

Table 4-8 Roadway Segment Volume Summary – Buildout Conditions (Year 2050) with and without the Project

Segment	Classification	Lanes	Capacity[1]	Buildout (Year 2050)			Buildout (Year 2050) plus Project			Increase
				ADT	LOS	V/C	ADT	LOS	V/C	
1. Mission btwn. Horne & Clementine	Secondary Collector	4	25,000	14,400	C	0.58	15,200	C	0.61	0.03
2. Mission btwn. Nevada & Ditmar	Collector	2	15,000	12,000	D	0.80	12,600	D	0.84	0.04
3. Mission btwn. Freeman & Coast Hwy	Collector	2	15,000	**16,800**	**F**	**1.12**	17,400	**F**	**1.16**	**0.04**
4. Mission btwn. Coast Hwy & Tremont	Collector	2	15,000	**16,800**	**F**	**1.12**	16,800	**F**	**1.12**	0.00
5. Mission btwn. Tremont & Cleveland	Collector	2	15,000	**15,100**	**F**	**1.01**	15,400	**F**	**1.03**	0.02
6. Mission btwn. Cleveland & Meyers	Secondary Collector	4	25,000	12,000	B	0.48	12,200	B	0.49	0.01
7. Seagaze btwn. Clementine & Nevada	Collector	2	15,000	6,600	B	0.44	7,100	C	0.47	0.03
8. Seagaze btwn. Freeman & Coast Hwy	Collector	2	15,000	7,300	C	0.49	7,900	C	0.53	0.04
9. Seagaze btwn. Coast Hwy & Tremont	Collector	2	15,000	9,300	C	0.62	11,400	D	0.76	0.14
10. Seagaze btwn. Tremont & Cleveland	Collector	2	10,000	8,900	D	0.89	**9,900**	**E**	**0.99**	**0.10**
11. Coast Hwy btwn. Civic Center & Pier View	Secondary Collector	4	25,000	**24,500**	**E**	**0.98**	**25,900**	**F**	**1.04**	**0.06**
	Coast Hwy Project	2	19,000	**24,500**	**F**	**1.29**	**25,900**	**F**	**1.36**	**0.07**
12. Coast Hwy btwn. Pier View & Mission	Secondary Collector	4	25,000	**26,100**	**F**	**1.04**	**27,800**	**F**	**1.11**	**0.07**
	Coast Hwy Project	2	19,000	**26,100**	**F**	**1.37**	**27,800**	**F**	**1.46**	**0.09**
13. Coast Hwy btwn. Mission & Seagaze	Secondary Collector	4	25,000	**28,500**	**F**	**1.14**	**30,800**	**F**	**1.23**	**0.09**
	Coast Hwy Project	2	19,000	**28,500**	**F**	**1.50**	**30,800**	**F**	**1.62**	**0.12**
14. Coast Hwy btwn. Topeka & Michigan	Secondary Collector	4	25,000	**24,300**	**E**	**0.97**	**24,700**	**E**	**0.99**	0.02
	Coast Hwy Project	2	19,000	**24,300**	**F**	**1.28**	**24,700**	**F**	**1.30**	0.02
15. Coast Hwy btwn. Missouri & Washington	Secondary Collector	4	25,000	**23,600**	**E**	**0.94**	**25,300**	**F**	**1.01**	**0.07**
	Coast Hwy Project	2	19,000	**23,600**	**F**	**1.24**	**25,300**	**F**	**1.33**	**0.09**
16. Tremont btwn. Seagaze & Topeka	Local	2	2,200	1,900	≤C	0.86	**3,300**	**>C**	**1.50**	**0.64**
17. Tremont btwn. Michigan & Missouri	Local	2	2,200	1,300	≤C	0.59	**2,600**	**>C**	**1.18**	**0.59**
18. Tremont btwn. Missouri & Washington	Local	2	2,200	1,500	≤C	0.68	**2,600**	**>C**	**1.18**	**0.50**

19. Topeka btwn. Tremont & Coast Hwy	Local	2	2,200	1,300	≤C	0.59	1,800	≤C	0.82	0.23
20. Michigan btwn. Freeman & Coast Hwy	Local	2	2,200	1,800	≤C	0.82	1,900	≤C	0.86	0.04
21. Michigan btwn. Coast Hwy & Tremont	Local	2	2,200	**2,500**	**>C**	**1.14**	**4,000**	**>C**	**1.82**	**0.68**
22. Missouri btwn. Coast Hwy & Tremont	Local	2	2,200	1,200	≤C	0.55	1,700	≤C	0.77	0.22
23. Cleveland btwn. Pier View & Mission	Collector	2	15,000	2,300	A	0.15	2,400	A	0.16	0.01
24. Cleveland btwn. Missouri Ave & Washington	Local	2	2,200	300	≤C	0.14	300	≤C	0.14	0.00
25. Pier View btwn. Horne & Clementine	Local	2	2,200	2,000	≤C	0.91	2,200	≤C	1.00	0.09
25. Pier View btwn. Clementine & Ditmar	Local	2	2,200	**2,900**	**>C**	**1.32**	**3,100**	**>C**	**1.41**	**0.09**
26. Pier View btwn. Ditmar & Coast Highway	Local	2	2,200	**2,700**	**>C**	**1.23**	**3,000**	**>C**	**1.36**	**0.13**

[1]Capacities represent LOS E conditions, with the exception of local streets not in the Circulation Element where 2,200 represents LOS C conditions (City endeavors to maintain LOS C conditions for local streets not in the Circulation Element).

Bold indicates roadways that exceed the target LOS.

Shaded cells indicate roadways that exceed LOS D (or local streets not in the Circulation Element that exceed LOS C) and where the Project increases the V/C by more than 0.02.

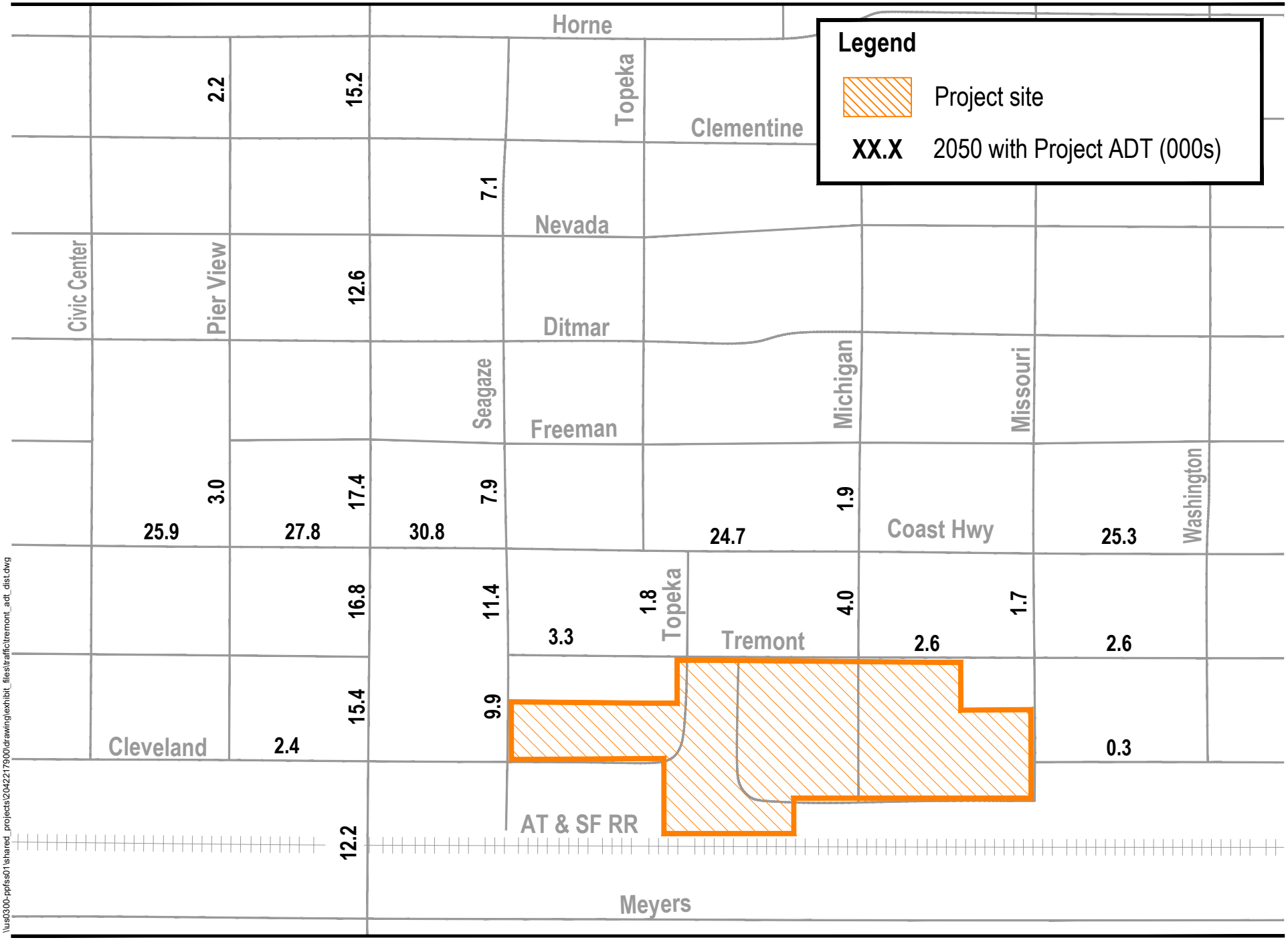
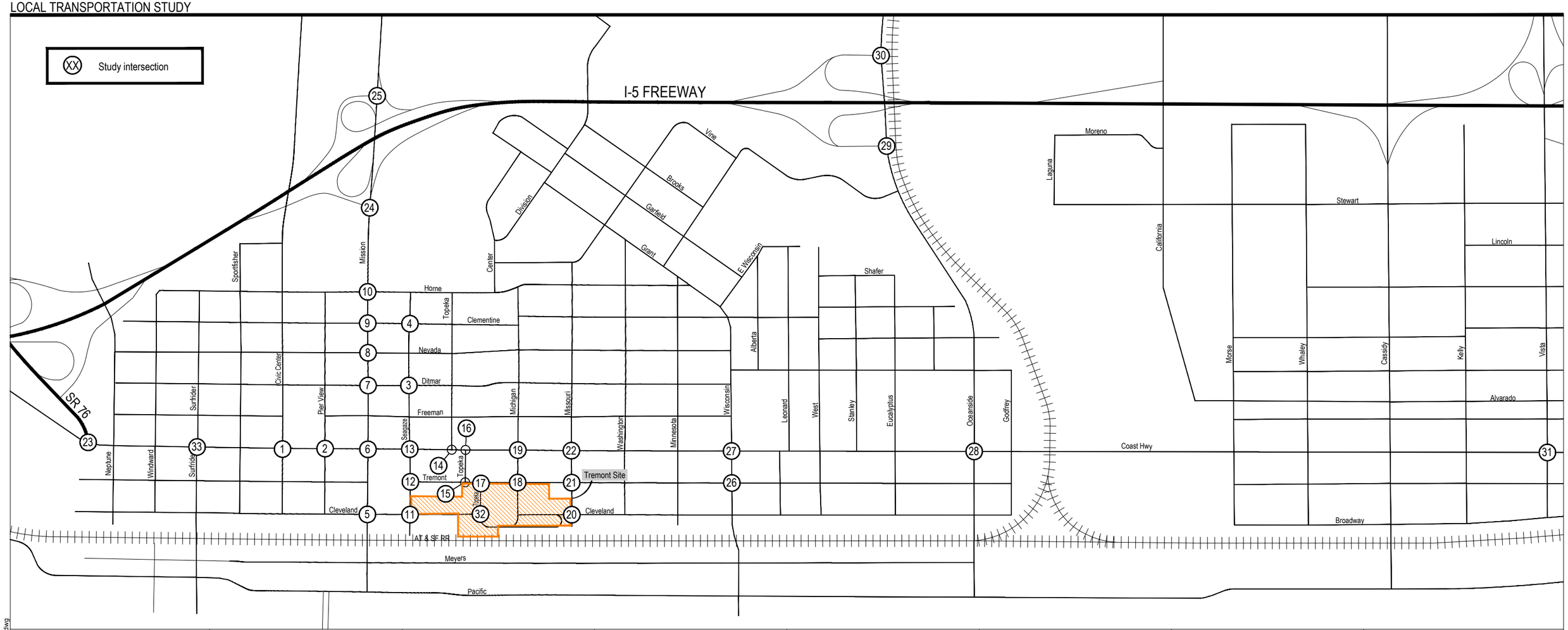
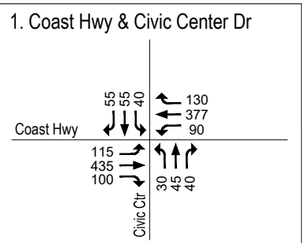
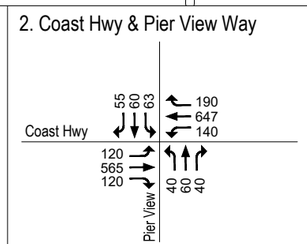


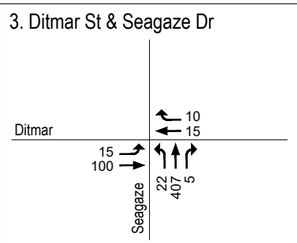
Figure 4-22

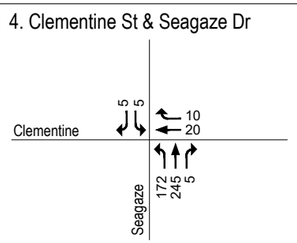
2050 Buildout with Project Average Daily Traffic (ADT) Volumes

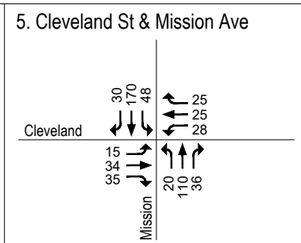




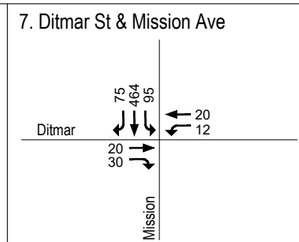


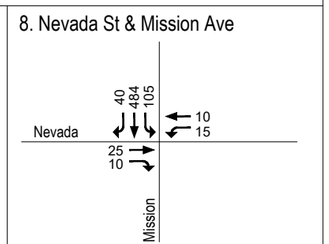


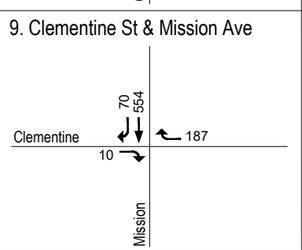


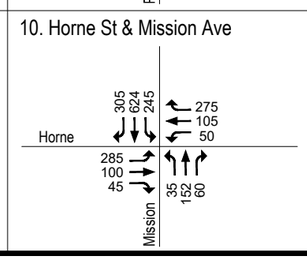


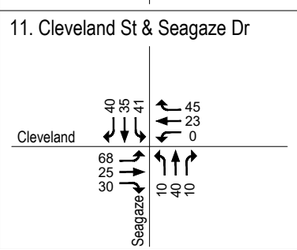


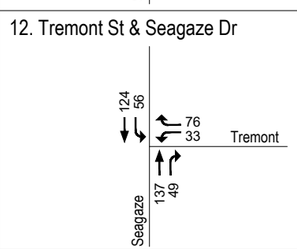


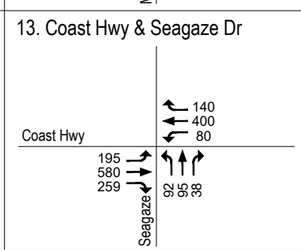


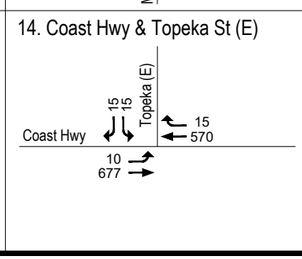


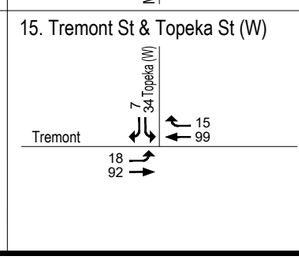


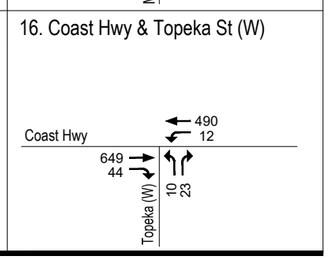






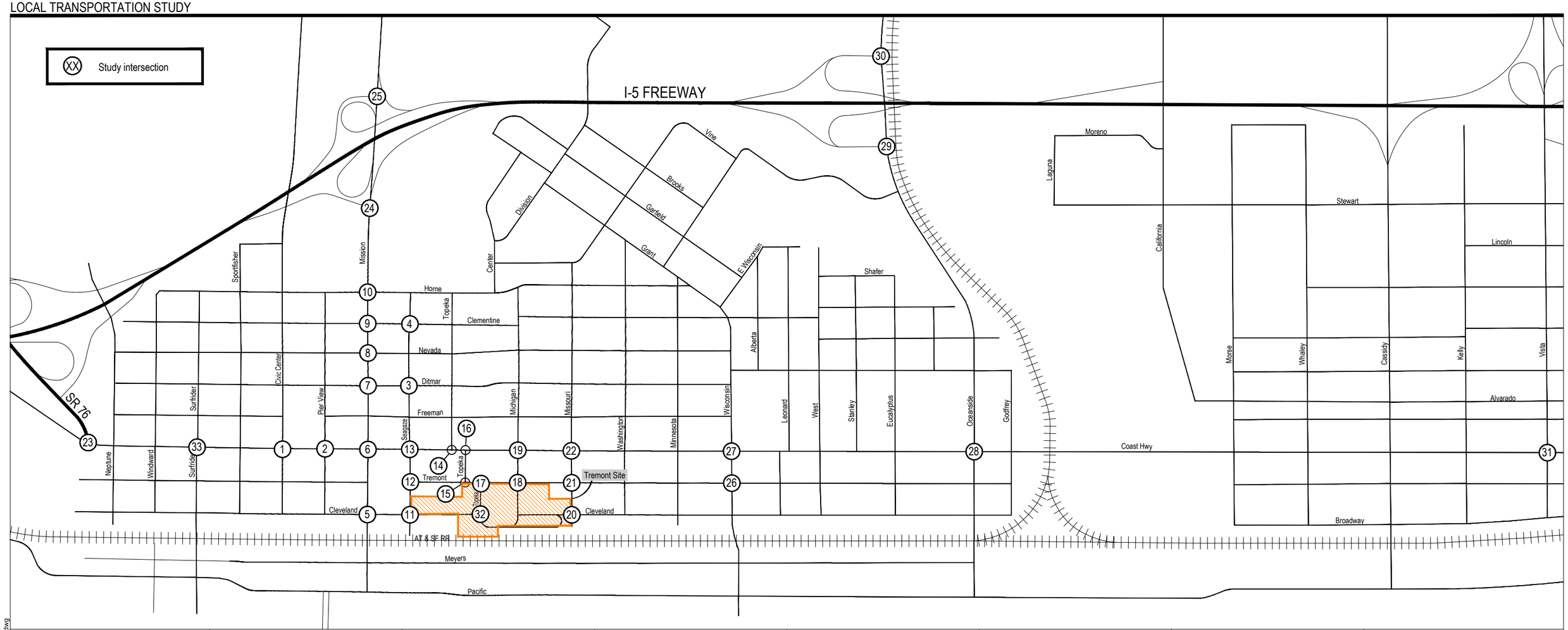


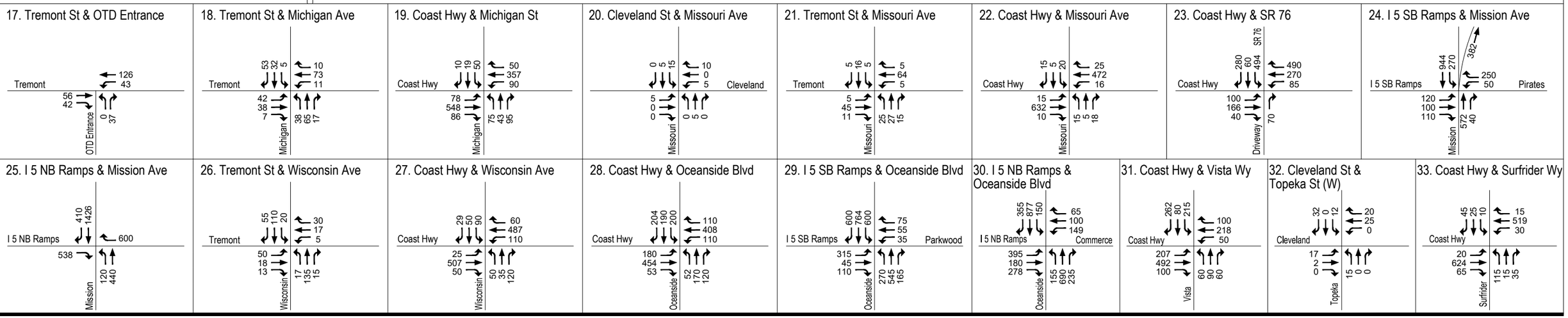




\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

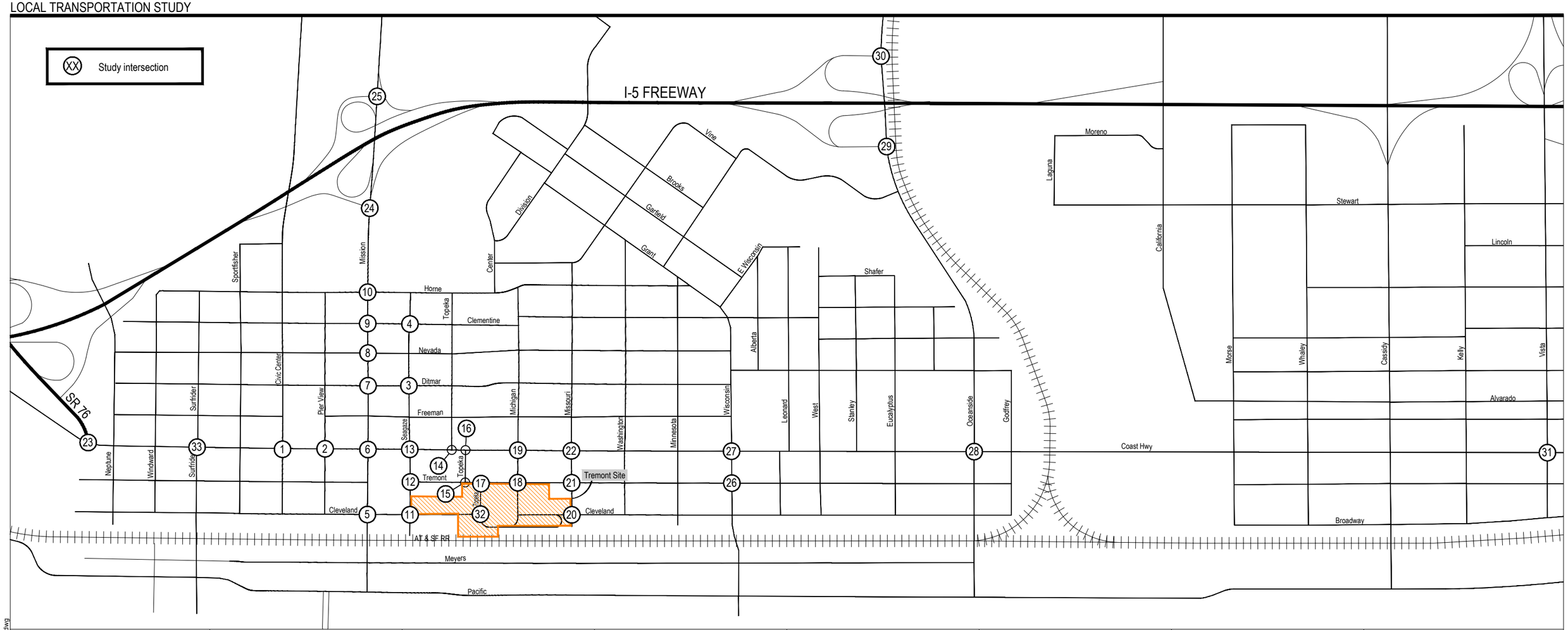
Figure 4-23
2050 Buildout with Project AM Peak Hour Intersection Volumes (1 of 2)

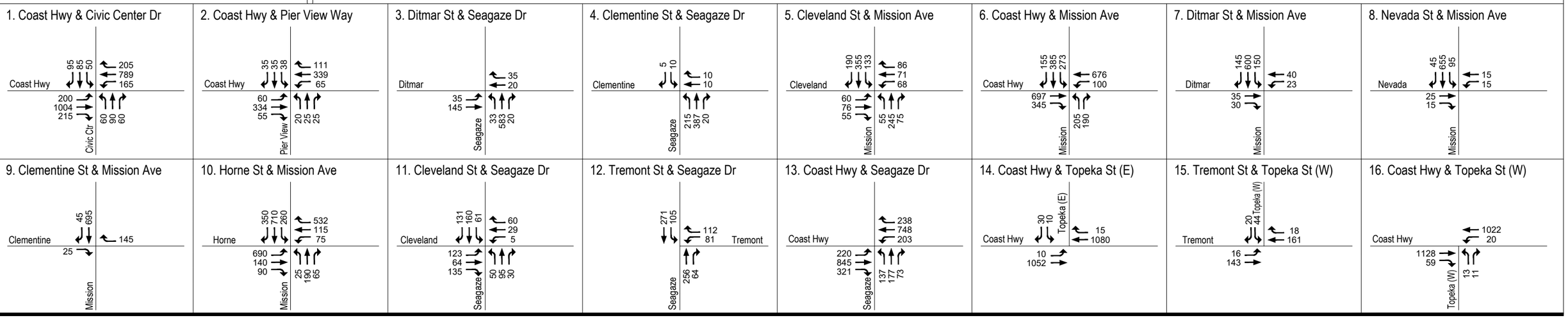




\\us0300-pptfs01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

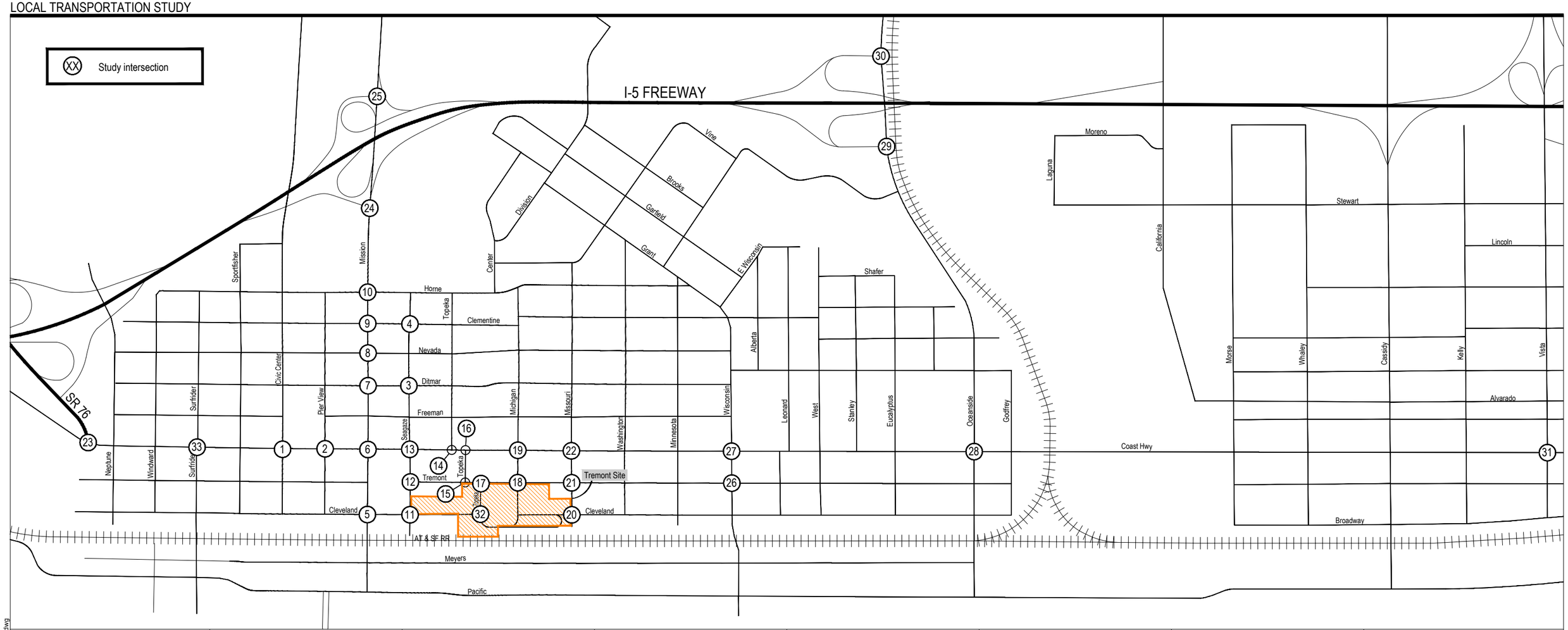
Figure 4-24
2050 Buildout with Project AM Peak Hour Intersection Volumes (2 of 2)

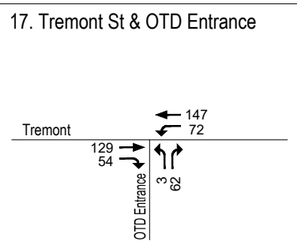


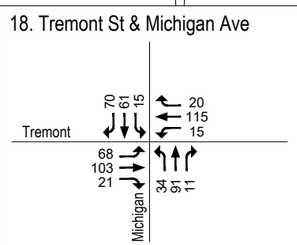


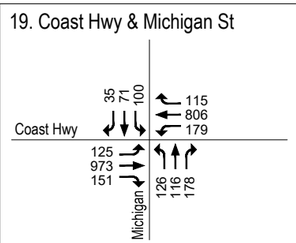
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

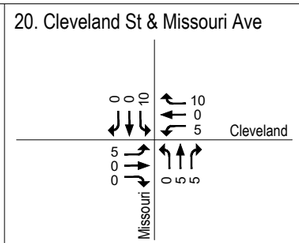
Figure 4-25
2050 Buildout with Project PM Peak Hour Intersection Volumes (1 of 2)

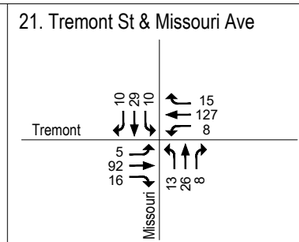




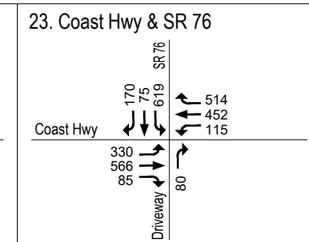


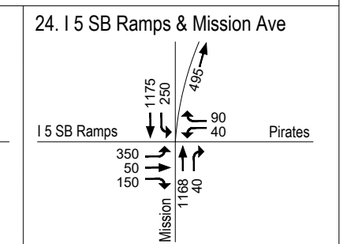


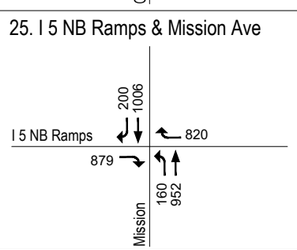


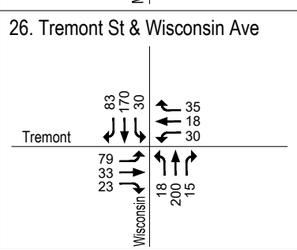


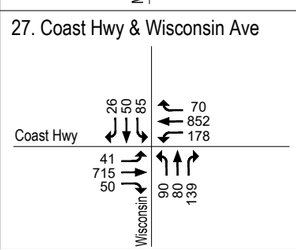


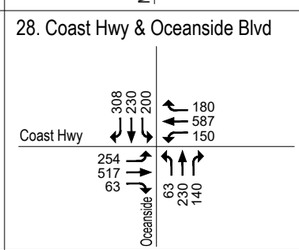


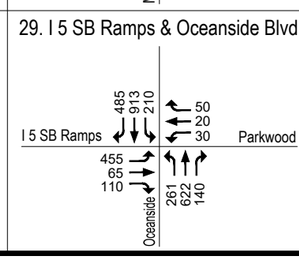


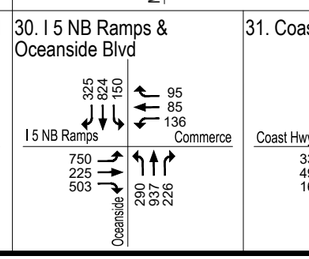


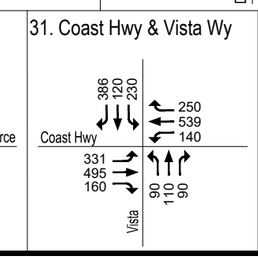


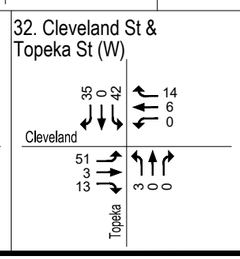


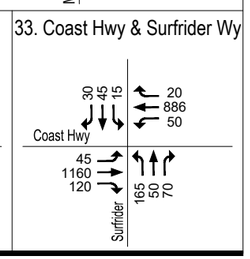












\\us0300-pptfs01\shared_projects\204221700\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 4-26
2050 Buildout with Project PM Peak Hour Intersection Volumes (2 of 2)

Table 4-9 Intersection LOS Summary – Buildout Conditions (Year 2050) With and Without the Project

Intersection	Traffic Control	Buildout Conditions (Year 2050) Without Project				Buildout Conditions (Year 2050) With Project				Difference	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Coast Hwy & Civic Center	Signal	6.6	A	**59.5**	**E**	6.6	A	**94.5**	**F**	0.0	**35.0**
2. Coast Hwy & Pier View	Signal	8.1	A	5.7	A	8.7	A	5.8	A	0.6	0.1
3. Ditmar & Seagaze	AWSC	9.5	A	11.8	B	9.7	A	12.5	B	0.2	0.7
4. Clementine & Seagaze	TWSC	9.7	A	10.8	B	9.9	A	11.0	B	0.2	0.2
5. Cleveland & Mission	Signal	8.6	A	11.8	B	9.1	A	12.2	B	0.5	0.4
6. Coast Hwy & Mission	Signal	18.1	B	41.2	D	19.3	B	43.8	D	1.2	2.6
7. Ditmar & Mission	Signal	4.9	A	5.7	A	4.9	A	5.8	A	0.0	0.1
8. Nevada & Mission	TWSC	15.0	C	17.6	C	15.5	C	18.7	C	0.5	1.1
9. Clementine & Mission	TWSC	10.4	B	11.0	B	10.6	B	11.3	B	0.2	0.3
10. Horne & Mission	Signal	47.0	D	**176.9**	**F**	48.2	D	**210.8**	**F**	1.2	**33.9**
11. Seagaze & Cleveland	AWSC	8.4	A	14.2	B	8.1	A	14.2	B	-0.3	0.0
12. Tremont & Seagaze	TWSC	9.8	A	13.5	B	10.8	B	19.6	C	1.0	6.1
13. Coast Hwy & Seagaze	Signal	12.2	B	50.2	D	13.4	B	49.1	D	1.2	-1.1
14. Coast Hwy & Topeka (E)	TWSC	16.1	C	27.4	D	16.7	C	29.3	D	0.6	1.9
15. Tremont & Topeka (W)	TWSC	9.4	A	9.8	A	10.1	B	10.9	B	0.7	1.1
16. Coast Hwy & Topeka (W)	TWSC	14.1	B	**40.2**	**E**	14.7	B	**55.9**	**F**	0.6	**15.7**
17. Tremont & Topeka[2]	AWSC	0.8	A	1.3	A	7.9	A	9.6	A	7.1	8.3
18. Tremont & Michigan	AWSC	7.3	A	7.8	A	8.2	A	9.5	A	0.9	1.7
19. Coast Hwy & Michigan	Signal	14.7	B	**89.2**	**F**	16.5	B	**147.9**	**F**	1.8	**58.7**
20. Cleveland & Missouri	AWSC	7.0	A	6.8	A	7.0	A	6.9	A	0.0	0.1
21. Tremont & Missouri	TWSC	9.4	A	9.9	B	10.3	B	10.9	B	0.9	1.0
22. Coast Hwy & Missouri	TWSC	21.1	C	**62.4**	**F**	21.6	C	**104.1**	**F**	0.5	**41.7**
23. Coast Hwy & SR 76 / Driveway	Signal	13.5	B	38.5	D	13.9	B	46.4	D	0.4	7.9
24. I-5 SB Ramps & Mission Ave	Signal	30.7	C	36.5	D	31.8	C	40.4	D	1.1	3.9
25. I-5 NB Ramps & Mission Ave	n/a[1]	--	--	--	--	--	--	--	--	--	--
26. Tremont & Wisconsin	TWSC	11.5	B	14.8	B	12.8	B	18.2	C	1.3	3.4
27. Coast Hwy & Wisconsin	Signal	11.2	B	13.5	B	12.3	B	16.2	B	1.1	2.7
28. Coast Hwy & Oceanside	Signal	26.4	C	43.9	D	28.4	C	52.7	D	2.0	8.8
29. I-5 SB Ramps & Oceanside	Signal	**427.2**	**F**	42.2	D	422.6	F	43.2	D	-4.6	1.0
30. I-5 NB Ramps & Oceanside	Signal	**73.1**	**E**	**259.3**	**F**	73.8	E	**259.7**	**F**	0.7	0.4
31. Coast Hwy & Vista	Signal	23.0	C	41.0	D	23.5	C	45.0	D	0.5	4.0
32. Cleveland & Topeka[2]	AWSC	--	--	--	--	7.1	A	7.4	A	7.1	7.4
33. Coast Hwy & Surfrider	Signal	9.6	A	39.3	D	9.7	A	48.8	D	0.1	9.5
Notes:											

TWSC – Two-way stop-control
AWSC – All-way stop-control
LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
AWSC Delay represents the intersection average vehicle delay (total vehicles)
TWSC Delay represents the side street movement with highest average vehicle delay
[1]All intersection movements are free or yield-control
[2]Future intersection with Project
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

Table 4-10 Intersection LOS Summary – Buildout Conditions (Year 2050) with Coast Highway Improvement Project With and Without the Project

Intersection	Traffic Control	Year 2050 With Coast Highway Improvement Project - Without Project				Year 2050 With Coast Highway Improvement Project - With Project				Difference	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Coast Hwy & Civic Center	RAB	9.9	A	**162.2**	**F**	11.1	B	**187.8**	**F**	1.2	**25.6**
2. Coast Hwy & Pier View	Signal	8.1	A	5.9	A	8.7	A	6.1	A	0.6	0.2
6. Coast Hwy & Mission	Signal	21.2	C	44.4	D	23.0	C	54.2	D	1.8	9.8
12. Tremont & Seagaze	TWSC	9.8	A	13.5	B	10.8	B	19.6	C	1.0	6.1
13. Coast Hwy & Seagaze	Signal	13.0	B	51.3	D	14.3	B	51.8	D	1.3	0.5
14. Coast Hwy & Topeka (E)	TWSC	21.5	C	**55.5**	**F**	22.8	C	**64.3**	**E**	1.3	**8.8**
16. Coast Hwy & Topeka (W)	TWSC	17.6	C	**75.0**	**F**	18.7	C	**130.0**	**F**	1.1	**55.0**
19. Coast Hwy & Michigan	RAB	9.8	A	**118.9**	**F**	11.4	B	**159.1**	**F**	1.6	**40.2**
22. Coast Hwy & Missouri	TWSC	13.0	B	20.5	C	14.3	B	24.0	C	1.3	3.5
23. Coast Hwy & SR 76 / Driveway	Signal	15.7	B	**81.9**	**F**	16.4	B	**97.5**	**F**	0.7	**15.6**
27. Coast Hwy & Wisconsin	RAB	9.2	A	25.5	C	11.1	B	45.2	D	1.9	19.7
28. Coast Hwy & Oceanside	Signal	30.5	C	47.7	D	31.2	C	**57.5**	**E**	0.7	**9.8**
33. Coast Hwy & Surfrider	Signal	12.4	B	**232.8**	**F**	13.6	B	**269.9**	**F**	1.2	**37.1**

Notes:
TWSC – Two-way stop-control
RAB – Roundabout
LOS – Level of Service
Delay – Average Vehicle Delay (seconds/vehicle)
TWSC Delay represents the side street movement with highest average vehicle delay
Bold indicates intersections that exceed the target LOS
Shaded cells indicate intersections that exceed LOS D and where the Project increases the delay by more than 2.0 seconds

As shown in **Table 4-9** above, the following intersections exceed the City's target performance criteria for conditions with or without the Project and the Project increases average vehicle delay at the intersections by more than the City's allowable change of 2.0 seconds per vehicle:

1. Coast Highway & Civic Center Drive (Signal)

10. Horne Street & Mission Avenue (Signal)

16. Coast Highway & West Topeka Avenue (West Leg Stop Approach)

19. Coast Highway & Michigan Avenue (Signal)

22. Coast Highway & Missouri Avenue (East and West Leg Stop Approaches)

For each intersection that exceeds the City's performance criteria and also where the noted Project affect would exceed the City's allowable change of 2.0 seconds per vehicle, City guidelines state that improvements should be considered on a case-by-case basis. A discussion of planned improvements for these locations are provided in Section 4.3.4.

4.3.4 ROADWAY IMPROVEMENTS FOR BUILDOUT CONDITIONS (YEAR 2050) WITH PROJECT

As discussed in Section 4.2.3, City guidelines state that for locations forecast to exceed the City's target LOS and where a project's effect on a roadway segment increases the V/C ratio by more than 0.02, or where a project's effect at an intersection adds more than 2.0 seconds of average vehicle delay, roadway improvements that are consistent with the General Plan should be considered. Furthermore, since the Project is located in a Transit Priority Area and a Smart Growth Opportunity Area as identified by SANDAG, the guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. As discussed above, 11 roadway segments and 5 intersections meet the City's criteria under buildout conditions (Year 2050) with the Project. The Project is responsible for its fair-share of the cost of improvements identified for buildout conditions (Year 2050) based on the following formula (see **Appendix F** for fair-share calculations):

$$\% = \frac{Project\ Traffic}{((Buildout\ Traffic + Project\ Traffic) - Existing\ Traffic)}$$

Mission Avenue

The Project's fair-share improvements for Mission Avenue, as outlined in Section 4.2.3, address the Project's buildout conditions (Year 2050) effect on the following segment:

- **Michigan Avenue between Freeman Street and Coast Highway**

Seagaze Drive

The ADT volume for the segment of **Seagaze Drive between Tremont Street and Cleveland Avenue** is forecast to increase by approximately 2,000 ADT due to buildout conditions (Year 2050) growth

estimates. The Project is forecast to add an additional 1,000 ADT to the segment, for a total increase of approximately 3,000 ADT.

This segment of Seagaze Drive is classified as a Collector Road and is configured with one lane in each direction. Head-in angled parking is provided on the north side of the roadway and parallel parking is provided on the south side. A separate left-turn lane is provided at the signalized Coast Highway intersection. Marked crosswalks are provided at each end of the segment, a curb bulb-out is provided at the Tremont Street intersection, and the Cleveland Avenue intersection is configured as an all way stop.

Theoretically, additional roadway capacity could be provided by removing parking and adding a third lane to the segment; however, such a change would significantly alter the character of the road and would have a substantial impact on parking and pedestrians and bicyclists. As such, additional roadway capacity is not feasible for this segment. A conceptual design plan of adding a third lane is provided in **Appendix G** for cost estimating purposes.

Since this segment of Seagaze Drive is within a Transit Priority Area and a Smart Growth Opportunity Area, City guidelines state that improvements for transit, bike, and pedestrian facilities should be given priority. To address the Project's share of additional traffic added to this location (approximately 32%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay the fair-share cost of additional roadway capacity (e.g., add third lane), with the fair-share contribution instead used by the City for other improvements in the downtown area to enhance safety and mobility for transit, pedestrians, and bicyclists.

Coast Highway

The Project's fair-share improvements for Coast Highway, as outlined in Section 4.2.3, address the Project's buildout conditions (Year 2050) effect on the following segments:

- **Coast Highway between Civic Center Drive and Pier View Way**
- **Coast Highway between Pier View Way and Mission Avenue**
- **Coast Highway between Mission Avenue and Seagaze Drive**
- **Coast Highway between Missouri Avenue and Washington Avenue**

Tremont Street

The Project's direct improvements for Tremont Street, as outlined in Section 4.1.1, address the Project's buildout conditions (Year 2050) effect on the following segments:

- **Tremont Street between Seagaze Drive and Topeka Street**
- **Tremont Street between Michigan Avenue and Missouri Avenue**
- **Tremont Street between Missouri Avenue and Washington Avenue**

Michigan Avenue

The Project's direct improvements for Michigan Avenue, as outlined in Section 4.1.1, address the Project's buildout conditions (Year 2050) effect on the following segment:

- **Michigan Avenue between Coast Highway and Tremont Street**

Pier View Way

The Project's fair-share improvements for Pier View Way, as outlined in Section 4.2.3, address the Project's buildout conditions (Year 2050) effect on the following segments:

- **Pier View Way between Clementine Street and Ditmar Street**
- **Pier View Way between Ditmar Street and Coast Highway**

Intersection Improvements

Coast Highway & Civic Center Drive – To reduce vehicle delay and improve LOS, a modification to the existing traffic signal is a potential improvement. Specifically, to optimize the traffic signal timing based on the anticipated increases in traffic volumes. With signal retiming, average vehicle delay for buildout conditions (Year 2050) with the Project is estimated to reduce to 77.1 seconds per vehicle during the critical PM peak hour, which reduces the intersection LOS from LOS F to LOS E, the same as conditions without the Project. The AM peak hour is forecast to operate at LOS A with or without the Project. However, the City regularly implements the retiming of traffic signals to address increases in traffic. As such, optimizing the traffic signal timing at this location would likely occur with or without the Project. This intersection is also part of Segment 2 of the planned Coast Highway Improvement Project, which includes removal of the existing traffic signal and construction of a roundabout in its place. Therefore, to address the Project's share of additional traffic added to this location, it is recommended that the Project pay a fair-share cost of the installation of an adaptive traffic signal control system that the City will be constructing along Coast Highway between Mission Avenue and Oceanside Boulevard.

Horne Street and Mission Avenue – To reduce vehicle delay and improve LOS, a modification to the existing traffic signal is a potential improvement. Specifically, to optimize the traffic signal timing based on the anticipated increases in traffic volumes. With the recommended improvement, average vehicle delay for buildout conditions (Year 2050) with the Project would reduce to 132.1 seconds per vehicle during the critical PM peak hour, which is less than conditions without the Project (176.9 seconds per vehicle). The AM peak hour is forecast to operate at LOS D with or without the Project. However, the City regularly implements the retiming of traffic signals to address increases in traffic. As such, optimizing the traffic signal timing at this location would likely occur with or without the Project. Intersection modifications to add additional vehicle capacity are not feasible at this location due to right-of-way constraints and secondary impacts to pedestrians and bicyclists. The Project's fair-share improvements for this location, as outlined in Section 4.2.3, for the installation of an adaptive traffic signal control system that the City will be constructing along Coast Highway between Mission Avenue and Oceanside Boulevard, will address the Project's buildout conditions (Year 2050) effect on the intersection.

Coast Highway & West Topeka Avenue – To reduce vehicle delay and improve LOS, a modification to the existing side-street lane configurations is a potential improvement. Specifically, to restripe the eastbound approach to prohibit left-turns. With the restriping, average vehicle delay for buildout conditions (Year 2050) with the Project is estimated to reduce to 14.3 seconds per vehicle during the critical PM peak hour, which is less than conditions without the Project (40.2 seconds per vehicle). The AM peak hour is forecast to operate at LOS B with or without the Project. This intersection is also part of Segment 2 of the planned Coast Highway Improvement Project, which includes multi-model improvements to this intersection. To address the Project's share of additional traffic added to this location (approximately 16%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay the fair-share cost of the lane restriping.

Coast Highway & Michigan Avenue – To reduce vehicle delay and improve LOS, a modification to the existing side-street lane configurations is a potential improvement. Specifically, to restripe the eastbound and westbound approaches to remove the right-turn lane and replace with a dedicated left-turn lane. With the restriping, average vehicle delay for buildout conditions (Year 2050) with the Project is estimated to reduce to 82.9 seconds per vehicle during the critical PM peak hour, which is less than conditions without the Project (89.2 seconds per vehicle). The AM peak hour is forecast to operate at LOS B with or without the Project. This intersection is also part of Segment 2 of the planned Coast Highway Improvement Project, which includes removal of the existing traffic signal and construction of a roundabout in its place. To address the Project's share of additional traffic added to this location (approximately 30%, see **Appendix F** for fair-share calculations), it is recommended that the Project pay the fair-share cost of the lane restriping.

Coast Highway and Missouri Avenue – To reduce side-street vehicle delay and improve LOS for this stop-control intersection, installation of a traffic signal is a potential improvement. Alternatively, implementation of the comprehensive Coast Highway Improvement Project improvements would improve multi-modal conditions for this location. With the installation of a traffic signal, average vehicle delay for buildout conditions (Year 2050) with the Project would reduce to 4.2 seconds per vehicle during the critical PM peak hour, which is less than conditions without the Project under side-street stop control (62.4 seconds per vehicle). The Project's fair-share improvements for this location, as outlined in Section 4.2.3, address the Project's buildout conditions (Year 2050) effect on the intersection.

Nevada Street and Mission Avenue – This intersection has been identified by the City as requiring installation of a traffic signal in the Near-Term Cumulative condition based on the traffic study for the 712 Seagaze Mixed Use Development. The Project's fair-share improvements for this location, as outlined in Section 4.2.3, address the Project's buildout conditions (Year 2050) effect on the intersection.

5 Site Access Analysis

This section presents an evaluation of the Project's proposed site access and internal circulation. A discussion of vehicle access, bus circulation, pedestrian circulation, and bicycle circulation is presented. **Figure 5-1** illustrates key elements of the proposed on-site circulation.

5.1 Vehicle Access

Vehicle access to the Project would be made via Seagaze Drive, Cleveland Street, Tremont Street, Topeka Street, Michigan Avenue, and Missouri Avenue.

Cleveland Street would be reconfigured from its existing two-lane one-way configuration to a two-lane two-way configuration. Cleveland Street would be shared by passenger vehicles, buses, and bicycles. Topeka Street would be reconfigured from its existing configuration (two-lane, one-way bus driveway) to a two-lane, two-way configuration, and shared by bus, auto, and bicycles. Michigan Avenue would remain a two-lane two-roadway and would be shared by passenger vehicles, buses, and bicycles. Missouri Avenue would provide direct access to the relocated bus terminal. In comparison to existing conditions, additional pedestrian routes would be provided (see discussion in Section 5.3). The following describes vehicle access to the various components of the Project.

Vehicle Access to OTC and Amenities (transit services, retail, and dining): Commuters and visitors accessing the transit services, retail, and dining would park at the Project's parking structure located just north of Topeka Street. Access to the parking structure would be via driveways onto Tremont Street and Cleveland Street. Commuters and visitors would also have the ability to park at the existing City-owned parking structure located at the terminus of Seagaze Drive.

Vehicle Access to Residential: The Project would construct two residential buildings with parking structures. The first building is located between Topeka Street and Michigan Avenue. The second building is located between Michigan Avenue and Missouri Avenue. Residents parking in the northerly building would access the parking garage via driveways on Topeka Street and Michigan Avenue. Residents accessing the southerly building would access the parking garage via driveways on Michigan Avenue and Missouri Avenue.

Vehicle Access to NCTD Office: The NCTD office would be located on the west side of the Project between Cleveland Street and the railroad tracks. Employees and visitors to the NCTD office would park in the structure on Cleveland Street directly across from the office building. The parking structure driveways are located on Cleveland Street and on Tremont Street.

Vehicle Access to Hotel: The hotel would be located on the north portion of the Project site. Vehicles would access the hotel via a driveway on Seagaze Drive. There would also be flexible curb space on Cleveland Street where guests can load and unload.

TOPEKA ST.
Proposed all-way stop control
Existing all-way stop control
S. TREMONT ST.
Public/office parking driveway
Hotel parking driveway
ALLEY
PARKING GARAGE
TOPEKA ST.
RESIDENTIAL BUILDING 1
MICHIGAN AVE.
RESIDENTIAL BUILDING 2
ALLEY
MISSOURI AVE.
SEAGAZE DR.
HOTEL
Residential parking driveway
Transit center parking driveway
Public/office parking driveway
Proposed all-way stop control
Residential parking driveway
Transit center parking driveway
Bus platform
Proposed all-way stop control
S. CLEVELAND ST.
NCTD office loading dock driveway
Raised crosswalk
BUS TERMINAL
NCTD OFFICE
EXISTING PARKING STRUCTURE
S. CLEVELAND ST.
Bus platform
TRANSIT PLAZA
SPRINTER rail platform
Existing ramp to pedestrian tunnel
Existing pedestrian tunnel
COASTER/Amtrak/Metrolink rail platforms
Existing ramp to pedestrian tunnel

Legend

- Proposed sidewalk/plaza/landscaped areas
- Existing sidewalk
- Proposed crosswalk
- Existing crosswalk
- Project driveway
- Rail Platforms

Note: Exhibit does not depict various landscaped areas proposed within the pedestrian realm.

\\us0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\trafficltremont_study\oceanside_tod-volumes_tia.dwg

Figure 5-1
On-Site Project Circulation Plan

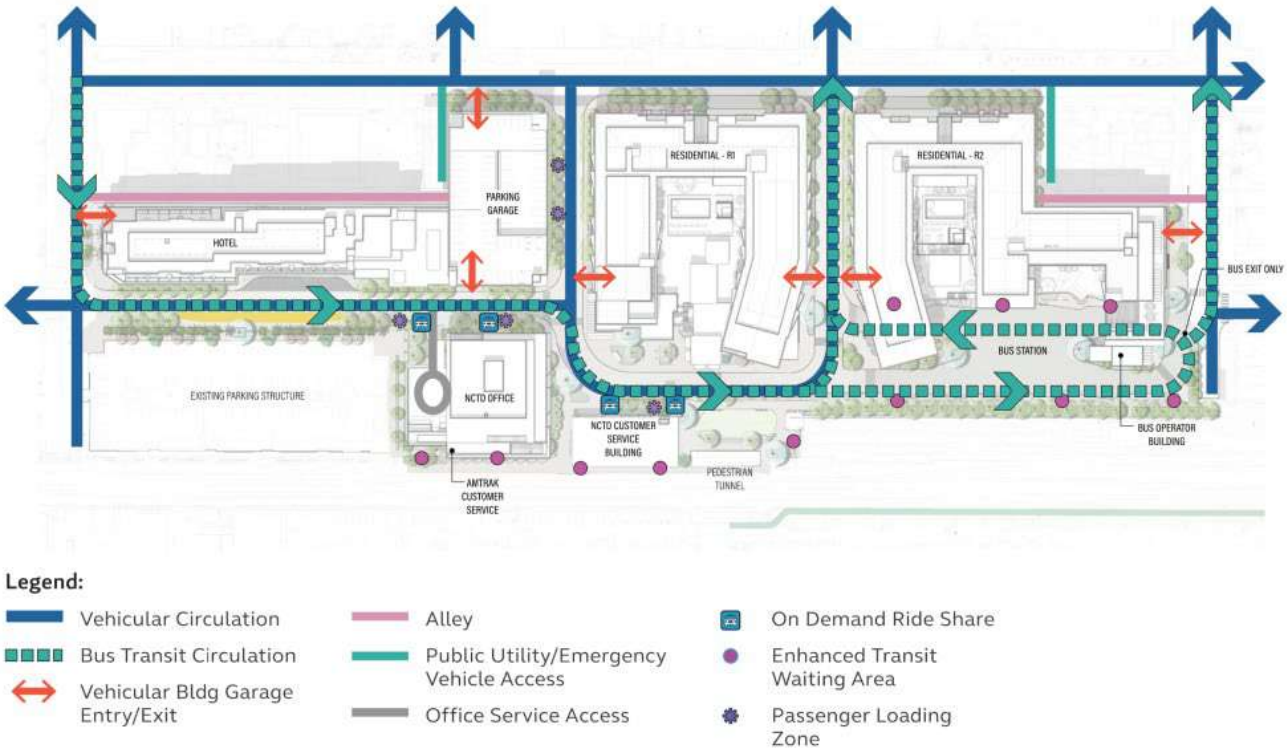
5.2 Bus Circulation

Entering the site: Buses would access the OTC through the primary gateway at Seagaze Drive and Cleveland Street. The buses would turn onto Cleveland Street and travel south to the relocated bus terminal at the southerly end of the Project site.

Exiting the site: Buses would exit the bus terminal two ways. The first is to exit the bus terminal onto Michigan Street where the buses would turn right towards Tremont Street. Another exit route would be on Missouri Avenue, towards Tremont Street.

The proposed on-site transit circulation, as depicted in the Project's draft Specific Plan, is depicted in **Figure 5-2**, below.

Figure 5-2 Bus & Passenger Vehicle Circulation Framework Plan



Source: Draft Oceanside Transit Center Specific Plan, Arcadis (2024)

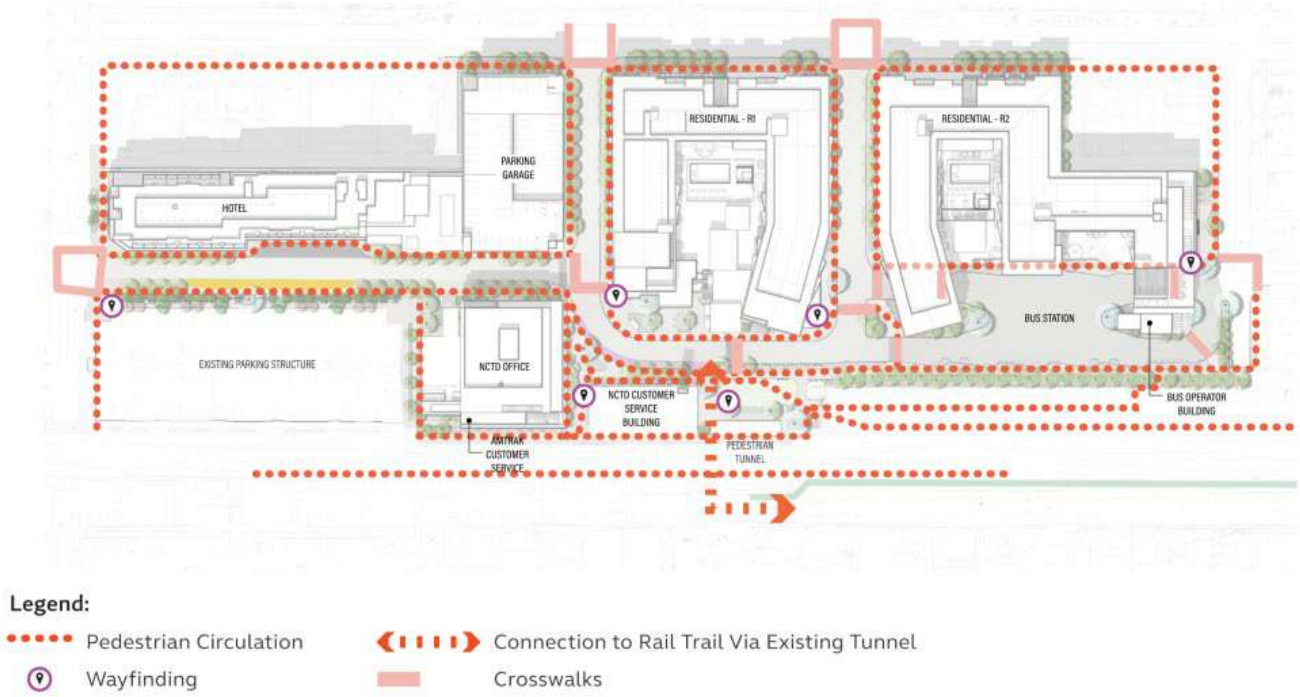
5.3 Pedestrian Circulation

Pedestrians can access the Project from Seagaze Drive, Tremont Street, Michigan Avenue, and Missouri Avenue and utilize a robust on-site pedestrian network. In addition, the site is accessible from west of the railroad tracks via an undercrossing near the intersection of Myers Street and Tyson Street.

The Project would provide crosswalks along the Project's access points and on-site intersections as depicted in the previously referenced **Figure 5-1**. A mid-block raised crosswalk would also be provided on Cleveland Street near the Station Plaza where heavy pedestrian traffic is anticipated.

The proposed on-site pedestrian circulation, as depicted in the Project's draft Specific Plan, is depicted in **Figure 5-3**, below.

Figure 5-3 Pedestrian Circulation Framework Plan



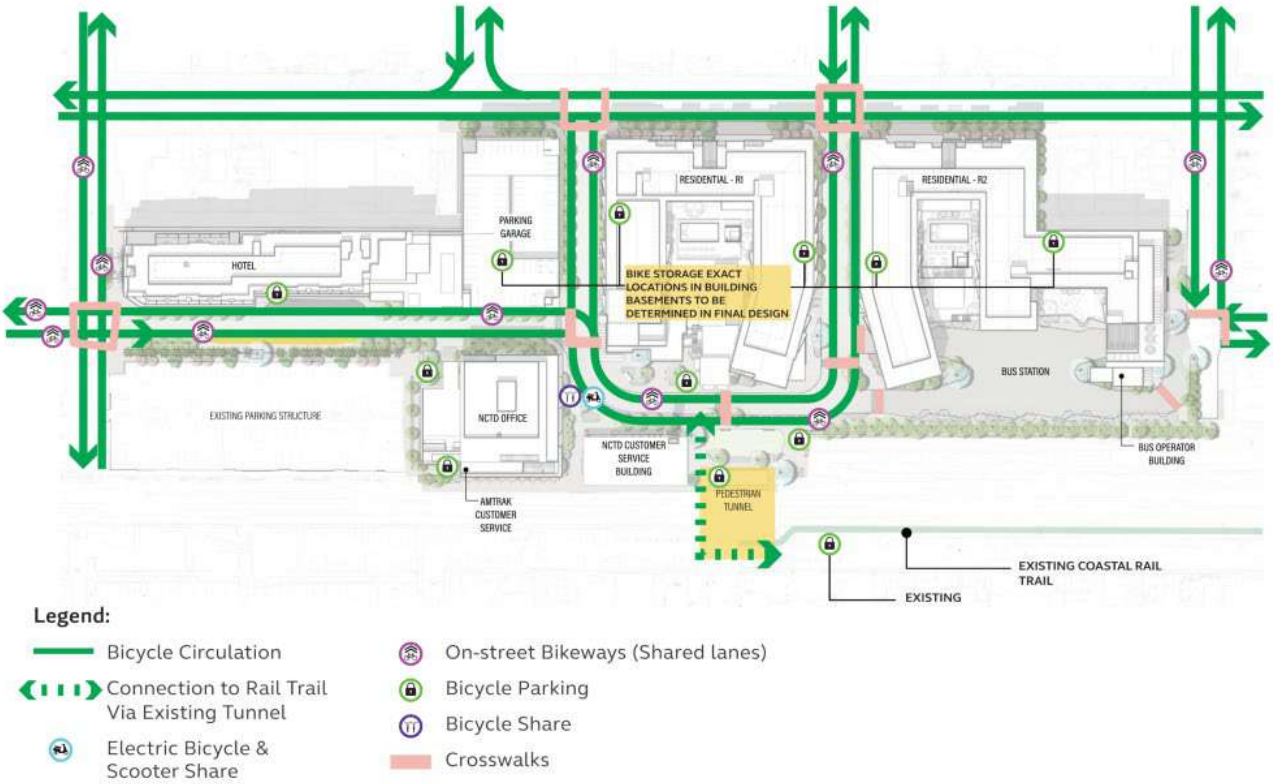
Source: Draft Oceanside Transit Center Specific Plan, Arcadis (2024)

5.4 Bicycle Circulation

Bicycles would access the Project via Cleveland Street, Topeka Street, Michigan Avenue, and Missouri Avenue. Bicycle parking is located throughout the Project site. The Project would also provide bike share, electric bike, and scootershare stations.

The proposed on-site pedestrian circulation, as depicted in the Project's draft Specific Plan, is depicted in **Figure 5-4**, below.

Figure 5-4 Bicycle Circulation Framework Plan



Source: Draft Oceanside Transit Center Specific Plan, Arcadis (2024)

Appendix A – Preliminary Project Information Form

PROJECT INFORMATION FORM (PIF)

THE FOLLOWING IS TO BE COMPLETED BY THE PROJECT APPLICANT:

PROJECT INFORMATION FORM			
1.	**PROJECT DESCRIPTION:**	Mixed Use Transit Oriented Design project including, a bus / rail transit station, hotel, office, retail, multifamily residential, and associated amenity spaces. (See following page for breakdown of number of units and trip generation)	
2.	**PROJECT LOCATION:**	Oceanside Transit Center, 235 S. Tremont St., Oceanside, CA	
3.	**LAND USE:** Oceanside Transit Center (OTC) Specific Plan **SIZE/DENSITY:** 10.06 ACs / Density consistent with OTC Specific Plan		
4.	**ZONING AND LAND USE CONSISTENT WITH ADOPTED GENERAL PLAN?**	☐ Yes	☑ No
5.	**PROJECT LOCATED IN TRANSIT PRIORITY AREA[1], SMART GROWTH AREA[2], OR LOW VMT AREA[3]?**	☑ Yes	☐ No
6.	**PROJECT TRIP GENERATION:** 6,086 **ADT**	☐ < 200 ADT ☐ ≥ 200 ADT ☐ ≥ 1,000 ADT ☑ ≥ 2,400 ADT	
	ATTACHMENTS		
A.	**PROJECT LOCATION MAP**	☑ Attached	
B.	**PROJECT TRIP DISTRIBUTION**	☑ Attached	
C.	**PROJECT TRIP ASSIGNMENT**	☑ Attached	

1) Projects located in a TPA must be able to access the transit station within a ½ mile walking distance or 6 minute walk continuously without discontinuity of sidewalk or obstructions to the route. Qualifying transit stops means a site containing an existing rail transit station served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (OPR, 2017). A high-quality transit corridor may also be considered if a corridor with fixed route bus service has service intervals no longer than 15 minutes during peak commute hours (OPR, 2017).
(2) See Appendix B.
(3) Based on the most recent SANDAG SB 743 Screening Map. Example shown in Appendix C.

DRAFT

TO BE COMPLETED BY CITY STAFF AND RETURNED TO PROJECT APPLICANT

PROJECT STUDY REQUIREMENTS				
1)	**Does the project require a CEQA VMT analysis?** **A. If yes, does the project require a SANDAG Model Run?**	☐ Yes ☐ Yes	☐ No ☐ No	☐ Incomplete[(1)]
2a)	**Does the project require a Local Transportation Study?**	☐ Yes	☐ No	☐ Incomplete[(1)]
	OR			
2b)	**Does the project require a Local Transportation Assessment?**	☐ Yes	☐ No	☐ Incomplete[(1)]

[(1)] Incomplete application or additional information is needed to determine study requirements.

Planning Division Date

Transportation Engineering Section Date

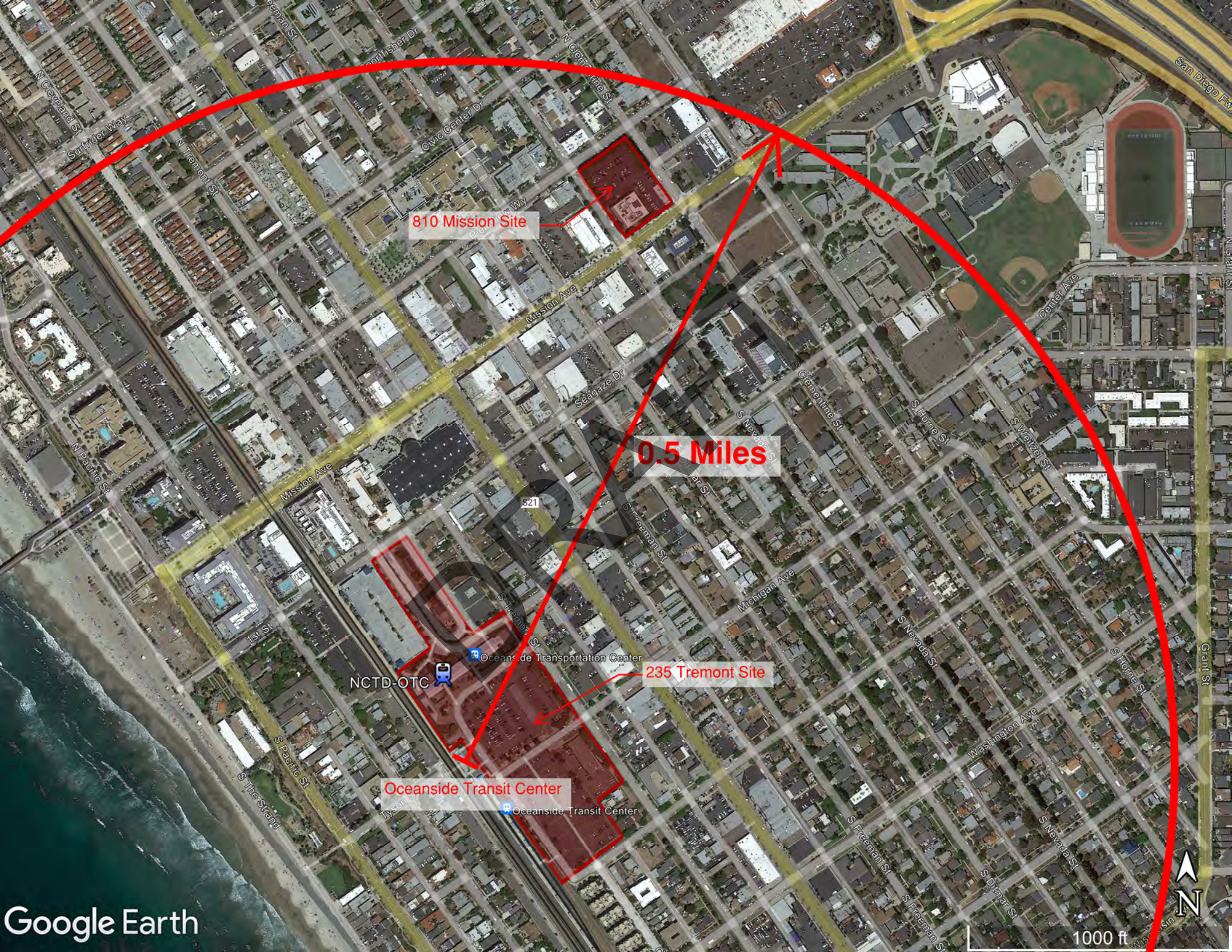
Stantec

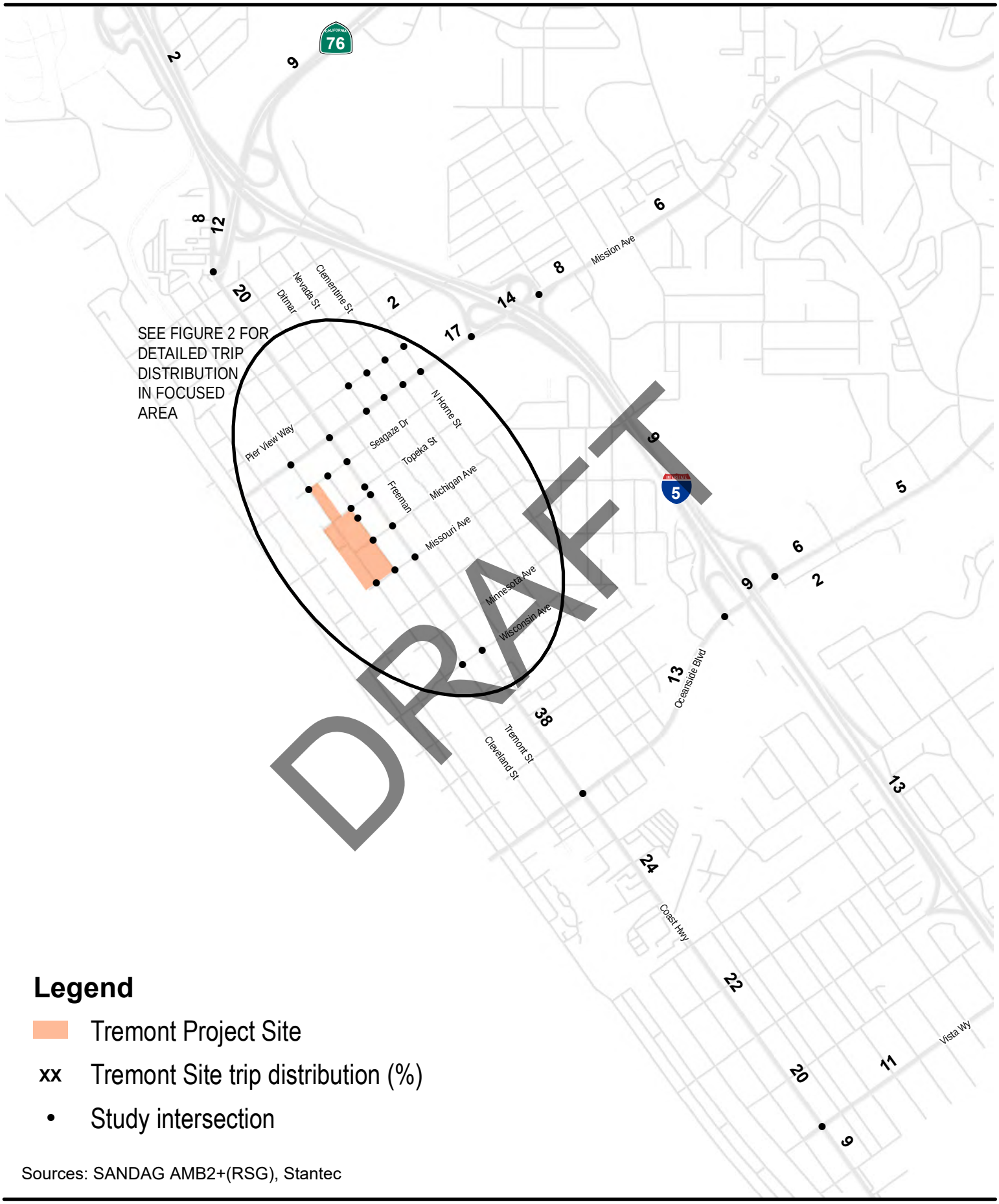
Table 2 Trip Generation Summary - 235 Tremont Street Site

Land Use	Amount	Trip Rate	ADT	AM Peak Hour						PM Peak Hour					
				Peak %	Vol.	In %	Out %	Vol. In	Vol. Out	Peak %	Vol.	In %	Out %	Vol. In	Vol. Out
Proposed Project															
Multi-family Residential	547 DU	6	3,282	8%	263	20%	80%	53	210	9%	295	70%	30%	207	89
Retail	11.897 TSF	40	476	3%	14	60%	40%	8	6	9%	43	50%	50%	22	22
Food and Beverage	11.897 TSF	160	1,904	8%	152	50%	50%	76	76	8%	152	60%	40%	91	61
NCTD Headquarters	61.26 TSF	7	429	17%	73	90%	10%	66	7	16%	69	10%	90%	7	62
Boutique Hotel	170 Room	10	1,700	6%	102	60%	40%	61	41	8%	136	60%	40%	82	54
Gross Trips		7,791	--	--	604	--	--	264	340	--	695	--	--	409	288
SANDAG MXD Internal Capture Trips		486	--	--	32	--	--	14	18	--	43	--	--	25	18
SANDAG MXD Internal Capture %		6%	--	--	5%	--	--	5%	5%	--	6%	--	--	6%	6%
SANDAG MXD Walking External Trips		856	--	--	50	--	--	22	28	--	70	--	--	41	29
SANDAG MXD Walking External %		11%	--	--	8%	--	--	8%	8%	--	10%	--	--	10%	10%
SANDAG MXD Transit External		363	--	--	43	--	--	19	24	--	38	--	--	22	16
SANDAG MXD Transit External %		5%	--	--	7%	--	--	7%	7%	--	5%	--	--	5%	5%
Total External Vehicle Trips		**6,086**	**--**	**--**	**479**	**--**	**--**	**209**	**270**	**--**	**544**	**--**	**--**	**320**	**224**
Total MXD Trip Reduction %		22%	--	--	21%	--	--	21%	21%	--	22%	--	--	22%	22%

DU = Dwelling Unit
TSF = Thousand Square Feet
Room = Occupied Rooms
SANDAG = San Diego Association of Governments
MXD = Mixed-use Development
Existing transit uses on-site to remain.
Trip Rate Sources - *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* SANDAG (2002):
Multi-family Residential = SANDAG land use category "Apartment"
Retail = SANDAG land use category "Specialty Retail/Strip Commercial"
Food and Beverage = SANDAG land use category "Sit-down, High Turnover"
NCTD Headquarters = SANDAG land use category "Corporate Headquarters"
Boutique Hotel = SANDAG land use category "Hotel (w/convention facilities, restaurant)"

DRAFT


810 Mission Site
0.5 Miles
235 Tremont Site
Oceanside Transit Center
NCTD-OTC
Oceanside Transportation Center
Oceanside Transit Center
DRAFT
Mission Ave
Seagaze Dr
Michigan Ave
Washington Ave
Grant St
Center Ave
N Cleveland St
Surfrider Way
N Tremont St
Civic Center Dr
N Clementine St
San Diego Fwy
N Pacific St
1st St
S Pacific St
S The Strand
S Freeman St
S Clementine St
S Nevada St
S Horne St
S Weitzel St
S Ditmar St
821
1000 ft
N
Google Earth

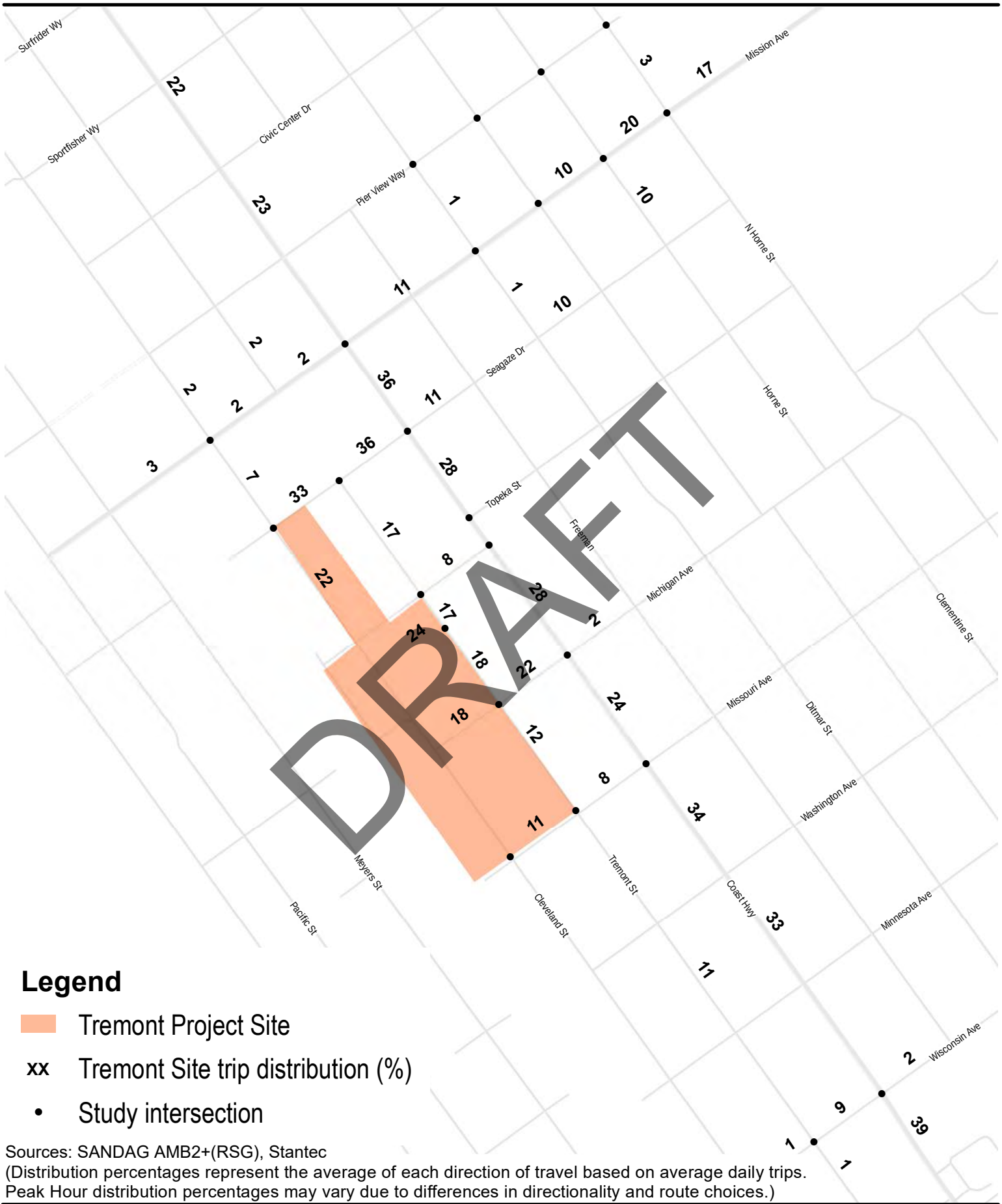


Sources: SANDAG AMB2+(RSG), Stantec

\\Us0300-ppfss01\shared_projects\204221790\gis\traffic\tia\pif\trip_dist_tremont-1.mxd

Figure 1

Tremont Site Project Trip Distribution



Legend

- Tremont Project Site
- xx Tremont Site trip distribution (%)
- • Study intersection

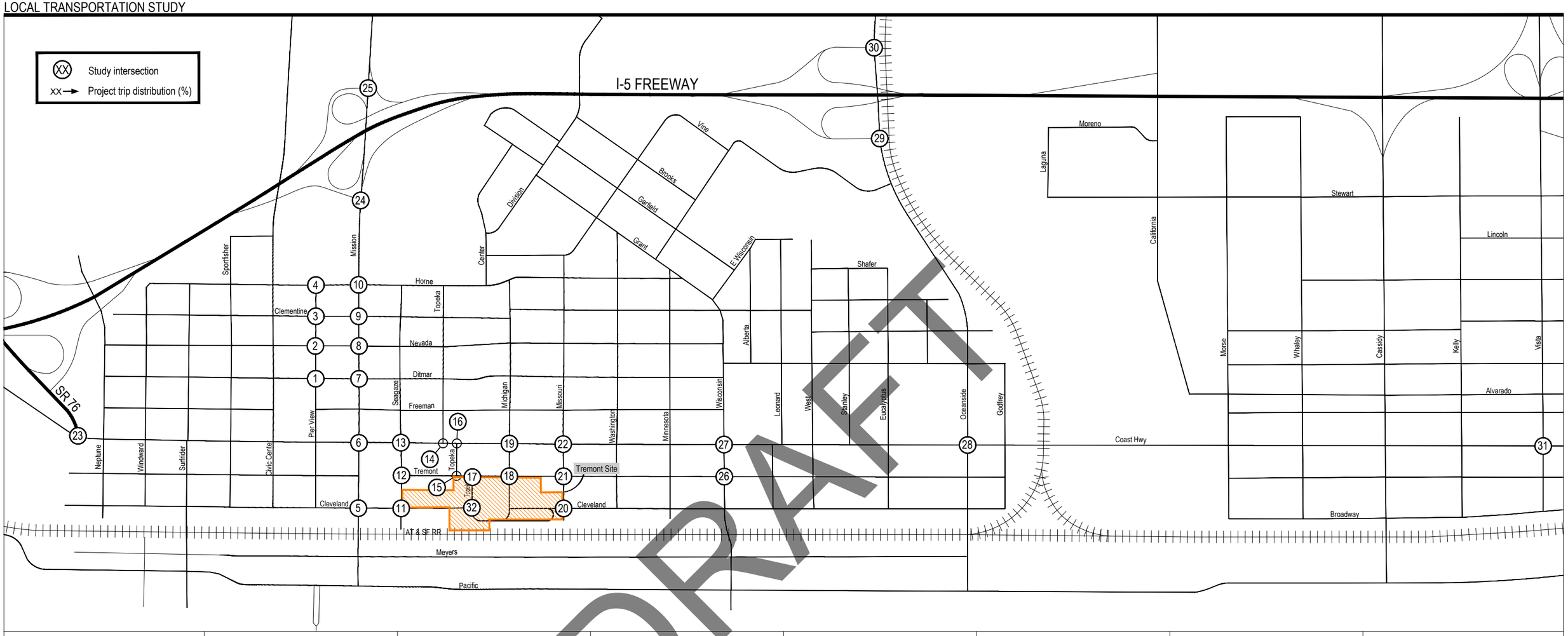
Sources: SANDAG AMB2+(RSG), Stantec
(Distribution percentages represent the average of each direction of travel based on average daily trips. Peak Hour distribution percentages may vary due to differences in directionality and route choices.)

\\Us0300-ppfss01\shared_projects\204217900\gis\traffic\tia\pifltrip_dist_tremont-2.mxd

N

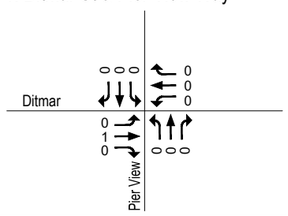
Figure 2

Tremont Site Project Trip Distribution (Focused Area)

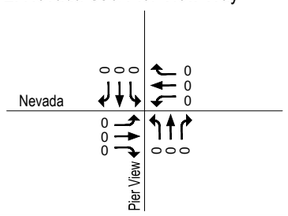


DRAFT

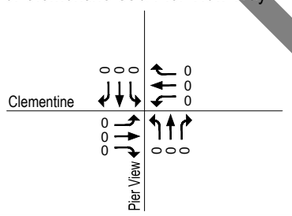
1. Ditmar St & Pier View Way



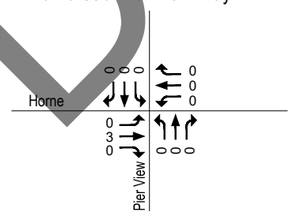
2. Nevada St & Pier View Way



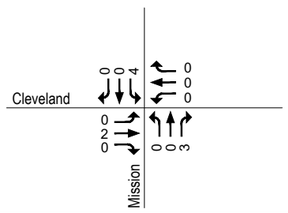
3. Clementine St & Pier View Way



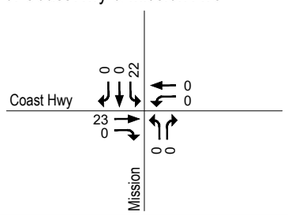
4. Horne St & Pier View Way



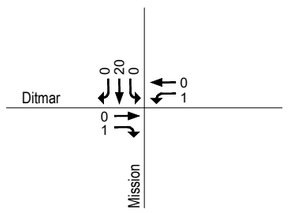
5. Cleveland St & Mission Ave



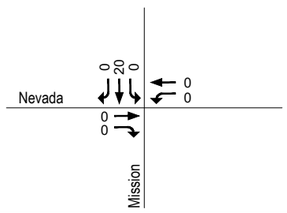
6. Coast Hwy & Mission Ave



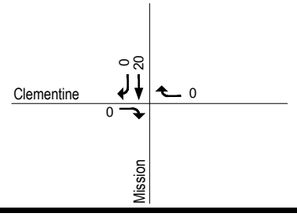
7. Ditmar St & Mission Ave



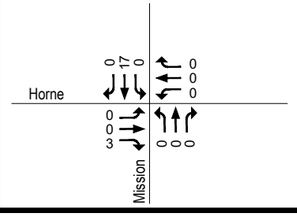
8. Nevada St & Mission Ave



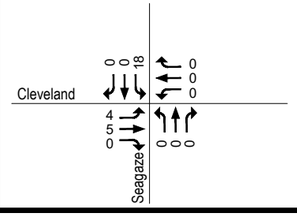
9. Clementine St & Mission Ave



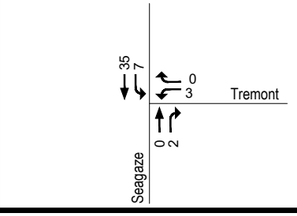
10. Horne St & Mission Ave



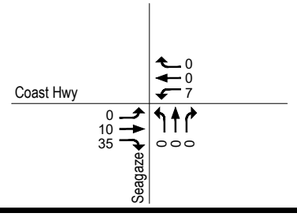
11. Cleveland St & Seagaze Dr



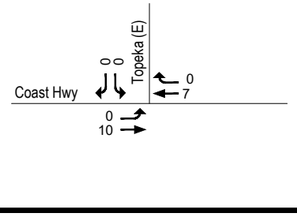
12. Tremont St & Seagaze Dr



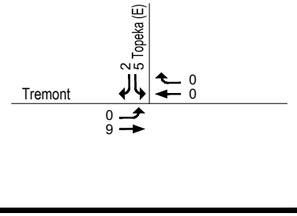
13. Coast Hwy & Seagaze Dr



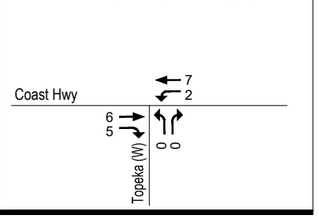
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)

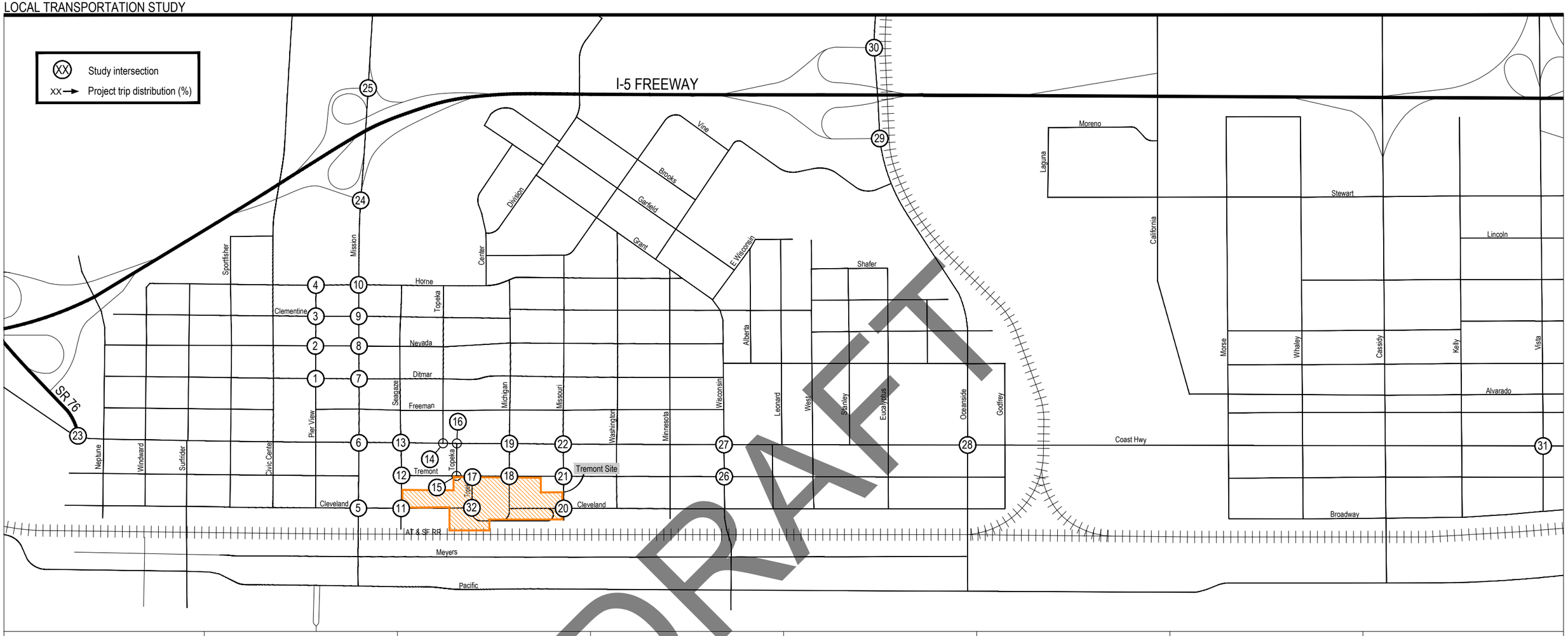


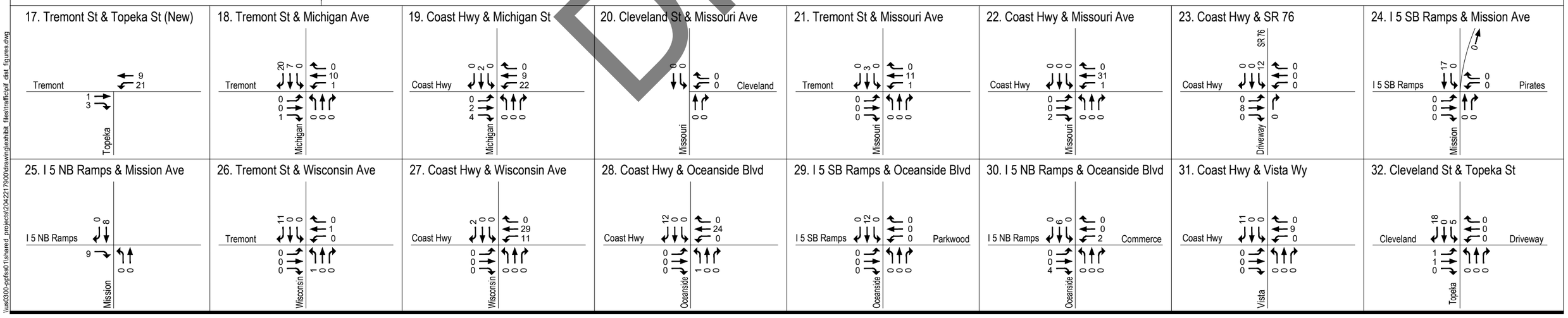
16. Coast Hwy & Topeka St (W)



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\pif_dist_figures.dwg

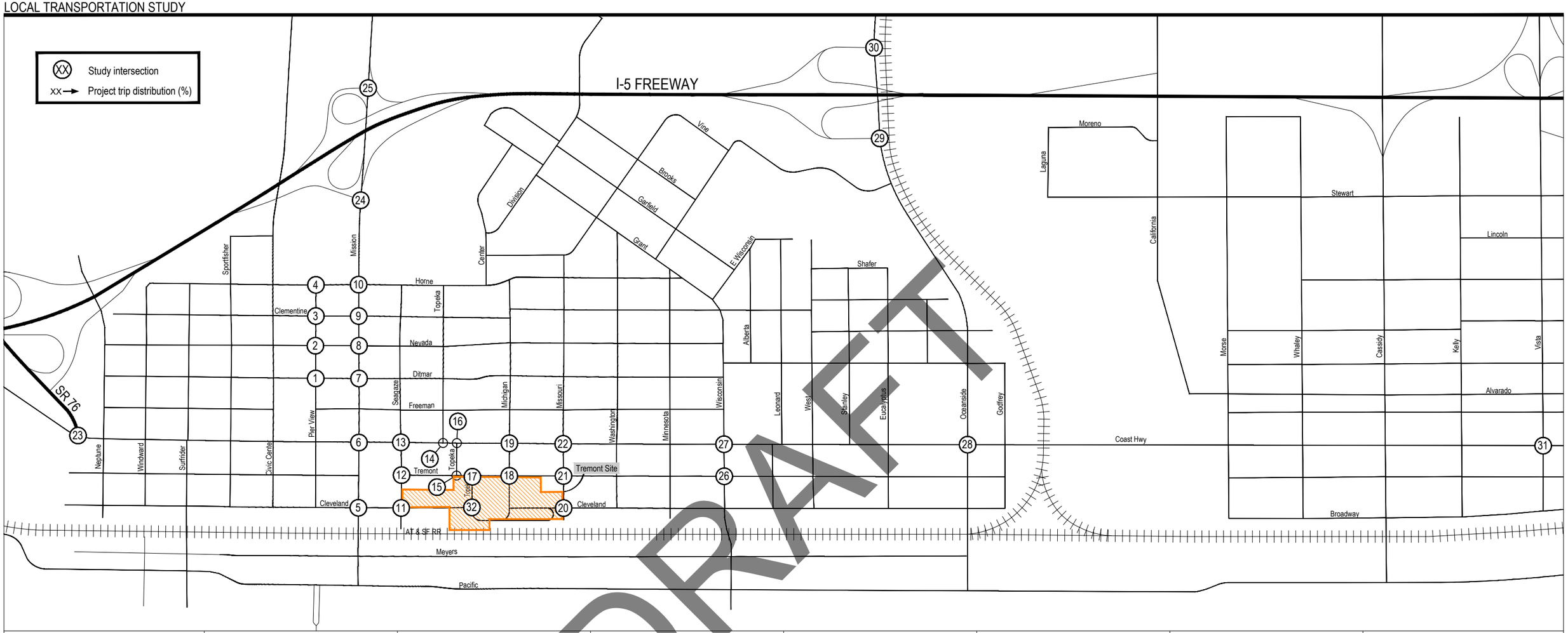
Figure 3
Tremont Site AM Peak Hour Inbound Project Trip Distribution Percentages (1 of 2)

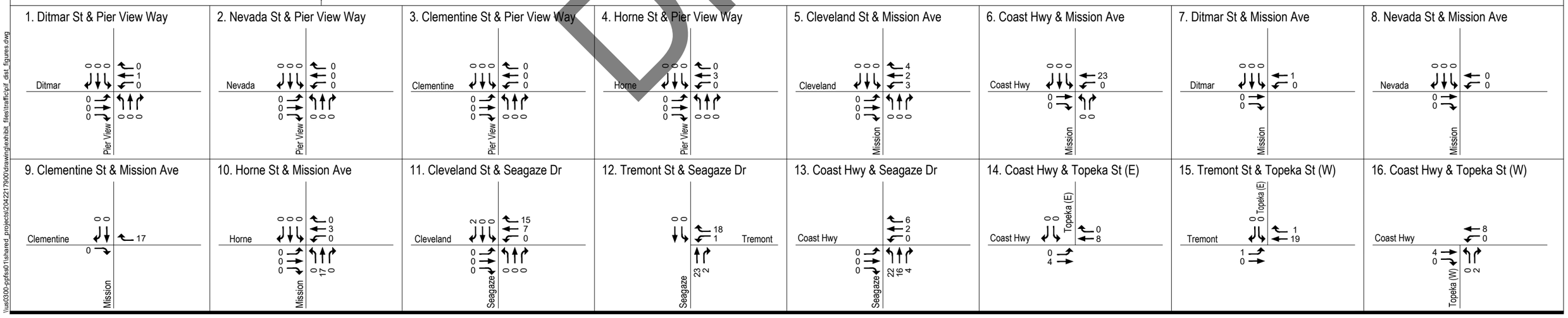




\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\pif_dist_figures.dwg

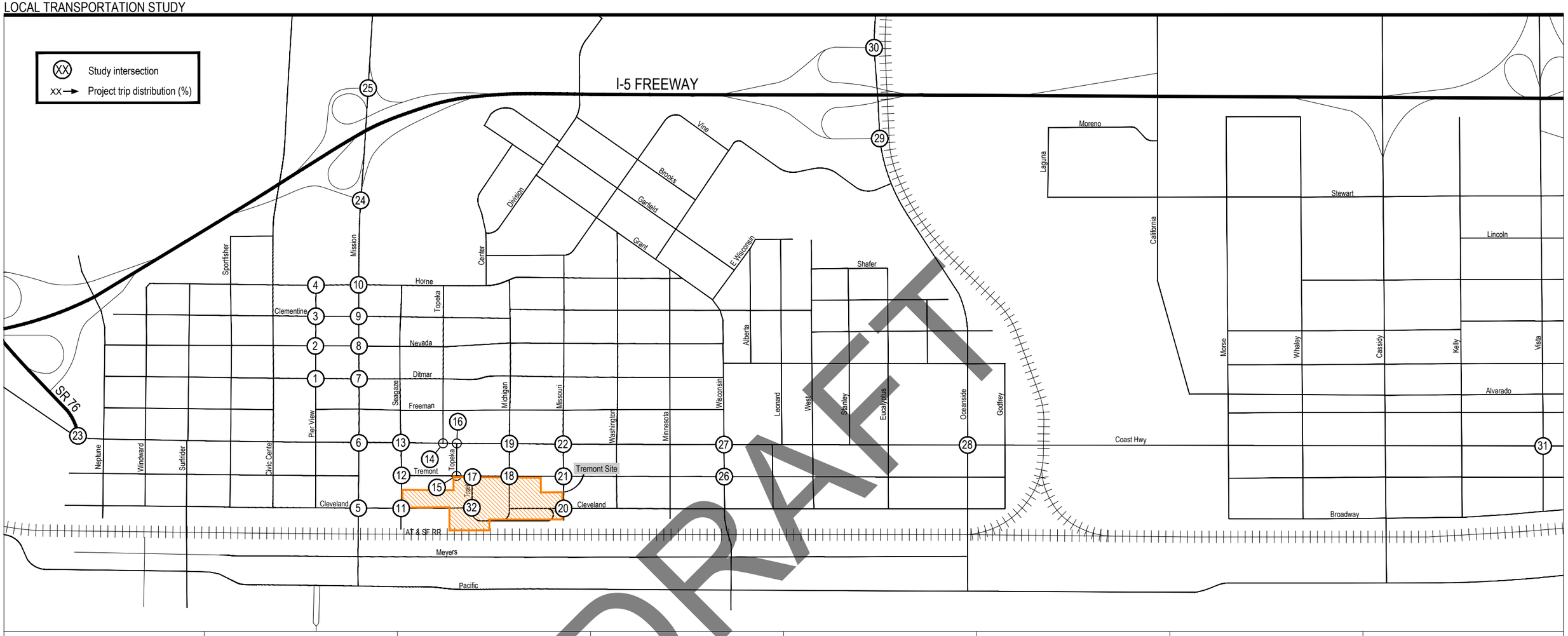
Figure 4
Tremont Site AM Peak Hour Inbound Project Trip Distribution Percentages (2 of 2)





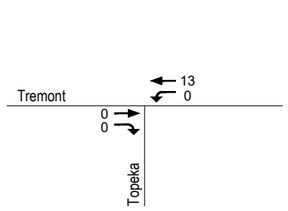
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\pif_dist_figures.dwg

Figure 5
Tremont Site AM Peak Hour Outbound Project Trip Distribution Percentages (1 of 2)

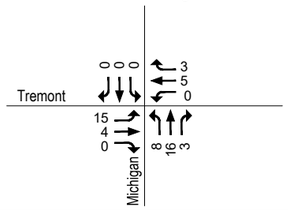


DRAFT

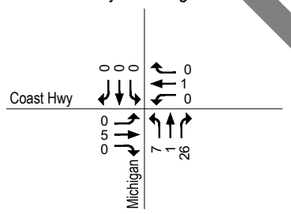
17. Tremont St & Topeka St (New)



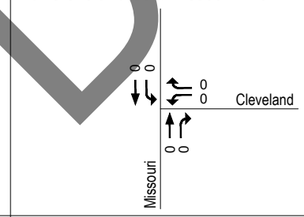
18. Tremont St & Michigan Ave



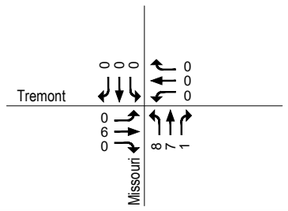
19. Coast Hwy & Michigan St



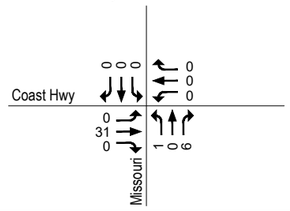
20. Cleveland St & Missouri Ave



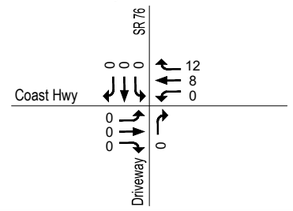
21. Tremont St & Missouri Ave



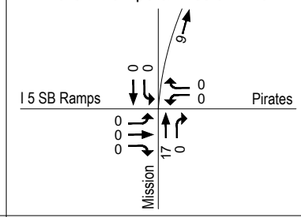
22. Coast Hwy & Missouri Ave



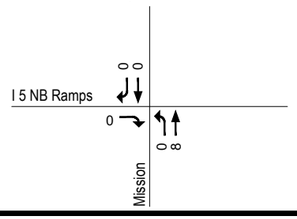
23. Coast Hwy & SR 76



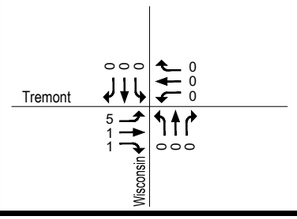
24. I 5 SB Ramps & Mission Ave



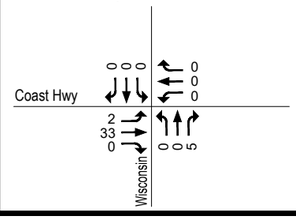
25. I 5 NB Ramps & Mission Ave



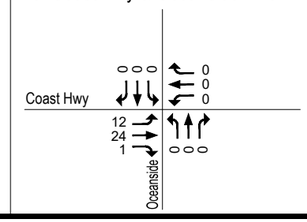
26. Tremont St & Wisconsin Ave



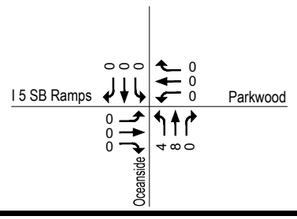
27. Coast Hwy & Wisconsin Ave



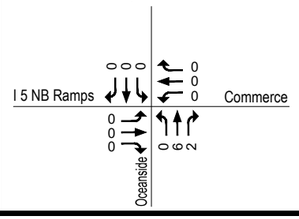
28. Coast Hwy & Oceanside Blvd



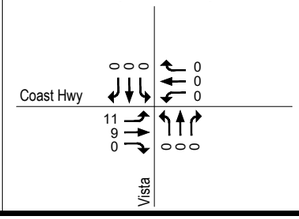
29. I 5 SB Ramps & Oceanside Blvd



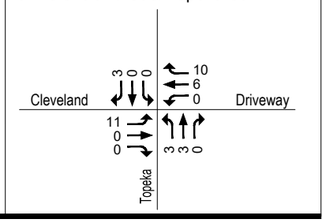
30. I 5 NB Ramps & Oceanside Blvd



31. Coast Hwy & Vista Wy



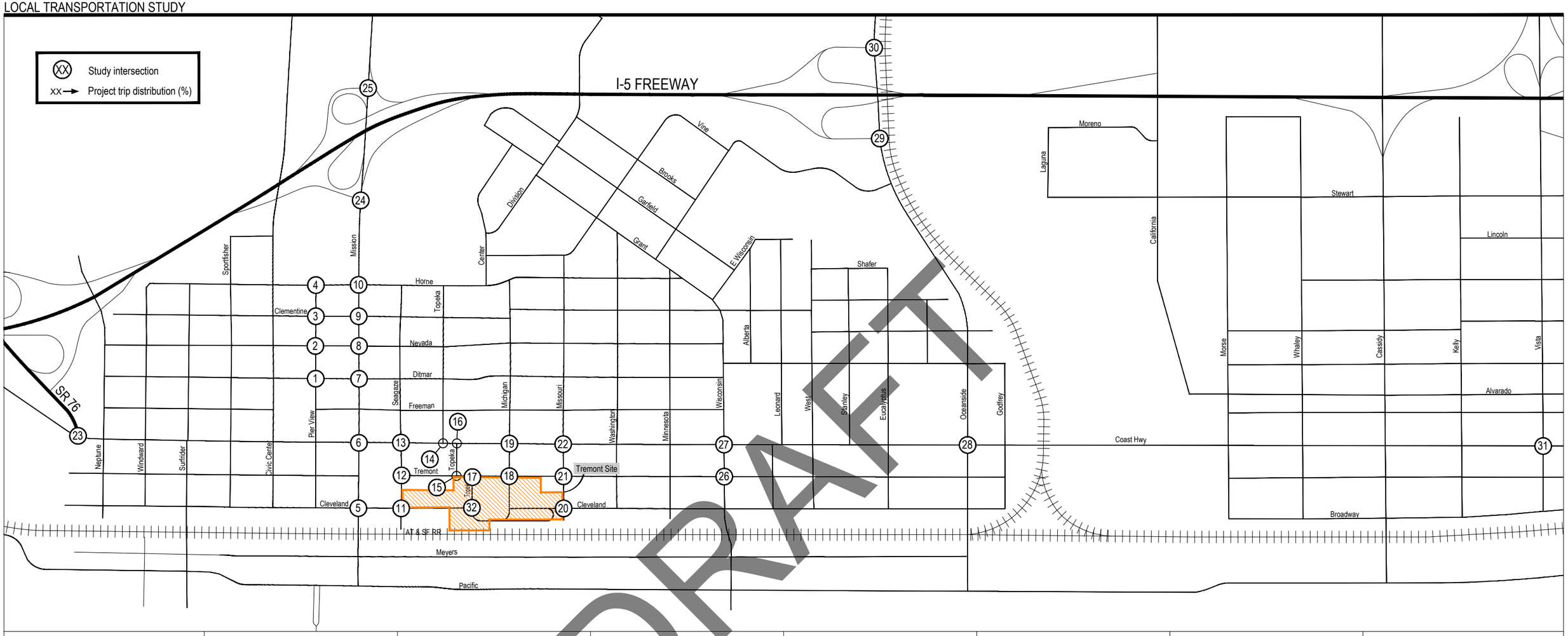
32. Cleveland St & Topeka St



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\pif_dist_figures.dwg

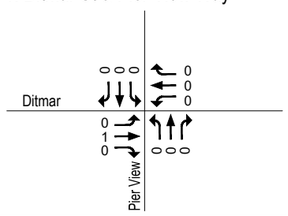
Figure 6

Tremont Site AM Peak Hour Outbound Project Trip Distribution Percentages (2 of 2)

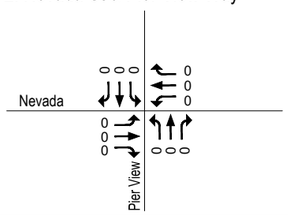


DRAFT

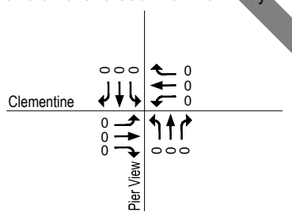
1. Ditmar St & Pier View Way



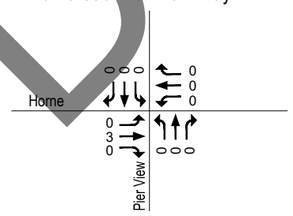
2. Nevada St & Pier View Way



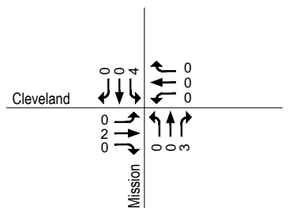
3. Clementine St & Pier View Way



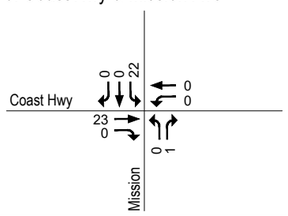
4. Horne St & Pier View Way



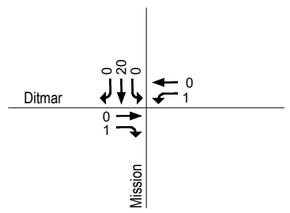
5. Cleveland St & Mission Ave



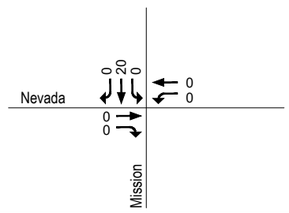
6. Coast Hwy & Mission Ave



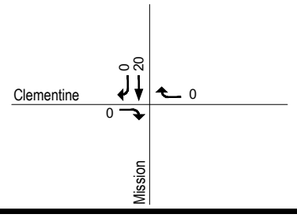
7. Ditmar St & Mission Ave



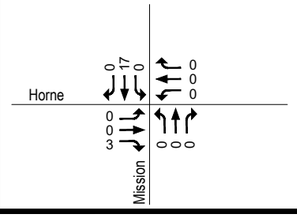
8. Nevada St & Mission Ave



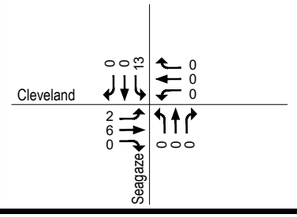
9. Clementine St & Mission Ave



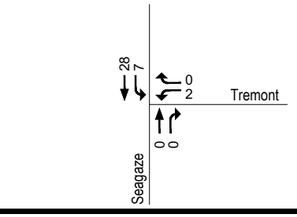
10. Horne St & Mission Ave



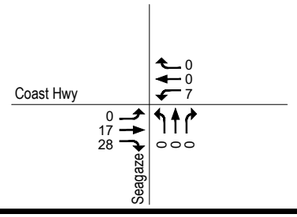
11. Cleveland St & Seagaze Dr



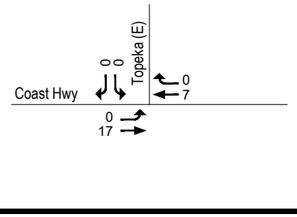
12. Tremont St & Seagaze Dr



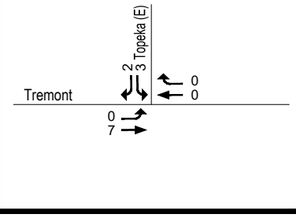
13. Coast Hwy & Seagaze Dr



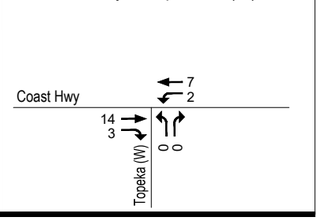
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)

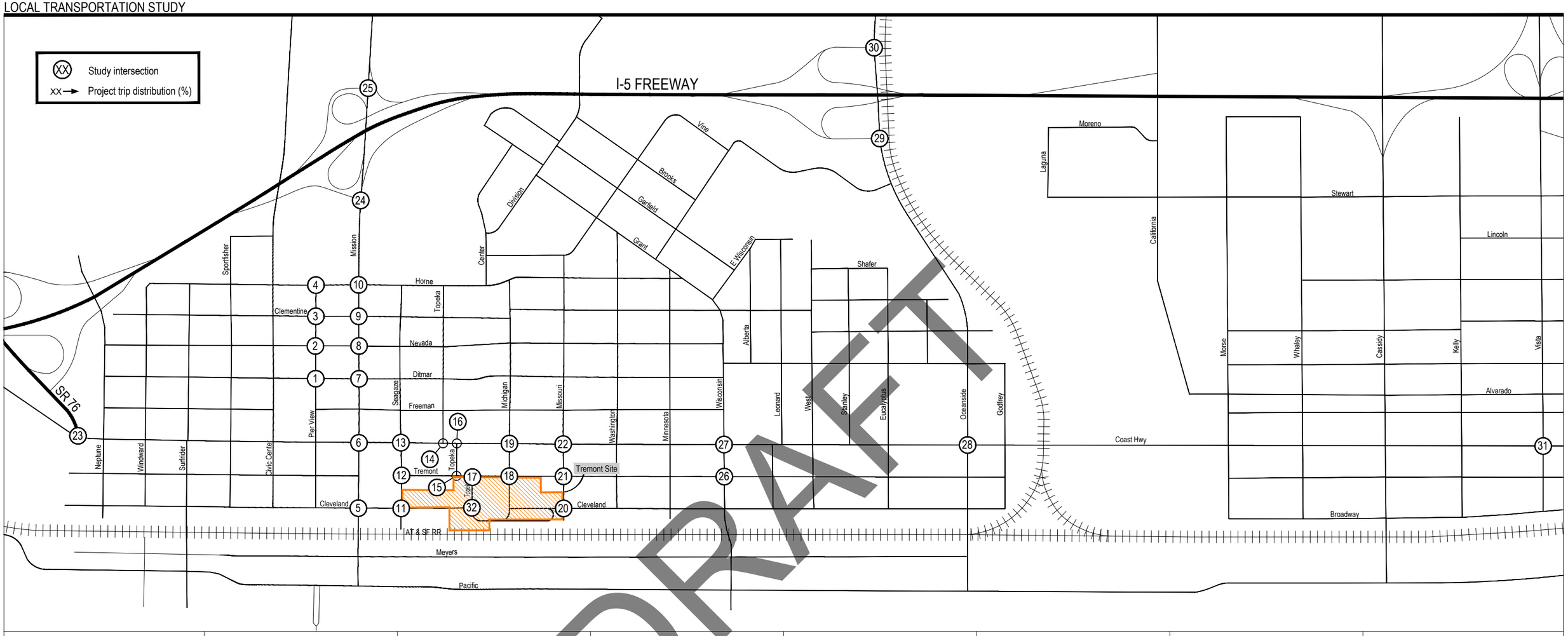


16. Coast Hwy & Topeka St (W)



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\pif_dist_figures.dwg

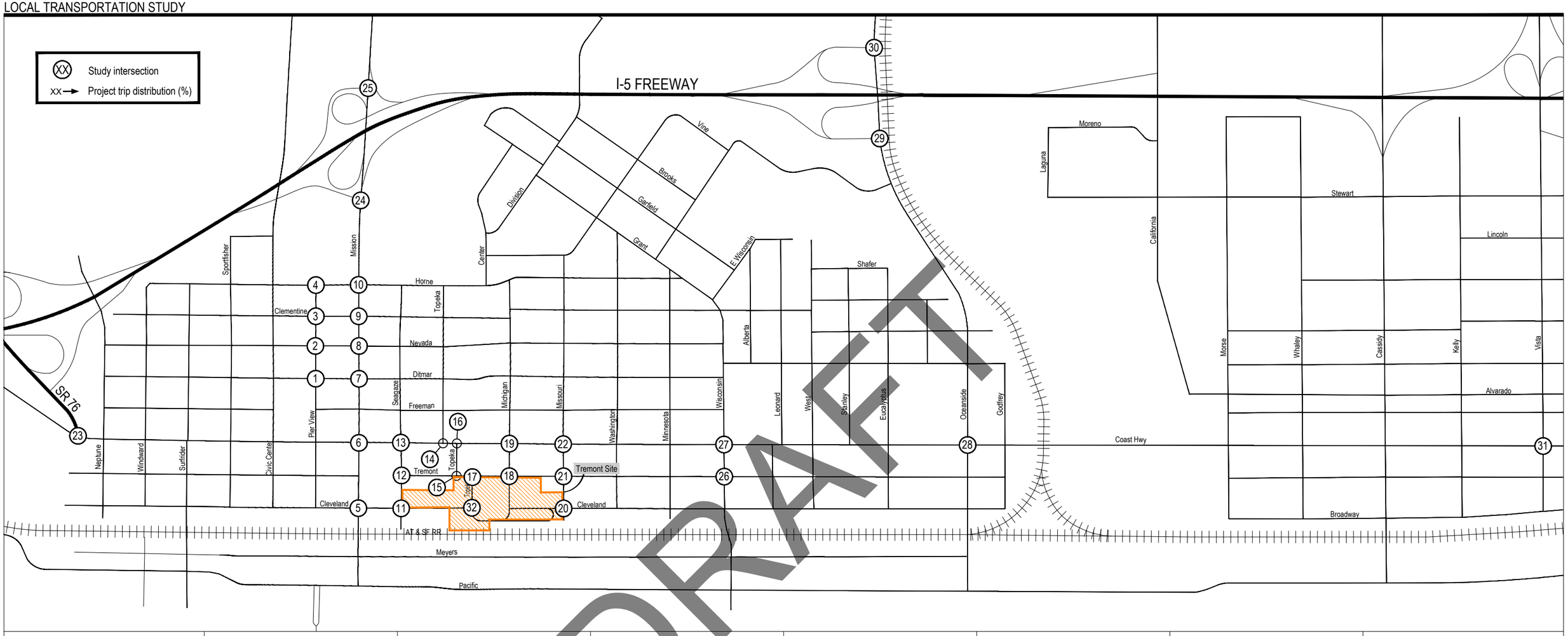
Figure 7
Tremont Site PM Peak Hour Inbound Project Trip Distribution Percentages (1 of 2)



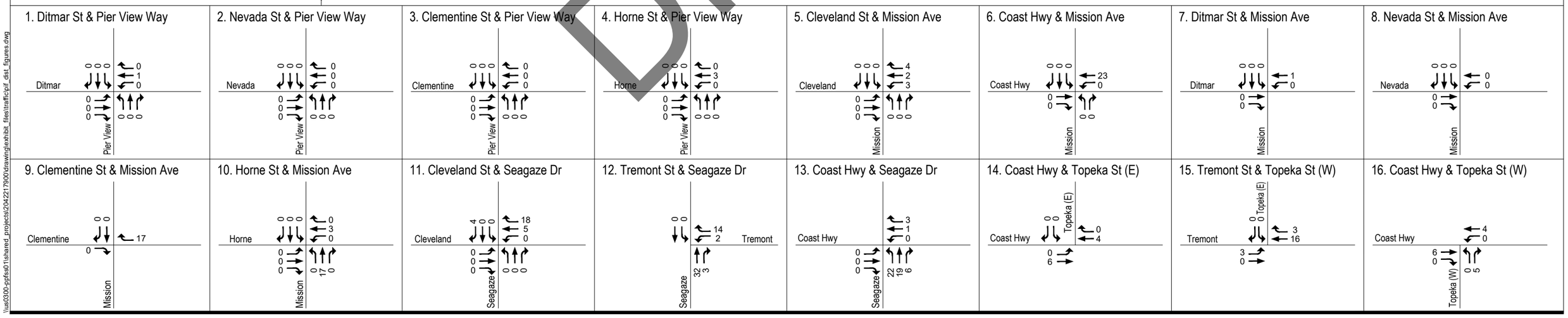
17. Tremont St & Topeka St (New)	18. Tremont St & Michigan Ave	19. Coast Hwy & Michigan St	20. Cleveland St & Missouri Ave	21. Tremont St & Missouri Ave	22. Coast Hwy & Missouri Ave	23. Coast Hwy & SR 76	24. I 5 SB Ramps & Mission Ave
25. I 5 NB Ramps & Mission Ave	26. Tremont St & Wisconsin Ave	27. Coast Hwy & Wisconsin Ave	28. Coast Hwy & Oceanside Blvd	29. I 5 SB Ramps & Oceanside Blvd	30. I 5 NB Ramps & Oceanside Blvd	31. Coast Hwy & Vista Wy	32. Cleveland St & Topeka St

\\us0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\traffic\pif_dist_figures.dwg

Figure 8
Tremont Site PM Peak Hour Inbound Project Trip Distribution Percentages (2 of 2)

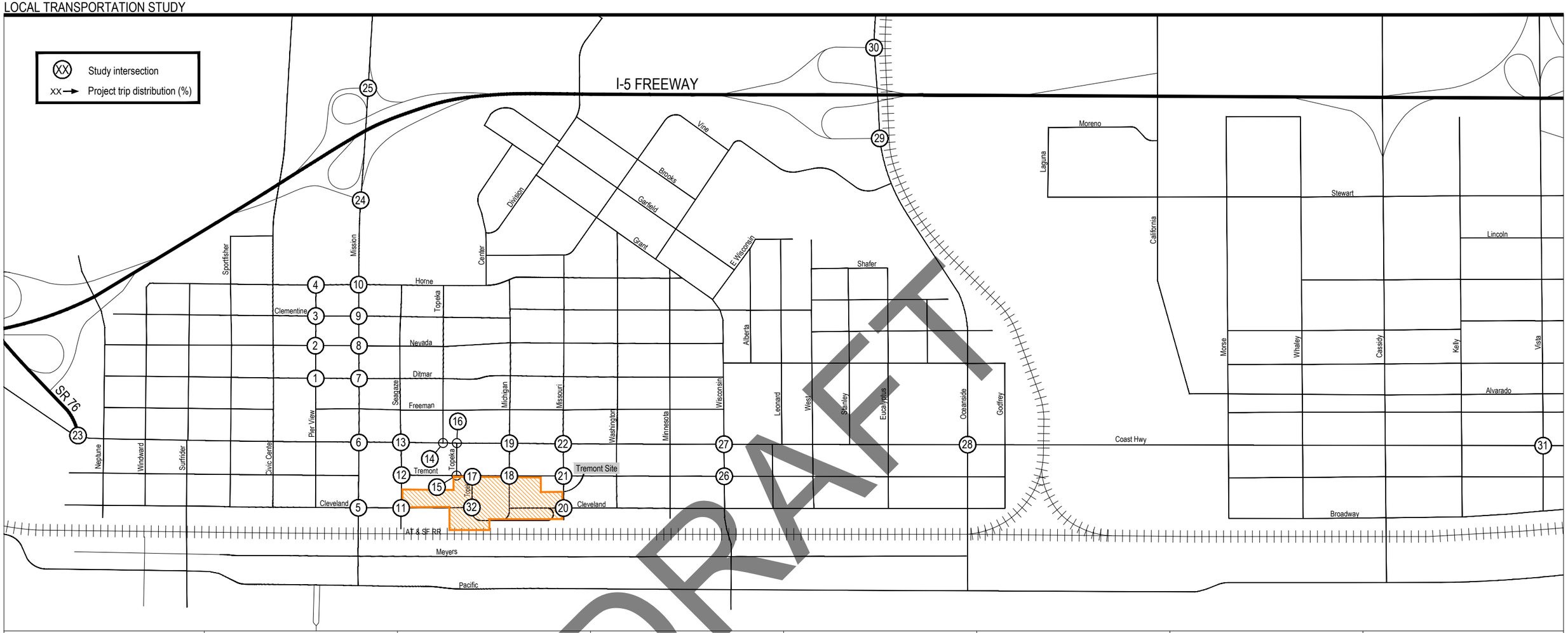


DRAFT



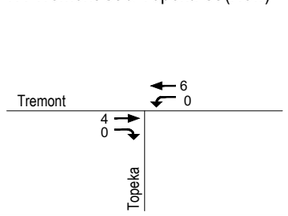
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\pif_dist_figures.dwg

Figure 9
Tremont Site PM Peak Hour Outbound Project Trip Distribution Percentages (1 of 2)

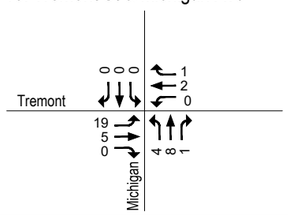


DRAFT

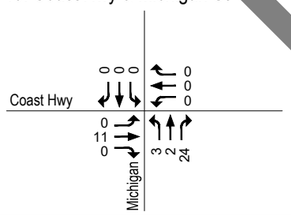
17. Tremont St & Topeka St (New)



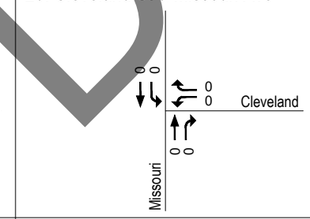
18. Tremont St & Michigan Ave



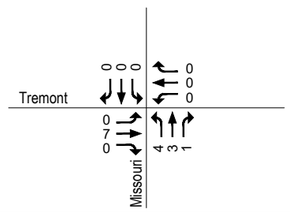
19. Coast Hwy & Michigan St



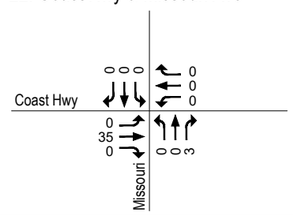
20. Cleveland St & Missouri Ave



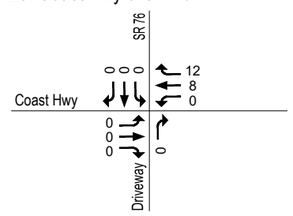
21. Tremont St & Missouri Ave



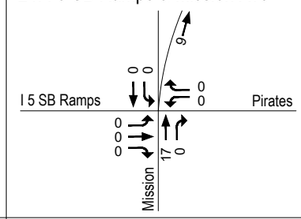
22. Coast Hwy & Missouri Ave



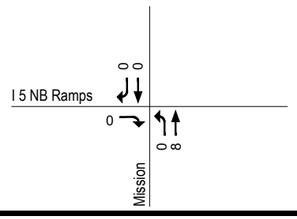
23. Coast Hwy & SR 76



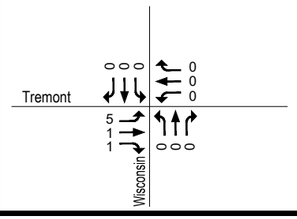
24. I 5 SB Ramps & Mission Ave



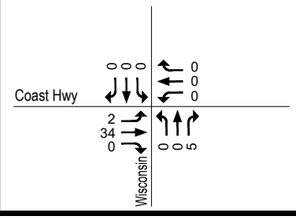
25. I 5 NB Ramps & Mission Ave



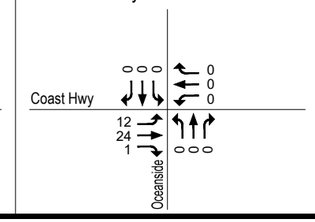
26. Tremont St & Wisconsin Ave



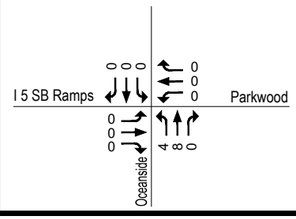
27. Coast Hwy & Wisconsin Ave



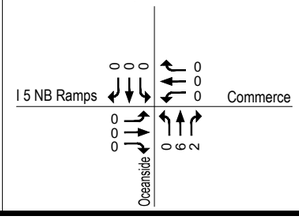
28. Coast Hwy & Oceanside Blvd



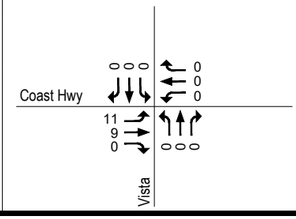
29. I 5 SB Ramps & Oceanside Blvd



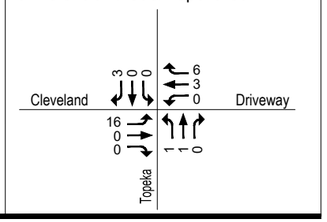
30. I 5 NB Ramps & Oceanside Blvd



31. Coast Hwy & Vista Wy



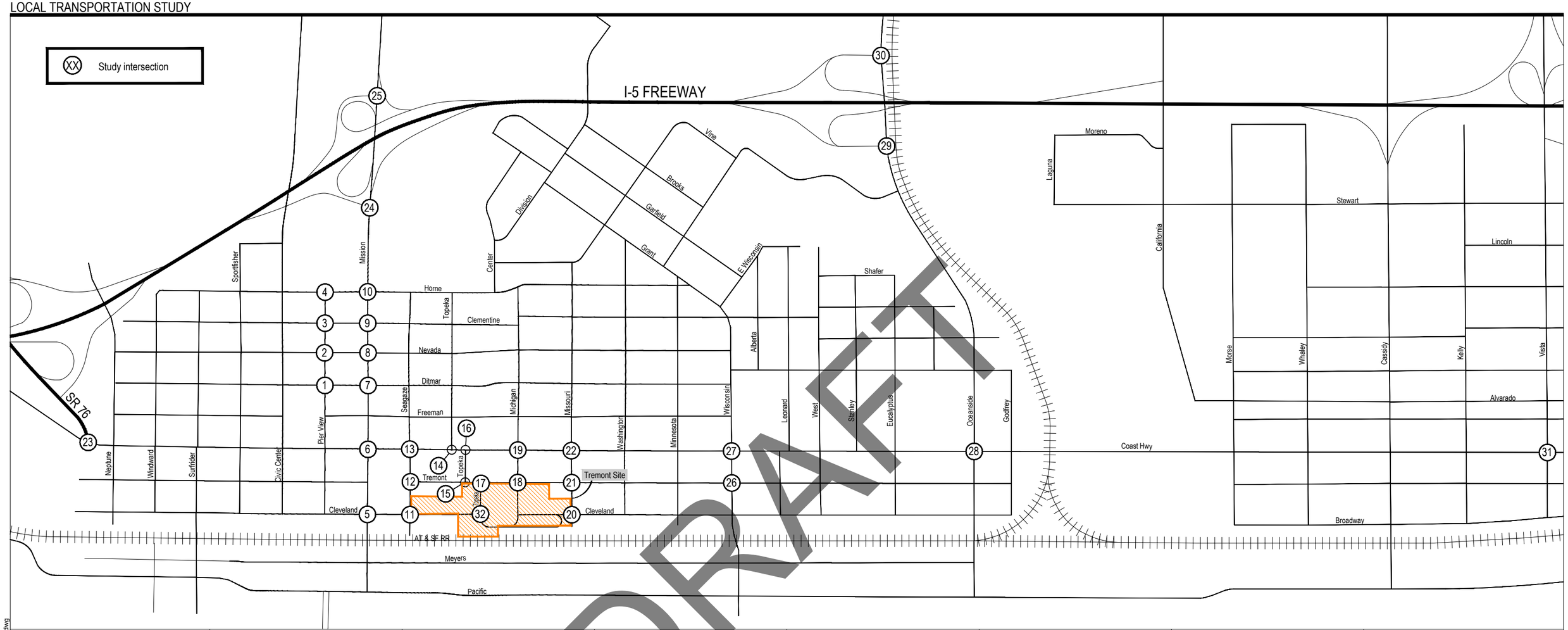
32. Cleveland St & Topeka St



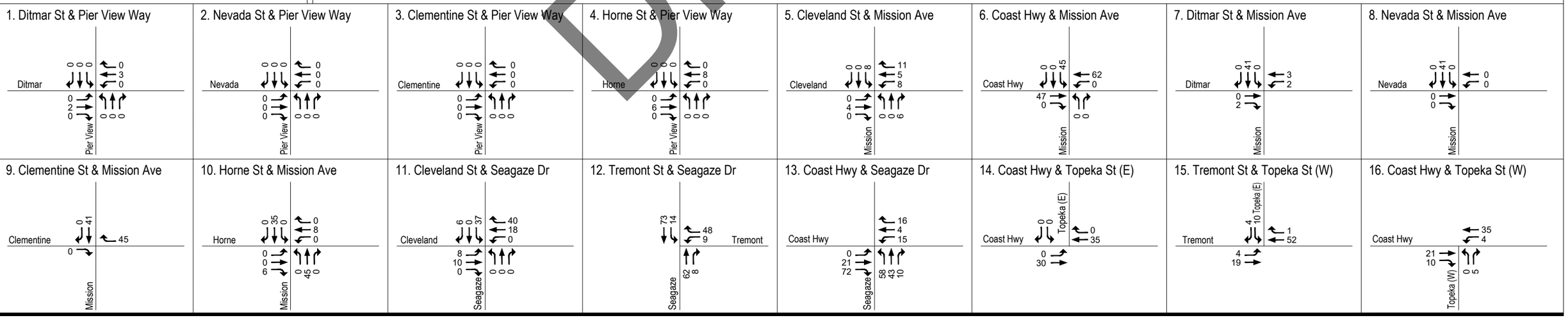
\\us0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\traffic\pif_dist_figures.dwg

Figure 10

Tremont Site PM Peak Hour Outbound Project Trip Distribution Percentages (2 of 2)

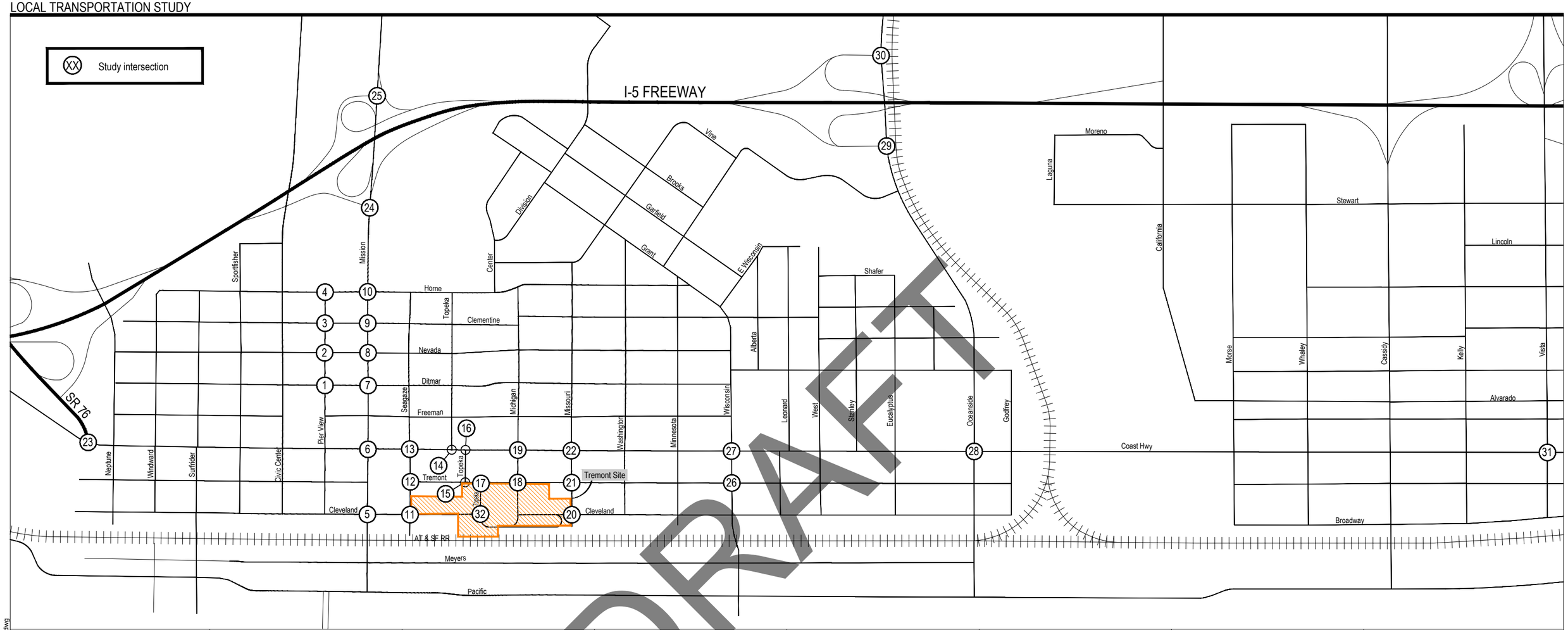


DRAFT

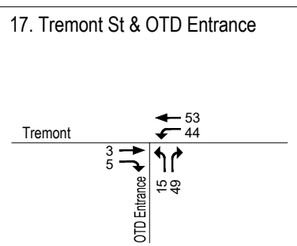


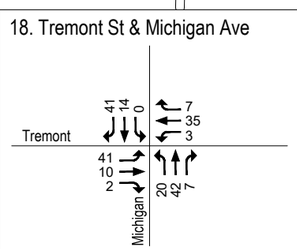
\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

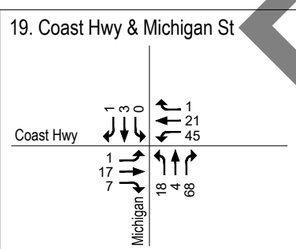
Figure 11
Tremont Site Project-Only Peak Hour Intersection Volumes - AM Peak Hour (1 of 2)



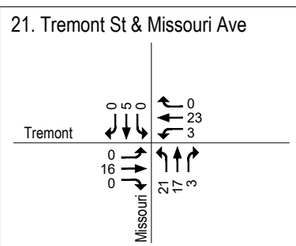
DRAFT

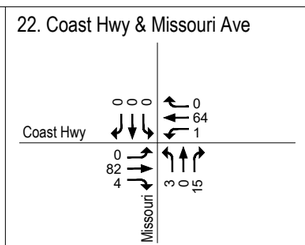


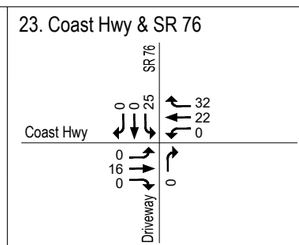


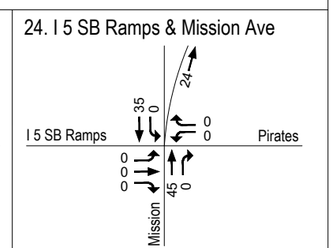


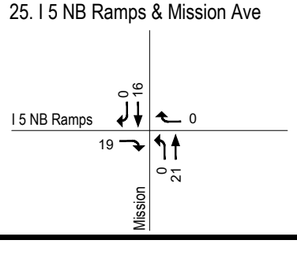


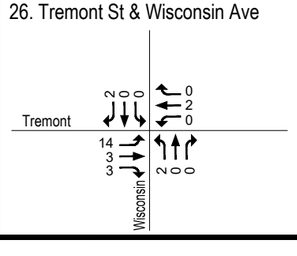


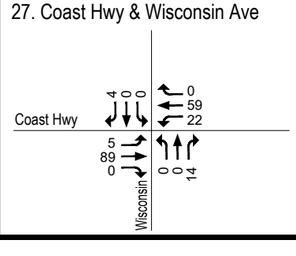


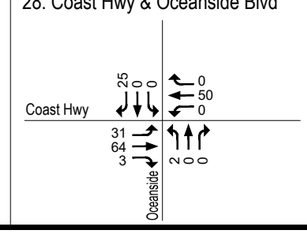


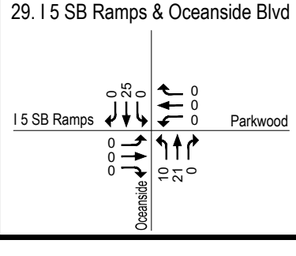


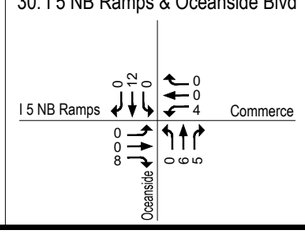


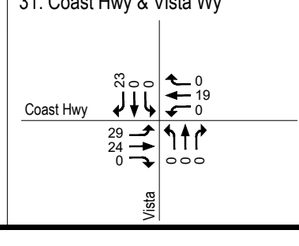


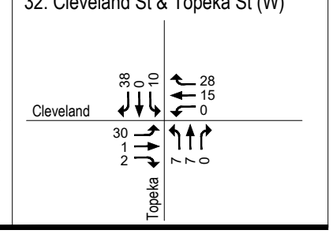










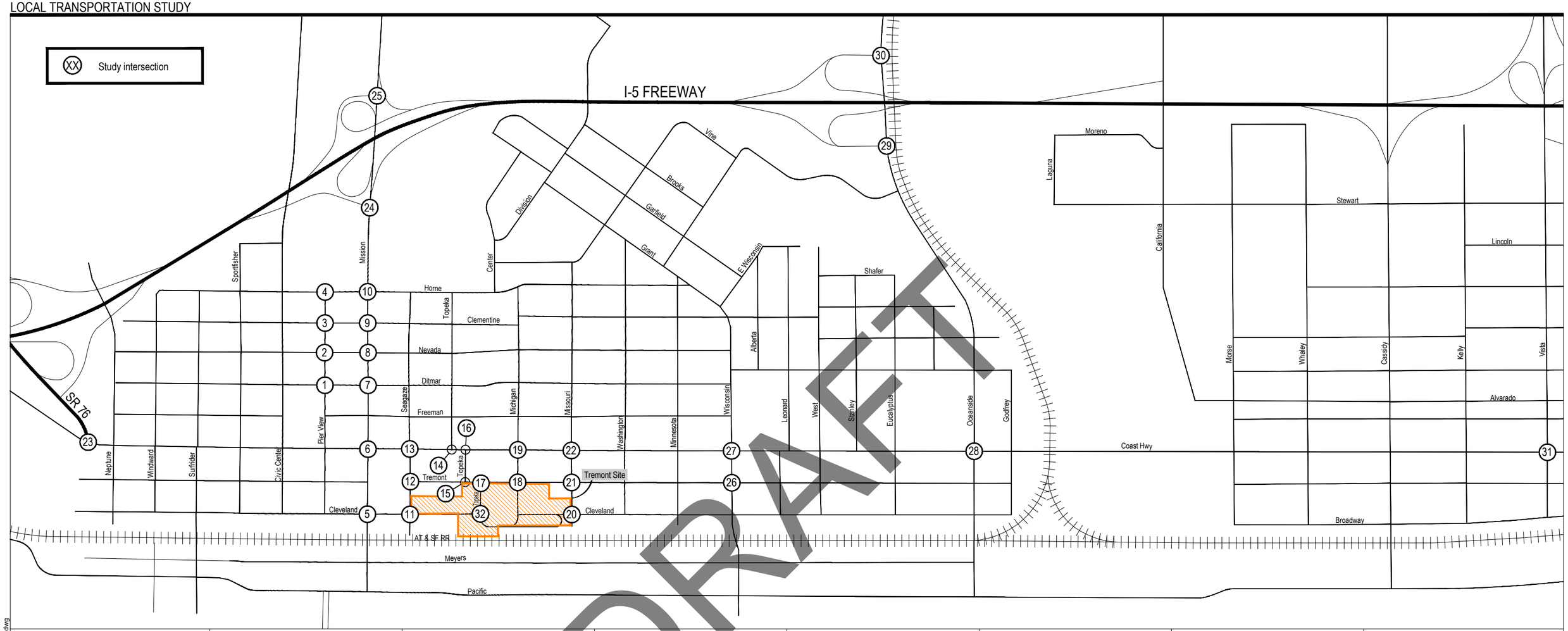


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 12

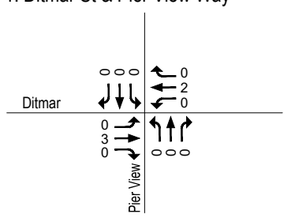
Tremont Site Project-Only Peak Hour Intersection Volumes - AM Peak Hour (2 of 2)

X.X

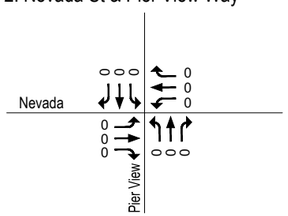


DRAFT

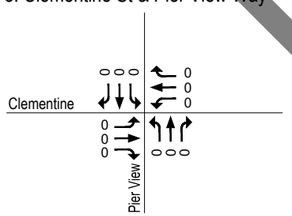
1. Ditmar St & Pier View Way



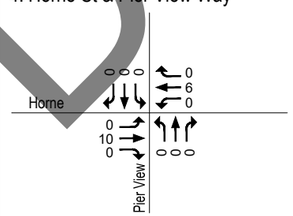
2. Nevada St & Pier View Way



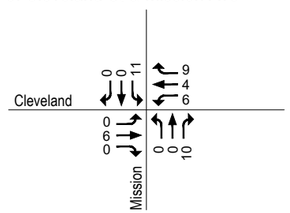
3. Clementine St & Pier View Way



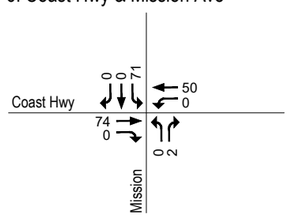
4. Horne St & Pier View Way



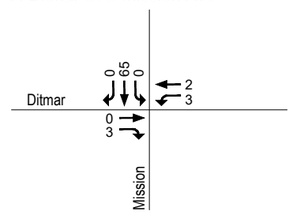
5. Cleveland St & Mission Ave



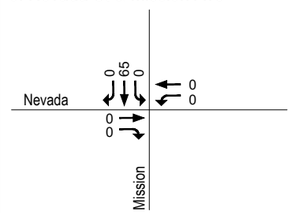
6. Coast Hwy & Mission Ave



7. Ditmar St & Mission Ave



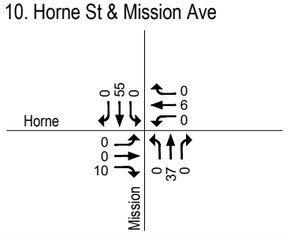
8. Nevada St & Mission Ave



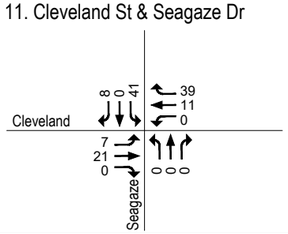
9. Clementine St & Mission Ave



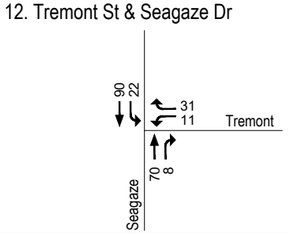
10. Horne St & Mission Ave



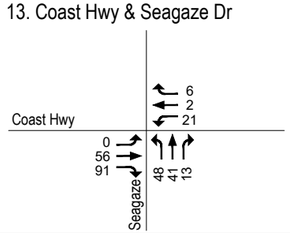
11. Cleveland St & Seagaze Dr



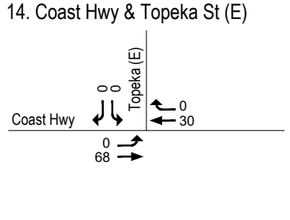
12. Tremont St & Seagaze Dr



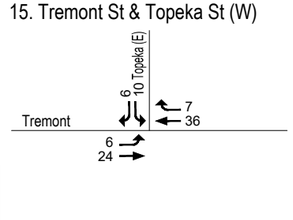
13. Coast Hwy & Seagaze Dr



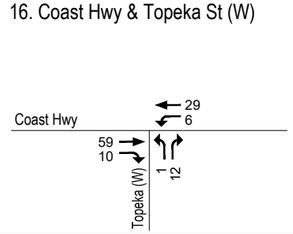
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)

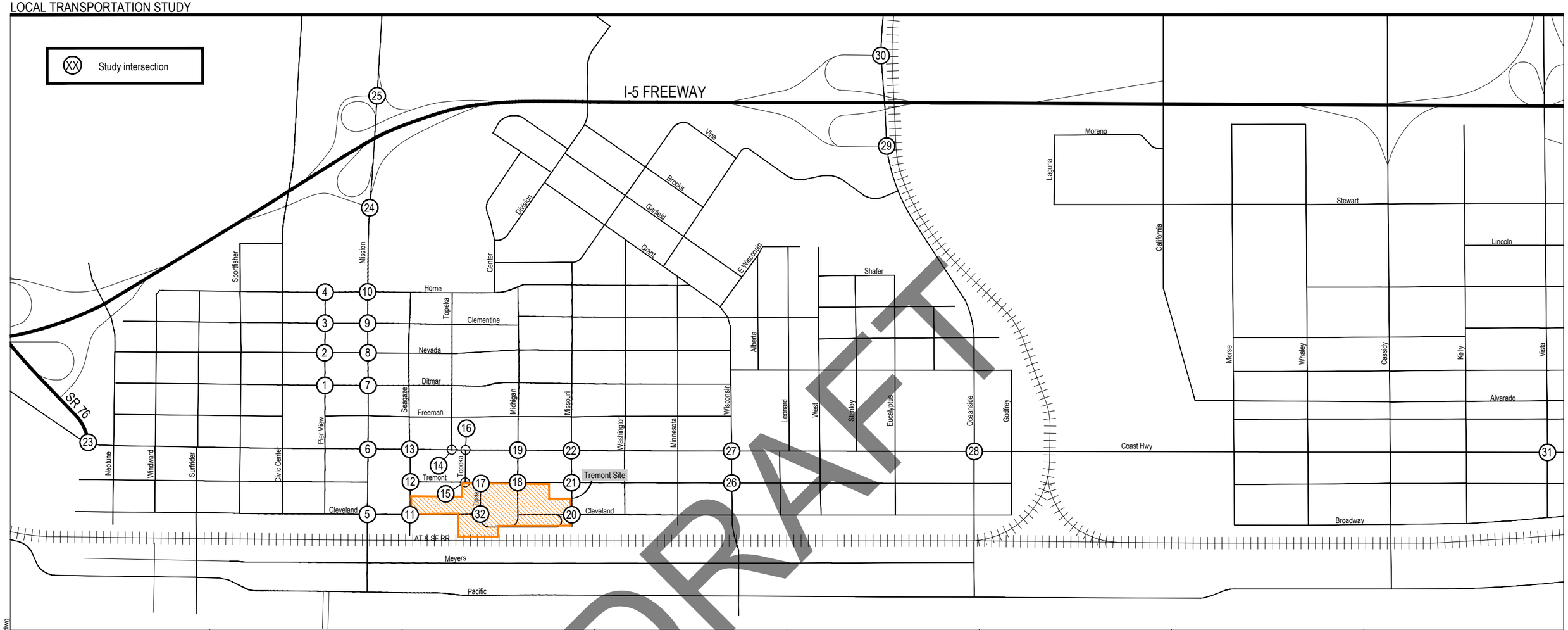


16. Coast Hwy & Topeka St (W)

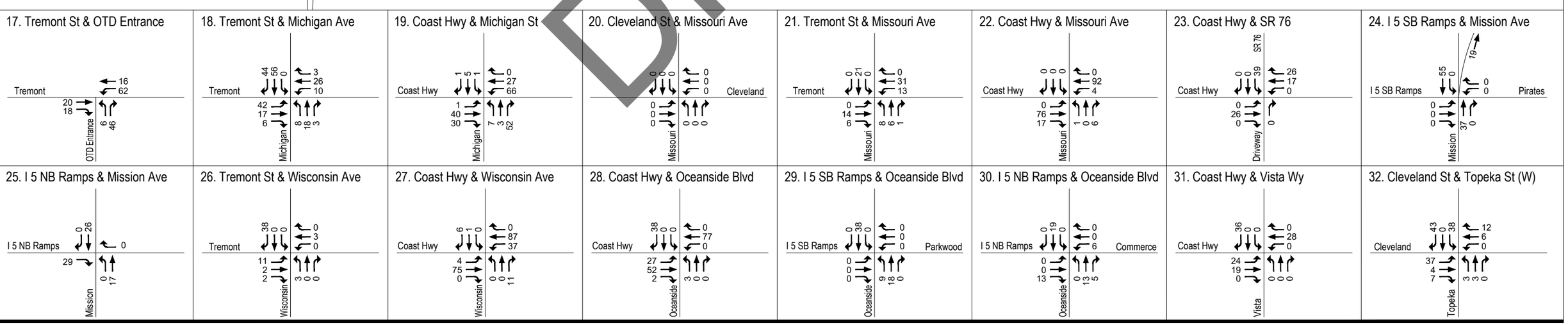


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 13
Tremont Site Project-Only Peak Hour Intersection Volumes - PM Peak Hour (1 of 2)
X.X



DRAFT



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure 14

Tremont Site Project-Only Peak Hour Intersection Volumes - PM Peak Hour (2 of 2)

X.X

Appendix B – Traffic Count Worksheets

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L
Tustin, CA. 92780

Location : CLEMENTINE STREET
Segment : W/O MISSION AVENUE
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22

Interval	EB				WB				Combined				Day: Tuesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	0	0	10	35	0	0	4	23	0	0	14	58	
12:15	0		4		0		10		0		14		
12:30	0		13		0		1		0		14		
12:45	0		8		0		8		0		16		
01:00	0	0	4	21	0	0	2	21	0	0	6	42	
01:15	0		4		0		5		0		9		
01:30	0		3		0		6		0		9		
01:45	0		10		0		8		0		18		
02:00	0	0	7	12	0	1	5	20	0	1	12	32	
02:15	0		3		0		2		0		5		
02:30	0		0		0		2		0		2		
02:45	0		2		1		11		1		13		
03:00	0	2	8	29	0	0	1	11	0	2	9	40	
03:15	0		6		0		4		0		10		
03:30	2		7		0		4		2		11		
03:45	0		8		0		2		0		10		
04:00	0	1	6	14	0	1	8	25	0	2	14	39	
04:15	0		4		0		6		0		10		
04:30	1		2		1		6		2		8		
04:45	0		2		0		5		0		7		
05:00	0	2	2	16	2	3	6	18	2	5	8	34	
05:15	0		8		0		4		0		12		
05:30	1		0		0		3		1		3		
05:45	1		6		1		5		2		11		
06:00	0	5	2	4	0	2	6	9	0	7	8	13	
06:15	4		2		0		2		4		4		
06:30	1		0		2		0		3		0		
06:45	0		0		0		1		0		1		
07:00	2	25	2	5	2	6	2	9	4	31	4	14	
07:15	5		2		2		4		7		6		
07:30	2		0		2		1		4		1		
07:45	16		1		0		2		16		3		
08:00	7	16	0	7	4	12	0	3	11	28	0	10	
08:15	6		3		2		0		8		3		
08:30	2		4		2		2		4		6		
08:45	1		0		4		1		5		1		
09:00	1	4	0	0	6	14	0	2	7	18	0	2	
09:15	1		0		1		2		2		2		
09:30	1		0		2		0		3		0		
09:45	1		0		5		0		6		0		
10:00	1	5	0	0	4	9	0	1	5	14	0	1	
10:15	1		0		1		0		2		0		
10:30	0		0		2		1		2		1		
10:45	3		0		2		0		5		0		
11:00	6	20	0	2	4	15	0	0	10	35	0	2	
11:15	3		0		7		0		10		0		
11:30	5		2		2		0		7		2		
11:45	6		0		2		0		8		0		
Totals	80		145		63		142		143		287		
Split%	55.9		50.5		44.1		49.5						
Day Totals		225				205				430			
Day Splits		52.3				47.7							
Peak Hour	07:30		12:00		10:30		04:00		07:30		12:00		
Volume	31		35		15		25		39		58		
Factor	0.48		0.67		0.54		0.78		0.61		0.91		

Data File : D2211025

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L
Tustin, CA. 92780

Location : NEVADA STREET
Segment : W/O MISSION AVENUE
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22

Interval	EB				WB				Combined				Day: Tuesday
Begin	AM		PM		AM		PM		AM		PM		
12:00	0	0	5	25	0	2	14	38	0	2	19	63	
12:15	0		10		0		8		0		18		
12:30	0		6		2		9		2		15		
12:45	0		4		0		7		0		11		
01:00	0	1	3	14	0	1	6	24	0	2	9	38	
01:15	0		4		1		5		1		9		
01:30	1		2		0		6		1		8		
01:45	0		5		0		7		0		12		
02:00	0	0	5	13	0	1	5	26	0	1	10	39	
02:15	0		5		1		9		1		14		
02:30	0		1		0		8		0		9		
02:45	0		2		0		4		0		6		
03:00	0	1	2	15	0	3	2	25	0	4	4	40	
03:15	0		7		1		12		1		19		
03:30	1		2		0		9		1		11		
03:45	0		4		2		2		2		6		
04:00	0	1	12	18	0	3	5	14	0	4	17	32	
04:15	1		1		3		1		4		2		
04:30	0		3		0		6		0		9		
04:45	0		2		0		2		0		4		
05:00	0	2	6	21	0	3	8	20	0	5	14	41	
05:15	2		4		2		6		4		10		
05:30	0		5		0		2		0		7		
05:45	0		6		1		4		1		10		
06:00	0	0	3	11	4	9	7	9	4	9	10	20	
06:15	0		1		0		0		0		1		
06:30	0		2		1		2		1		4		
06:45	0		5		4		0		4		5		
07:00	2	8	3	14	1	21	4	7	3	29	7	21	
07:15	0		4		2		2		2		6		
07:30	4		3		6		1		10		4		
07:45	2		4		12		0		14		4		
08:00	1	21	4	7	9	21	0	6	10	42	4	13	
08:15	12		1		8		2		20		3		
08:30	4		2		2		4		6		6		
08:45	4		0		2		0		6		0		
09:00	1	17	1	4	4	13	2	5	5	30	3	9	
09:15	6		2		4		1		10		3		
09:30	6		0		3		0		9		0		
09:45	4		1		2		2		6		3		
10:00	4	27	2	4	1	12	0	5	5	39	2	9	
10:15	8		0		6		1		14		1		
10:30	2		1		2		4		4		5		
10:45	13		1		3		0		16		1		
11:00	4	13	0	1	4	18	0	0	8	31	0	1	
11:15	4		0		9		0		13		0		
11:30	2		1		2		0		4		1		
11:45	3		0		3		0		6		0		
Totals	91		147		107		179		198		326		
Split%	46.0		45.1		54.0		54.9						
Day Totals		238				286				524			
Day Splits		45.4				54.6							
Peak Hour	10:00		12:00		07:30		12:00		07:30		12:00		
Volume	27		25		35		38		54		63		
Factor	0.52		0.63		0.73		0.68		0.68		0.83		

Data File : D2211026

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L
Tustin, CA. 92780

Location : MISSION AVENUE
Segment : N/O CLEMENTINE ST
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	10	24	84	334	9	30	92	450	19	54	176	784
12:15	6		90		4		132		10		222	
12:30	4		98		8		112		12		210	
12:45	4		62		9		114		13		176	
01:00	9	20	120	339	4	23	134	443	13	43	254	782
01:15	2		90		9		115		11		205	
01:30	3		72		4		106		7		178	
01:45	6		57		6		88		12		145	
02:00	0	6	46	261	2	11	84	389	2	17	130	650
02:15	0		73		1		109		1		182	
02:30	2		74		4		86		6		160	
02:45	4		68		4		110		8		178	
03:00	0	8	93	500	2	10	110	496	2	18	203	996
03:15	2		204		2		132		4		336	
03:30	6		139		2		118		8		257	
03:45	0		64		4		136		4		200	
04:00	10	36	75	359	8	25	93	453	18	61	168	812
04:15	0		84		7		108		7		192	
04:30	10		84		6		132		16		216	
04:45	16		116		4		120		20		236	
05:00	24	60	84	420	18	97	116	484	42	157	200	904
05:15	18		146		18		124		36		270	
05:30	6		100		20		138		26		238	
05:45	12		90		41		106		53		196	
06:00	14	68	88	279	35	205	126	447	49	273	214	726
06:15	11		98		51		104		62		202	
06:30	15		28		57		109		72		137	
06:45	28		65		62		108		90		173	
07:00	34	124	80	228	68	432	74	300	102	556	154	528
07:15	20		59		74		96		94		155	
07:30	32		49		140		74		172		123	
07:45	38		40		150		56		188		96	
08:00	112	424	55	157	132	518	58	208	244	942	113	365
08:15	202		44		134		58		336		102	
08:30	54		36		109		54		163		90	
08:45	56		22		143		38		199		60	
09:00	74	210	54	118	116	425	40	155	190	635	94	273
09:15	50		22		92		36		142		58	
09:30	40		26		111		36		151		62	
09:45	46		16		106		43		152		59	
10:00	48	255	36	125	94	416	28	100	142	671	64	225
10:15	58		36		88		22		146		58	
10:30	83		34		106		28		189		62	
10:45	66		19		128		22		194		41	
11:00	76	268	17	49	95	434	14	50	171	702	31	99
11:15	68		20		129		13		197		33	
11:30	66		8		99		11		165		19	
11:45	58		4		111		12		169		16	
Totals	1,503		3,169		2,626		3,975		4,129		7,144	
Split%	36.4		44.4		63.6		55.6					
Day Totals		4,672				6,601				11,273		
Day Splits		41.4				58.6						
Peak Hour	08:00		02:45		07:30		04:45		08:00		03:00	
Volume	424		504		556		498		942		996	
Factor	0.52		0.62		0.93		0.90		0.70		0.74	

* Data File : D2211027

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : MISSION AVENUE
Segment : N/O COAST HIGHWAY
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22

Interval Day: Tuesday

Begin	AM - SB		PM - SB	
12:00	12	33	94	370
12:15	3		104	
12:30	9		82	
12:45	9		90	
1:00	2	20	116	391
1:15	7		112	
1:30	4		90	
1:45	7		73	
2:00	3	18	88	331
2:15	4		100	
2:30	7		63	
2:45	4		80	
3:00	1	7	100	407
3:15	1		100	
3:30	2		92	
3:45	3		115	
4:00	8	24	79	372
4:15	6		97	
4:30	4		108	
4:45	6		88	
5:00	18	92	96	421
5:15	16		108	
5:30	22		117	
5:45	36		100	
6:00	36	195	104	388
6:15	46		90	
6:30	53		96	
6:45	60		98	
7:00	57	337	78	296
7:15	58		74	
7:30	104		85	
7:45	118		59	
8:00	84	345	52	203
8:15	85		59	
8:30	91		46	
8:45	85		46	
9:00	94	355	37	157
9:15	83		36	
9:30	93		44	
9:45	85		40	
10:00	90	356	30	98
10:15	72		16	
10:30	92		28	
10:45	102		24	
11:00	87	363	10	43
11:15	108		9	
11:30	74		14	
11:45	94		10	
Totals	2,145		3,477	
Peak Hour	7:30		5:15	
Volume	391		429	
Factor	0.83		0.92	
DayTotal	**5,622**			

Data File : D2211028

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : SEAGAZE DRIVE
Segment : N/O COAST HIGHWAY
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22

Interval Day: Tuesday

Begin	AM - NB		PM - NB	
12:00	9	24	67	254
12:15	7		58	
12:30	4		63	
12:45	4		66	
1:00	3	13	67	259
1:15	4		54	
1:30	4		81	
1:45	2		57	
2:00	0	4	64	238
2:15	1		56	
2:30	2		56	
2:45	1		62	
3:00	1	12	74	263
3:15	2		81	
3:30	3		54	
3:45	6		54	
4:00	4	27	72	302
4:15	6		54	
4:30	8		80	
4:45	9		96	
5:00	10	49	81	320
5:15	14		85	
5:30	12		84	
5:45	13		70	
6:00	12	62	70	271
6:15	10		71	
6:30	14		76	
6:45	26		54	
7:00	29	130	53	179
7:15	17		55	
7:30	30		39	
7:45	54		32	
8:00	50	161	43	170
8:15	56		48	
8:30	29		42	
8:45	26		37	
9:00	47	185	40	109
9:15	55		23	
9:30	41		22	
9:45	42		24	
10:00	50	224	27	101
10:15	62		26	
10:30	56		30	
10:45	56		18	
11:00	63	235	16	42
11:15	63		12	
11:30	54		9	
11:45	55		5	
Totals	1,126		2,508	
Peak Hour	10:30		4:45	
Volume	238		346	
Factor	0.94		0.9	
DayTotal	**3,634**			

Data File : D2211029

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L
Tustin, CA. 92780

Location : SEAGAZE DRIVE
Segment : S/O TREMONT ST
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	SB				NB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	1	7	26	94	7	16	28	121	8	23	54	215
12:15	1		26		4		34		5		60	
12:30	0		20		3		25		3		45	
12:45	5		22		2		34		7		56	
01:00	1	4	34	110	3	5	33	131	4	9	67	241
01:15	1		30		0		34		1		64	
01:30	1		19		2		32		3		51	
01:45	1		27		0		32		1		59	
02:00	0	2	32	121	0	2	30	101	0	4	62	222
02:15	1		34		0		31		1		65	
02:30	0		33		2		18		2		51	
02:45	1		22		0		22		1		44	
03:00	1	3	28	129	1	3	30	137	2	6	58	266
03:15	0		31		0		29		0		60	
03:30	1		32		0		38		1		70	
03:45	1		38		2		40		3		78	
04:00	2	13	24	140	4	19	40	156	6	32	64	296
04:15	1		29		2		26		3		55	
04:30	8		48		5		44		13		92	
04:45	2		39		8		46		10		85	
05:00	10	31	50	150	10	32	52	189	20	63	102	339
05:15	3		38		6		43		9		81	
05:30	10		27		10		50		20		77	
05:45	8		35		6		44		14		79	
06:00	8	54	30	109	11	50	26	131	19	104	56	240
06:15	14		30		9		29		23		59	
06:30	12		24		11		46		23		70	
06:45	20		25		19		30		39		55	
07:00	12	77	29	87	22	82	41	123	34	159	70	210
07:15	21		12		14		28		35		40	
07:30	14		24		26		24		40		48	
07:45	30		22		20		30		50		52	
08:00	26	96	14	62	19	74	29	96	45	170	43	158
08:15	26		14		20		23		46		37	
08:30	18		24		14		30		32		54	
08:45	26		10		21		14		47		24	
09:00	20	104	10	50	20	82	32	80	40	186	42	130
09:15	25		16		20		17		45		33	
09:30	29		12		16		18		45		30	
09:45	30		12		26		13		56		25	
10:00	18	74	10	39	22	96	24	58	40	170	34	97
10:15	22		13		14		18		36		31	
10:30	16		8		36		12		52		20	
10:45	18		8		24		4		42		12	
11:00	30	118	6	12	20	98	8	25	50	216	14	37
11:15	26		4		22		9		48		13	
11:30	32		2		32		5		64		7	
11:45	30		0		24		3		54		3	
Totals	583		1,103		559		1,348		1,142		2,451	
Split%	51.1		45.0		48.9		55.0					
Day Totals		1,686				1,907				3,593		
Day Splits		46.9				53.1						
Peak Hour	11:00		04:30		10:30		04:45		11:00		04:30	
Volume	118		175		102		191		216		360	
Factor	0.92		0.88		0.71		0.92		0.84		0.88	

Data File : D2211030

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L
Tustin, CA. 92780

Location : COAST HIGHWAY
Segment : E/O W. TOPEKA STREET
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	WB				EB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	16	34	130	486	14	44	138	517	30	78	268	1,003
12:15	9		111		10		124		19		235	
12:30	6		123		10		133		16		256	
12:45	3		122		10		122		13		244	
01:00	3	19	119	515	8	34	123	513	11	53	242	1,028
01:15	6		148		6		132		12		280	
01:30	6		118		6		136		12		254	
01:45	4		130		14		122		18		252	
02:00	2	7	127	527	10	25	142	536	12	32	269	1,063
02:15	3		132		9		158		12		290	
02:30	1		132		4		120		5		252	
02:45	1		136		2		116		3		252	
03:00	2	8	116	496	2	14	127	544	4	22	243	1,040
03:15	2		134		2		138		4		272	
03:30	1		112		6		156		7		268	
03:45	3		134		4		123		7		257	
04:00	5	23	113	507	7	36	131	609	12	59	244	1,116
04:15	4		106		11		174		15		280	
04:30	10		142		7		152		17		294	
04:45	4		146		11		152		15		298	
05:00	13	69	132	525	26	110	189	639	39	179	321	1,164
05:15	14		144		11		152		25		296	
05:30	16		142		35		140		51		282	
05:45	26		107		38		158		64		265	
06:00	30	146	138	476	38	203	136	508	68	349	274	984
06:15	28		118		60		139		88		257	
06:30	36		116		57		115		93		231	
06:45	52		104		48		118		100		222	
07:00	44	229	126	394	101	755	100	364	145	984	226	758
07:15	54		104		112		92		166		196	
07:30	62		78		230		80		292		158	
07:45	69		86		312		92		381		178	
08:00	86	342	68	278	150	512	78	271	236	854	146	549
08:15	102		80		108		57		210		137	
08:30	72		62		140		76		212		138	
08:45	82		68		114		60		196		128	
09:00	74	315	48	199	112	420	71	253	186	735	119	452
09:15	88		60		86		64		174		124	
09:30	71		53		104		54		175		107	
09:45	82		38		118		64		200		102	
10:00	86	376	42	142	119	482	56	165	205	858	98	307
10:15	106		38		110		45		216		83	
10:30	94		29		117		36		211		65	
10:45	90		33		136		28		226		61	
11:00	113	420	14	66	126	553	16	82	239	973	30	148
11:15	95		23		143		26		238		49	
11:30	98		16		129		18		227		34	
11:45	114		13		155		22		269		35	
Totals	1,988		4,611		3,188		5,001		5,176		9,612	
Split%	38.4		48.0		61.6		52.0					
Day Totals		6,599				8,189				14,788		
Day Splits		44.6				55.4						
Peak Hour	11:00		04:30		07:15		04:15		07:30		04:30	
Volume	420		564		804		667		1,119		1,209	
Factor	0.92		0.97		0.64		0.88		0.73		0.94	

Data File : D2211031

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : TREMONT STREET — Site: OCEANSIDE

Segment : E/O SEAGAZE DRIVE — Date: 11/15/22

Client : STANTEC — Day: Tuesday

Interval	WB				EB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	2	7	18	59	1	4	12	37	3	11	30	96
12:15	1		17		1		11		2		28	
12:30	0		11		1		7		1		18	
12:45	4		13		1		7		5		20	
01:00	0	3	25	72	1	2	8	39	1	5	33	111
01:15	1		15		0		15		1		30	
01:30	2		19		1		5		3		24	
01:45	0		13		0		11		0		24	
02:00	0	1	16	63	0	0	12	50	0	1	28	113
02:15	0		24		0		24		0		48	
02:30	0		10		0		8		0		18	
02:45	1		13		0		6		1		19	
03:00	1	1	14	69	1	3	7	49	2	4	21	118
03:15	0		19		0		14		0		33	
03:30	0		19		1		14		1		33	
03:45	0		17		1		14		1		31	
04:00	2	6	14	68	1	5	12	50	3	11	26	118
04:15	0		19		1		8		1		27	
04:30	1		15		0		12		1		27	
04:45	3		20		3		18		6		38	
05:00	0	8	18	77	4	17	14	59	4	25	32	136
05:15	6		11		4		12		10		23	
05:30	2		28		3		14		5		42	
05:45	0		20		6		19		6		39	
06:00	7	23	17	59	4	35	8	32	11	58	25	91
06:15	4		18		17		9		21		27	
06:30	2		15		5		8		7		23	
06:45	10		9		9		7		19		16	
07:00	9	35	15	28	15	30	12	35	24	65	27	63
07:15	13		2		10		13		23		15	
07:30	6		6		1		6		7		12	
07:45	7		5		4		4		11		9	
08:00	9	40	5	22	10	33	2	10	19	73	7	32
08:15	6		1		7		2		13		3	
08:30	11		11		10		4		21		15	
08:45	14		5		6		2		20		7	
09:00	10	53	10	23	10	34	4	8	20	87	14	31
09:15	16		5		8		2		24		7	
09:30	11		5		4		2		15		7	
09:45	16		3		12		0		28		3	
10:00	11	49	3	12	7	47	3	11	18	96	6	23
10:15	16		4		13		4		29		8	
10:30	10		4		13		2		23		6	
10:45	12		1		14		2		26		3	
11:00	16	58	1	2	8	35	1	7	24	93	2	9
11:15	10		0		10		1		20		1	
11:30	19		0		10		3		29		3	
11:45	13		1		7		2		20		3	
Totals	284		554		245		387		529		941	
Split%	53.7		58.9		46.3		41.1					
Day Totals		838				632				1,470		
Day Splits		57.0				43.0						
Peak Hour	11:00		05:30		10:15		05:00		10:15		05:00	
Volume	58		83		48		59		102		136	
Factor	0.76		0.74		0.86		0.78		0.88		0.81	

Data File : D2211032

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : TREMONT STREET
Segment : E/O MICHIGAN AVENUE
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	WB				EB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	0	0	11	47	2	3	5	25	2	3	16	72
12:15	0		12		1		8		1		20	
12:30	0		14		0		6		0		20	
12:45	0		10		0		6		0		16	
01:00	0	1	18	58	0	1	3	27	0	2	21	85
01:15	0		10		0		8		0		18	
01:30	1		18		1		12		2		30	
01:45	0		12		0		4		0		16	
02:00	0	1	14	54	0	1	6	33	0	2	20	87
02:15	0		16		1		16		1		32	
02:30	0		14		0		8		0		22	
02:45	1		10		0		3		1		13	
03:00	0	0	9	52	0	0	14	45	0	0	23	97
03:15	0		18		0		12		0		30	
03:30	0		10		0		7		0		17	
03:45	0		15		0		12		0		27	
04:00	0	2	10	44	1	3	8	34	1	5	18	78
04:15	2		12		0		10		2		22	
04:30	0		10		2		10		2		20	
04:45	0		12		0		6		0		18	
05:00	1	2	10	49	0	0	6	27	1	2	16	76
05:15	0		13		0		7		0		20	
05:30	0		18		0		8		0		26	
05:45	1		8		0		6		1		14	
06:00	1	13	18	50	2	8	6	19	3	21	24	69
06:15	1		7		1		5		2		12	
06:30	3		12		4		8		7		20	
06:45	8		13		1		0		9		13	
07:00	9	28	7	22	3	13	4	7	12	41	11	29
07:15	7		3		3		2		10		5	
07:30	6		7		5		0		11		7	
07:45	6		5		2		1		8		6	
08:00	9	28	2	9	4	22	4	12	13	50	6	21
08:15	4		2		8		1		12		3	
08:30	9		1		6		3		15		4	
08:45	6		4		4		4		10		8	
09:00	6	24	2	9	7	21	3	7	13	45	5	16
09:15	8		3		2		1		10		4	
09:30	4		2		6		2		10		4	
09:45	6		2		6		1		12		3	
10:00	5	31	2	6	4	32	2	5	9	63	4	11
10:15	10		2		8		1		18		3	
10:30	8		2		6		2		14		4	
10:45	8		0		14		0		22		0	
11:00	9	38	1	1	5	34	1	6	14	72	2	7
11:15	10		0		12		1		22		1	
11:30	16		0		10		4		26		4	
11:45	3		0		7		0		10		0	
Totals	168		401		138		247		306		648	
Split%	54.9		61.9		45.1		38.1					
Day Totals		569				385				954		
Day Splits		59.6				40.4						
Peak Hour	10:45		01:30		10:45		03:00		10:45		01:30	
Volume	43		60		41		45		84		98	
Factor	0.67		0.83		0.73		0.80		0.81		0.77	

Data File : D2211033

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : W. TOPEKA STREET
Segment : S/O COAST HIGHWAY
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	SB				NB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	0	3	10	27	4	8	5	42	4	11	15	69
12:15	2		8		0		16		2		24	
12:30	0		5		2		12		2		17	
12:45	1		4		2		9		3		13	
01:00	1	2	8	32	0	0	9	40	1	2	17	72
01:15	1		8		0		6		1		14	
01:30	0		10		0		13		0		23	
01:45	0		6		0		12		0		18	
02:00	2	2	4	42	0	0	7	26	2	2	11	68
02:15	0		14		0		2		0		16	
02:30	0		15		0		9		0		24	
02:45	0		9		0		8		0		17	
03:00	1	1	11	41	0	1	14	36	1	2	25	77
03:15	0		7		0		4		0		11	
03:30	0		11		1		10		1		21	
03:45	0		12		0		8		0		20	
04:00	0	1	15	48	0	2	4	34	0	3	19	82
04:15	0		12		2		10		2		22	
04:30	1		10		0		3		1		13	
04:45	0		11		0		17		0		28	
05:00	1	14	13	37	1	10	6	27	2	24	19	64
05:15	6		2		2		7		8		9	
05:30	6		12		0		6		6		18	
05:45	1		10		7		8		8		18	
06:00	6	22	9	29	6	25	12	34	12	47	21	63
06:15	4		6		6		5		10		11	
06:30	6		6		7		7		13		13	
06:45	6		8		6		10		12		18	
07:00	2	27	10	25	3	17	6	17	5	44	16	42
07:15	8		11		4		9		12		20	
07:30	11		2		6		2		17		4	
07:45	6		2		4		0		10		2	
08:00	14	31	12	24	12	30	2	7	26	61	14	31
08:15	1		1		2		3		3		4	
08:30	10		10		12		2		22		12	
08:45	6		1		4		0		10		1	
09:00	8	31	6	22	13	37	1	2	21	68	7	24
09:15	10		1		4		1		14		2	
09:30	9		9		10		0		19		9	
09:45	4		6		10		0		14		6	
10:00	5	10	5	11	11	40	2	12	16	50	7	23
10:15	2		2		4		2		6		4	
10:30	0		1		10		0		10		1	
10:45	3		3		15		8		18		11	
11:00	6	31	0	4	3	44	0	3	9	75	0	7
11:15	8		0		9		0		17		0	
11:30	7		4		10		3		17		7	
11:45	10		0		22		0		32		0	
Totals	175		342		214		280		389		622	
Split%	45.0		55.0		55.0		45.0					
Day Totals		517				494				1,011		
Day Splits		51.1				48.9						
Peak Hour	07:15		03:30		11:00		12:15		11:00		02:15	
Volume	39		50		44		46		75		82	
Factor	0.70		0.83		0.50		0.72		0.59		0.82	

Data File : D2211034

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : MICHIGAN AVENUE
Segment : S/O COAST HIGHWAY
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	2	6	24	106	1	2	10	66	3	8	34	172
12:15	1		42		0		18		1		60	
12:30	1		18		0		18		1		36	
12:45	2		22		1		20		3		42	
01:00	2	5	12	55	0	1	20	58	2	6	32	113
01:15	2		17		0		14		2		31	
01:30	0		12		1		14		1		26	
01:45	1		14		0		10		1		24	
02:00	0	0	23	133	0	3	26	53	0	3	49	186
02:15	0		43		1		12		1		55	
02:30	0		45		1		7		1		52	
02:45	0		22		1		8		1		30	
03:00	0	2	11	65	0	0	12	45	0	2	23	110
03:15	0		25		0		11		0		36	
03:30	0		9		0		15		0		24	
03:45	2		20		0		7		2		27	
04:00	1	5	20	116	2	8	22	57	3	13	42	173
04:15	0		24		1		17		1		41	
04:30	4		16		1		8		5		24	
04:45	0		56		4		10		4		66	
05:00	6	22	13	109	5	17	18	51	11	39	31	160
05:15	4		32		3		13		7		45	
05:30	2		59		4		12		6		71	
05:45	10		5		5		8		15		13	
06:00	8	50	20	89	8	43	8	32	16	93	28	121
06:15	10		8		19		10		29		18	
06:30	10		40		6		10		16		50	
06:45	22		21		10		4		32		25	
07:00	12	49	11	84	12	51	12	26	24	100	23	110
07:15	6		44		16		10		22		54	
07:30	18		22		10		2		28		24	
07:45	13		7		13		2		26		9	
08:00	10	42	20	44	7	35	6	19	17	77	26	63
08:15	6		3		8		0		14		3	
08:30	14		10		8		8		22		18	
08:45	12		11		12		5		24		16	
09:00	17	49	3	40	10	50	2	5	27	99	5	45
09:15	11		4		12		1		23		5	
09:30	12		23		19		2		31		25	
09:45	9		10		9		0		18		10	
10:00	6	36	4	15	4	36	4	7	10	72	8	22
10:15	13		4		2		0		15		4	
10:30	10		6		14		3		24		9	
10:45	7		1		16		0		23		1	
11:00	17	62	0	3	17	62	0	0	34	124	0	3
11:15	11		0		19		0		30		0	
11:30	14		1		12		0		26		1	
11:45	20		2		14		0		34		2	
Totals	328		859		308		419		636		1,278	
Split%	51.6		67.2		48.4		32.8					
Day Totals		1,187				727				1,914		
Day Splits		62.0				38.0						
Peak Hour	11:00		04:45		10:30		12:15		11:00		04:45	
Volume	62		160		66		76		124		213	
Factor	0.77		0.68		0.87		0.95		0.91		0.75	

* Data File : D2211035

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L
Tustin, CA. 92780

Location : MISSOURI AVENUE
Segment : S/O COAST HIGHWAY
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	NB				SB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	0	0	8	29	0	1	8	25	0	1	16	54
12:15	0		2		0		3		0		5	
12:30	0		9		0		8		0		17	
12:45	0		10		1		6		1		16	
01:00	0	0	9	52	0	1	8	46	0	1	17	98
01:15	0		8		0		13		0		21	
01:30	0		25		1		12		1		37	
01:45	0		10		0		13		0		23	
02:00	0	1	10	31	0	0	10	33	0	1	20	64
02:15	0		8		0		9		0		17	
02:30	1		2		0		6		1		8	
02:45	0		11		0		8		0		19	
03:00	0	0	6	39	1	1	6	26	1	1	12	65
03:15	0		16		0		6		0		22	
03:30	0		10		0		6		0		16	
03:45	0		7		0		8		0		15	
04:00	0	4	12	50	0	3	12	32	0	7	24	82
04:15	0		16		0		6		0		22	
04:30	4		7		2		10		6		17	
04:45	0		15		1		4		1		19	
05:00	3	5	6	40	2	3	12	32	5	8	18	72
05:15	1		14		0		2		1		16	
05:30	1		10		0		6		1		16	
05:45	0		10		1		12		1		22	
06:00	1	15	4	35	2	7	8	18	3	22	12	53
06:15	3		13		3		6		6		19	
06:30	2		8		0		3		2		11	
06:45	9		10		2		1		11		11	
07:00	2	13	15	30	4	14	6	17	6	27	21	47
07:15	9		2		5		4		14		6	
07:30	1		9		4		2		5		11	
07:45	1		4		1		5		2		9	
08:00	2	14	4	11	4	23	4	10	6	37	8	21
08:15	5		1		8		3		13		4	
08:30	3		1		5		0		8		1	
08:45	4		5		6		3		10		8	
09:00	11	47	5	8	10	37	4	13	21	84	9	21
09:15	18		0		11		4		29		4	
09:30	9		2		12		2		21		4	
09:45	9		1		4		3		13		4	
10:00	3	30	0	4	9	29	0	2	12	59	0	6
10:15	14		0		6		0		20		0	
10:30	5		2		6		2		11		4	
10:45	8		2		8		0		16		2	
11:00	10	32	0	2	7	32	0	3	17	64	0	5
11:15	8		0		10		0		18		0	
11:30	8		2		12		3		20		5	
11:45	6		0		3		0		9		0	
Totals	161		331		151		257		312		588	
Split%	51.6		56.3		48.4		43.7					
Day Totals		492				408				900		
Day Splits		54.7				45.3						
Peak Hour	09:00		01:15		08:45		01:15		09:00		01:15	
Volume	47		53		39		48		84		101	
Factor	0.65		0.53		0.81		0.92		0.72		0.68	

Data File : D2211036

Transportation Studies, Inc.

2640 Walnut Avenue, Suite L

Tustin, CA. 92780

Location : CLEVELAND STREET
Segment : E/O MISSOURI AVE
Client : STANTEC

Site: OCEANSIDE
Date: 11/15/22
Day: Tuesday

Interval	WB				EB				Combined			
Begin	AM		PM		AM		PM		AM		PM	
12:00	0	0	1	10	0	0	0	0	0	0	1	10
12:15	0		4		0		0		0		4	
12:30	0		2		0		0		0		2	
12:45	0		3		0		0		0		3	
01:00	1	1	8	22	0	0	2	9	1	1	10	31
01:15	0		4		0		2		0		6	
01:30	0		2		0		4		0		6	
01:45	0		8		0		1		0		9	
02:00	0	1	4	14	0	0	0	7	0	1	4	21
02:15	0		3		0		4		0		7	
02:30	0		3		0		1		0		4	
02:45	1		4		0		2		1		6	
03:00	0	0	5	16	0	0	1	8	0	0	6	24
03:15	0		4		0		1		0		5	
03:30	0		4		0		6		0		10	
03:45	0		3		0		0		0		3	
04:00	0	0	1	9	0	0	1	5	0	0	2	14
04:15	0		4		0		4		0		8	
04:30	0		1		0		0		0		1	
04:45	0		3		0		0		0		3	
05:00	1	2	2	10	0	0	1	5	1	2	3	15
05:15	0		4		0		2		0		6	
05:30	1		4		0		2		1		6	
05:45	0		0		0		0		0		0	
06:00	0	8	2	16	0	2	1	2	0	10	3	18
06:15	2		3		1		0		3		3	
06:30	2		7		0		1		2		8	
06:45	4		4		1		0		5		4	
07:00	1	3	3	8	0	3	1	1	1	6	4	9
07:15	0		1		0		0		0		1	
07:30	1		1		2		0		3		1	
07:45	1		3		1		0		2		3	
08:00	1	7	2	4	1	2	1	2	2	9	3	6
08:15	2		1		1		1		3		2	
08:30	3		1		0		0		3		1	
08:45	1		0		0		0		1		0	
09:00	3	16	1	8	0	4	0	0	3	20	1	8
09:15	8		3		1		0		9		3	
09:30	2		2		1		0		3		2	
09:45	3		2		2		0		5		2	
10:00	0	6	0	5	0	2	0	0	0	8	0	5
10:15	1		2		0		0		1		2	
10:30	3		1		0		0		3		1	
10:45	2		2		2		0		4		2	
11:00	1	6	1	2	0	4	0	0	1	10	1	2
11:15	2		0		1		0		3		0	
11:30	1		1		2		0		3		1	
11:45	2		0		1		0		3		0	
Totals	50		124		17		39		67		163	
Split%	74.6		76.1		25.4		23.9					
Day Totals		174				56				230		
Day Splits		75.7				24.3						
Peak Hour	09:00		01:00		07:30		03:30		09:00		01:00	
Volume	16		22		5		11		20		31	
Factor	0.50		0.69		0.63		0.46		0.56		0.77	

* Data File : D2211037

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Ditmar Street

File Name : H2211019
Site Code : 00000000
Start Date : 11/3/2022
Page No : 1

Groups Printed- Turning Movement Count

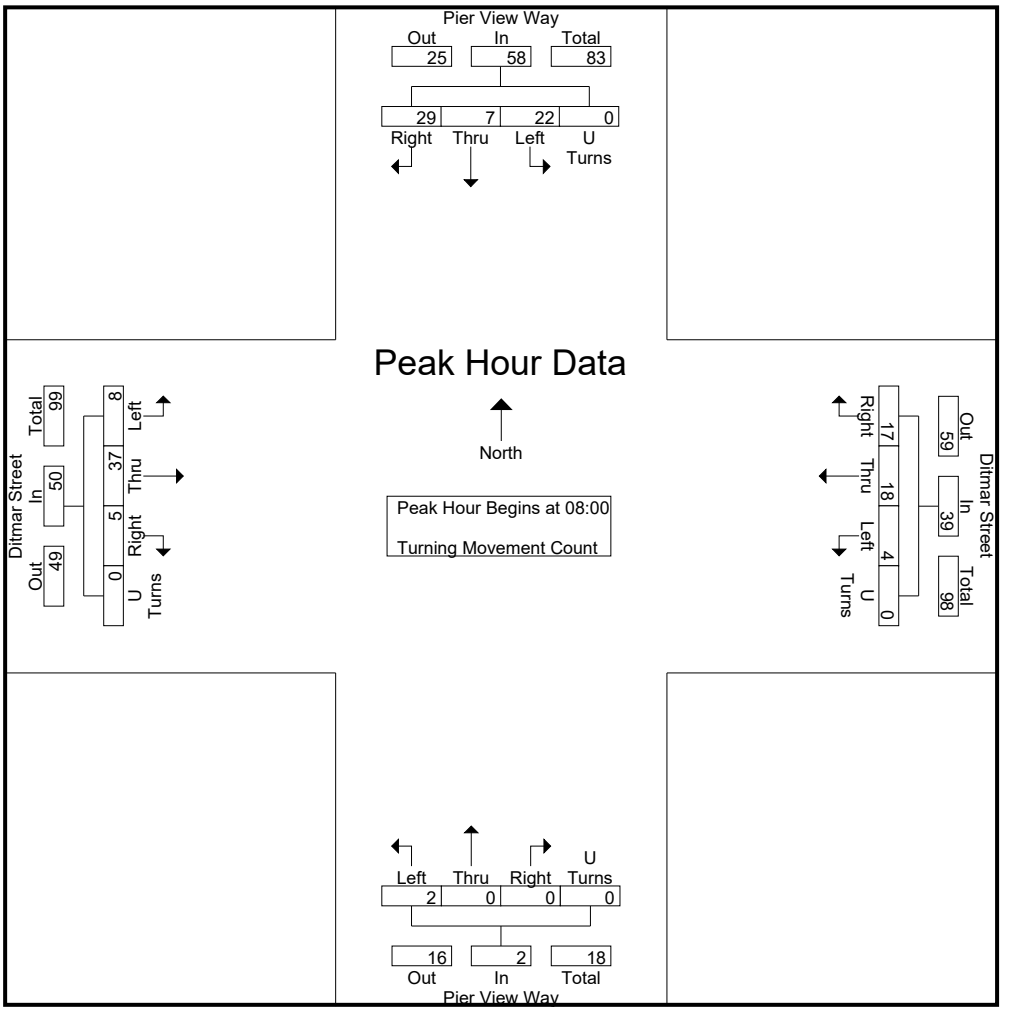
	Pier View Way Southbound				Ditmar Street Westbound				Pier View Way Northbound				Ditmar Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	8	1	1	0	1	4	2	0	1	1	0	1	0	2	0	0	22
07:15	13	4	0	0	0	8	2	0	0	0	0	0	1	5	1	0	34
07:30	16	2	2	0	2	5	1	0	0	0	1	0	1	5	1	0	36
07:45	6	3	7	0	5	2	0	0	2	2	0	0	0	8	4	0	39
Total	43	10	10	0	8	19	5	0	3	3	1	1	2	20	6	0	131
08:00	5	1	3	0	5	4	0	0	0	0	0	0	2	8	0	0	28
08:15	8	4	5	0	2	3	3	0	0	0	1	0	0	13	4	0	43
08:30	6	2	5	0	5	4	0	0	0	0	1	0	3	4	2	0	32
08:45	10	0	9	0	5	7	1	0	0	0	0	0	0	12	2	0	46
Total	29	7	22	0	17	18	4	0	0	0	2	0	5	37	8	0	149
16:00	3	22	1	0	4	6	0	0	1	20	9	1	2	12	3	0	84
16:15	6	16	4	0	5	7	2	0	11	28	6	1	4	12	5	0	107
16:30	4	14	3	0	3	5	1	0	6	17	4	0	2	9	4	0	72
16:45	6	26	3	0	3	8	5	0	3	25	7	0	4	12	5	0	107
Total	19	78	11	0	15	26	8	0	21	90	26	2	12	45	17	0	370
17:00	11	26	4	1	5	8	2	0	4	29	3	0	6	11	19	0	129
17:15	6	21	7	1	5	3	2	0	6	35	11	0	13	10	10	0	130
17:30	5	18	1	0	7	4	7	0	10	31	8	0	6	13	6	0	116
17:45	6	27	2	1	1	2	1	0	10	21	5	2	5	5	5	0	93
Total	28	92	14	3	18	17	12	0	30	116	27	2	30	39	40	0	468
Grand Total	119	187	57	3	58	80	29	0	54	209	56	5	49	141	71	0	1118
Apprch %	32.5	51.1	15.6	0.8	34.7	47.9	17.4	0	16.7	64.5	17.3	1.5	18.8	54	27.2	0	
Total %	10.6	16.7	5.1	0.3	5.2	7.2	2.6	0	4.8	18.7	5	0.4	4.4	12.6	6.4	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Ditmar Street

File Name : H2211019
Site Code : 00000000
Start Date : 11/3/2022
Page No : 2

	Pier View Way Southbound					Ditmar Street Westbound					Pier View Way Northbound					Ditmar Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	5	1	3	0	9	**5**															
08:15	**8**	**4**	5	0	17	2	3	**3**	**0**	**8**	**0**	**0**	**1**	**0**	**1**	0	**13**	**4**	**0**	**17**	43
08:30	6	2	5	0	13	5	4	0	0	9	0	0	1	0	1	**3**					
08:45	**10**	**0**	**9**	**0**	**19**	5	**7**	1	0	**13**	0	0	0	0	0	0	12	2	0	14	**46**
Total Volume	29	7	22	0	58	17	18	4	0	39	0	0	2	0	2	5	37	8	0	50	149
% App. Total	50	12.1	37.9	0		43.6	46.2	10.3	0		0	0	100	0		10	74	16	0		
PHF	.725	.438	.611	.000	.763	.850	.643	.333	.000	.750	.000	.000	.500	.000	.500	.417	.712	.500	.000	.735	.810

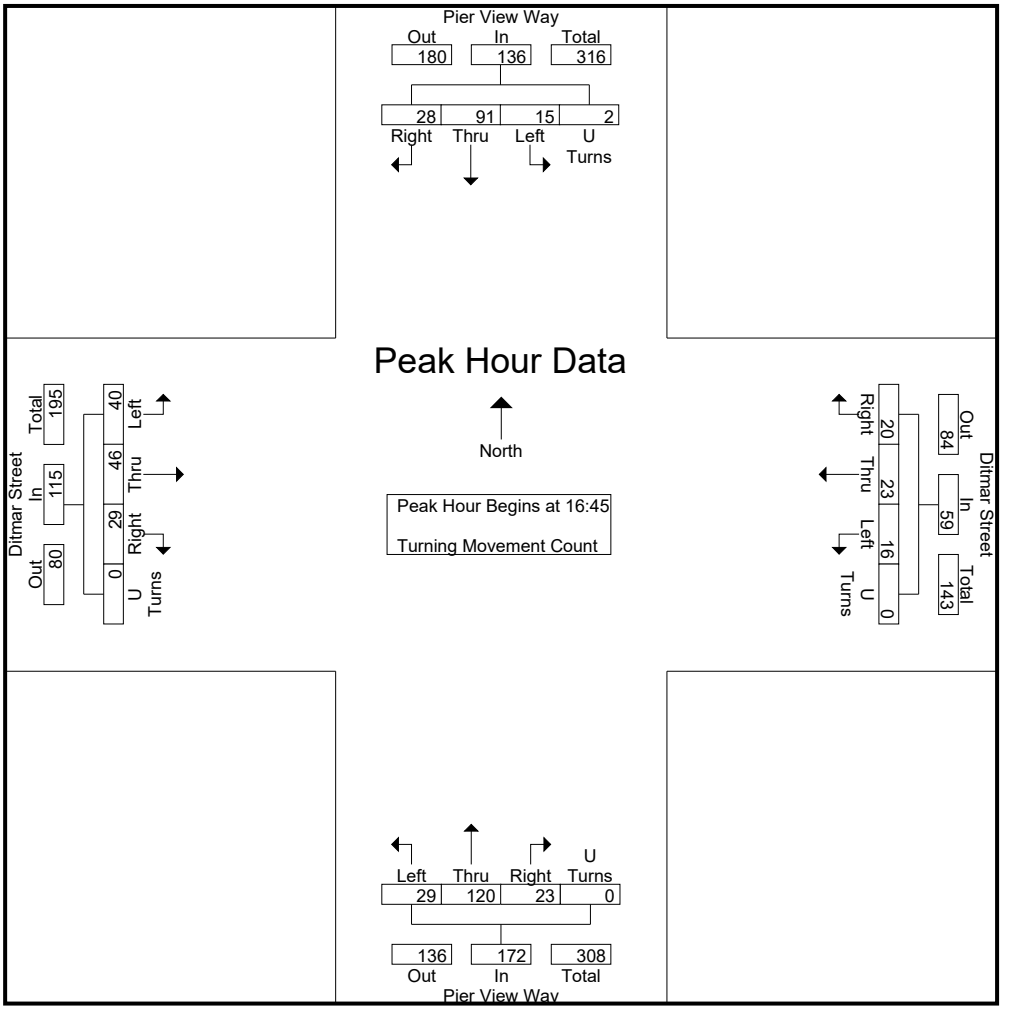


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Ditmar Street

File Name : H2211019
Site Code : 00000000
Start Date : 11/3/2022
Page No : 3

	Pier View Way Southbound					Ditmar Street Westbound					Pier View Way Northbound					Ditmar Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	6	**26**	3	0	35	3	**8**	5	0	16	3	25	7	0	35	4	12	5	0	21	107
17:00	**11**			**1**	**42**	5	8	2	0	15	4	29	3	0	36	6	11	**19**		**36**	129
17:15	6	21	**7**									**35**	**11**		**52**	**13**					**130**
17:30	5	18	1	0	24	**7**		**7**		**18**	**10**						**13**	6	0	25	116
Total Volume	28	91	15	2	136	20	23	16	0	59	23	120	29	0	172	29	46	40	0	115	482
% App. Total	20.6	66.9	11	1.5		33.9	39	27.1	0		13.4	69.8	16.9	0		25.2	40	34.8	0		
PHF	.636	.875	.536	.500	.810	.714	.719	.571	.000	.819	.575	.857	.659	.000	.827	.558	.885	.526	.000	.799	.927



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Nevada Street

File Name : H2211002
Site Code : 00000000
Start Date : 11/3/2022
Page No : 1

Groups Printed- Turning Movement Count

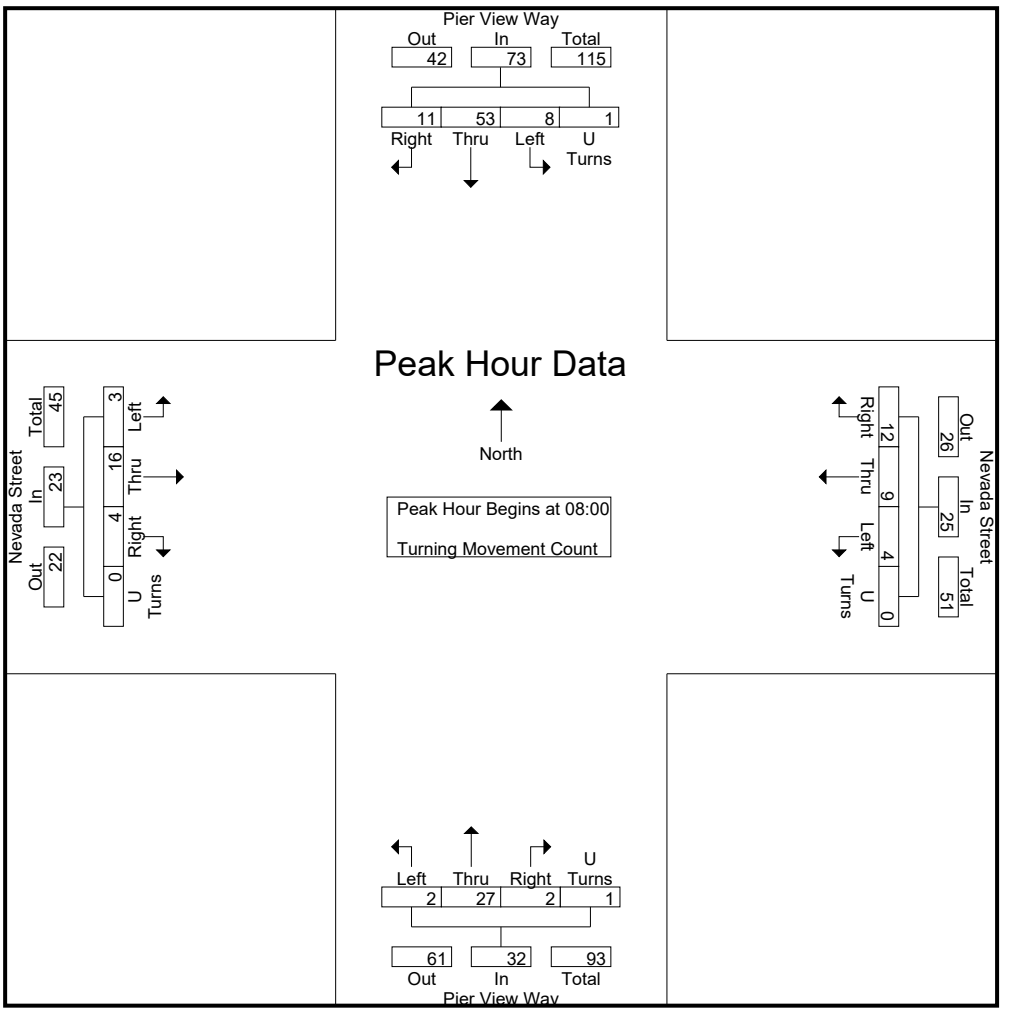
	Pier View Way Southbound				Nevada Street Westbound				Pier View Way Northbound				Nevada Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	0	8	1	0	1	4	0	0	0	2	0	0	1	1	1	0	19
07:15	2	24	0	0	2	1	0	0	0	1	0	0	1	1	1	0	33
07:30	3	12	2	0	4	1	0	0	1	3	1	0	1	0	0	0	28
07:45	2	16	0	0	5	1	1	0	3	3	1	0	0	1	1	0	34
Total	7	60	3	0	12	7	1	0	4	9	2	0	3	3	3	0	114
08:00	2	11	2	0	4	0	1	0	0	6	1	0	1	5	1	0	34
08:15	3	14	3	0	1	3	1	0	1	5	0	0	1	6	0	0	38
08:30	4	13	1	1	3	2	1	0	0	10	1	1	2	2	1	0	42
08:45	2	15	2	0	4	4	1	0	1	6	0	0	0	3	1	0	39
Total	11	53	8	1	12	9	4	0	2	27	2	1	4	16	3	0	153
16:00	1	25	1	0	7	0	3	0	1	30	0	0	3	3	0	0	74
16:15	1	21	3	1	12	0	0	0	3	31	0	0	1	2	0	0	75
16:30	3	22	3	0	9	0	2	0	1	28	0	0	1	1	2	0	72
16:45	2	30	1	1	14	4	1	0	2	33	0	0	1	6	0	0	95
Total	7	98	8	2	42	4	6	0	7	122	0	0	6	12	2	0	316
17:00	1	34	3	0	15	1	2	0	1	44	2	0	0	3	1	0	107
17:15	3	32	3	0	10	1	2	0	1	46	2	1	2	1	0	0	104
17:30	3	25	0	0	10	2	2	0	4	30	0	0	1	5	1	0	83
17:45	3	37	0	0	4	4	2	0	4	32	2	2	1	1	1	0	93
Total	10	128	6	0	39	8	8	0	10	152	6	3	4	10	3	0	387
Grand Total	35	339	25	3	105	28	19	0	23	310	10	4	17	41	11	0	970
Apprch %	8.7	84.3	6.2	0.7	69.1	18.4	12.5	0	6.6	89.3	2.9	1.2	24.6	59.4	15.9	0	
Total %	3.6	34.9	2.6	0.3	10.8	2.9	2	0	2.4	32	1	0.4	1.8	4.2	1.1	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Nevada Street

File Name : H2211002
Site Code : 00000000
Start Date : 11/3/2022

	Pier View Way Southbound					Nevada Street Westbound					Pier View Way Northbound					Nevada Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	2	11	2	0	15	**4**		**1**					**1**					**1**		**7**	34
08:15	3	14	**3**		**20**	1	3	1	0	5	**1**						**6**	0	0	7	38
08:30	**4**			**1**								**10**	1	**1**	**12**	**2**					**42**
08:45	2	**15**	2	0	19	4	**4**	1	0	**9**	1	6	0	0	7	0	3	1	0	4	39
Total Volume	11	53	8	1	73	12	9	4	0	25	2	27	2	1	32	4	16	3	0	23	153
% App. Total	15.1	72.6	11	1.4		48	36	16	0		6.2	84.4	6.2	3.1		17.4	69.6	13	0		
PHF	.688	.883	.667	.250	.913	.750	.563	1.00	.000	.694	.500	.675	.500	.250	.667	.500	.667	.750	.000	.821	.911

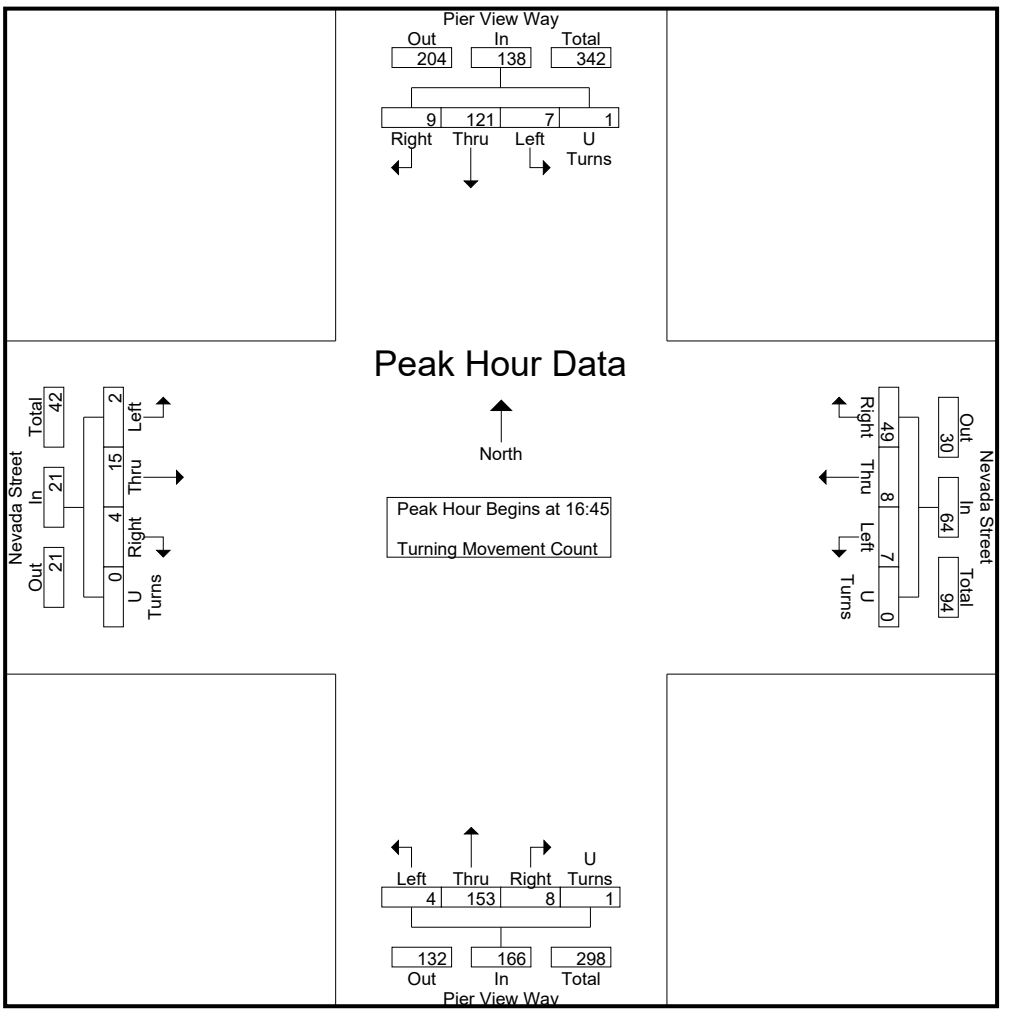


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Nevada Street

File Name : H2211002
Site Code : 00000000
Start Date : 11/3/2022
Page No : 3

	Pier View Way Southbound					Nevada Street Westbound					Pier View Way Northbound					Nevada Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	2	30	1	**1**			**4**	1	0	**19**	2	33	0	0	35	1	**6**	0	0	**7**	95
17:00	1	**34**	**3**		**38**	**15**		**2**					**2**					**1**			**107**
17:15	**3**											**46**	2	**1**	**50**	**2**					
17:30	**3**	**25**	**0**	**0**	**28**	**10**	**2**	**2**	**0**	**14**	**4**	**30**	**0**	**0**	**34**	**1**	**5**	**1**	**0**	**7**	**83**
Total Volume	9	121	7	1	138	49	8	7	0	64	8	153	4	1	166	4	15	2	0	21	389
% App. Total	6.5	87.7	5.1	0.7		76.6	12.5	10.9	0		4.8	92.2	2.4	0.6		19	71.4	9.5	0		
PHF	.750	.890	.583	.250	.908	.817	.500	.875	.000	.842	.500	.832	.500	.250	.830	.500	.625	.500	.000	.750	.909



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Clementine Street

File Name : H2211001
Site Code : 00000000
Start Date : 11/3/2022
Page No : 1

Groups Printed- Turning Movement Count

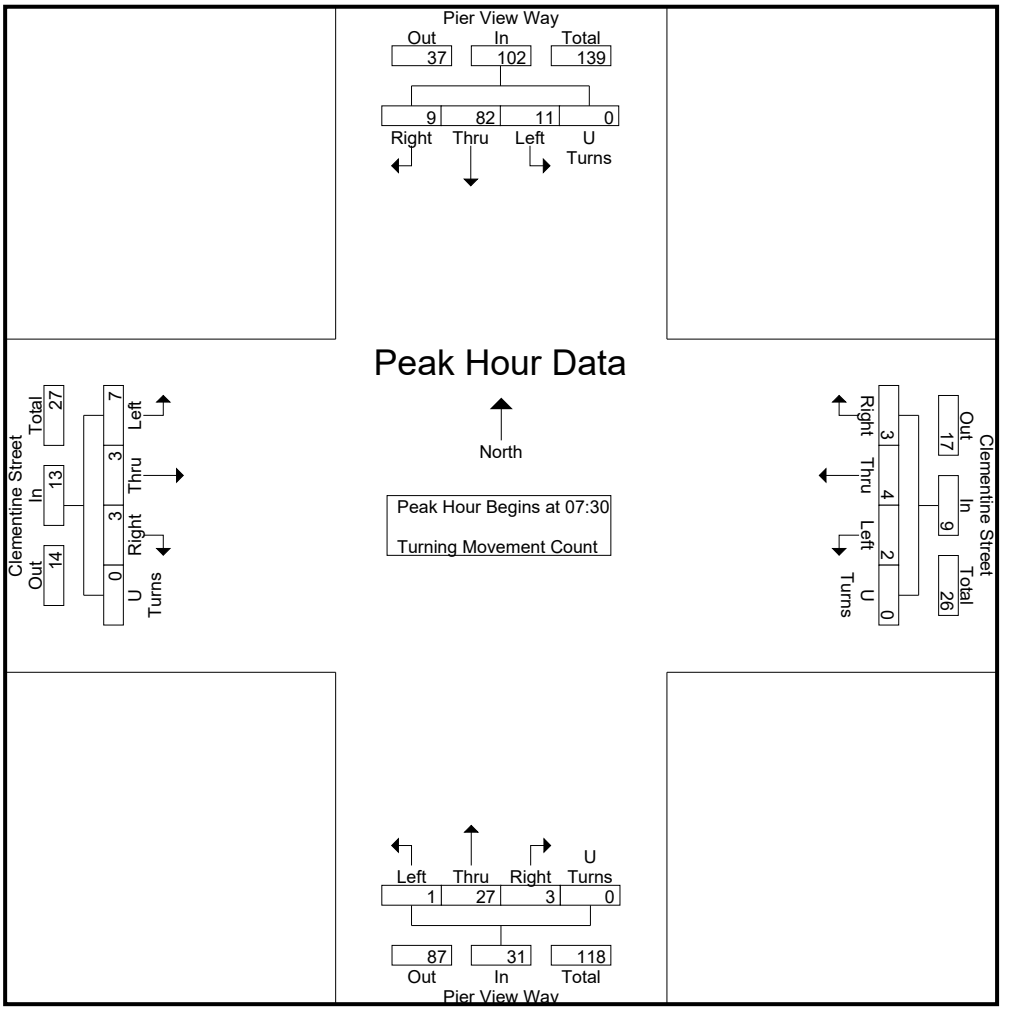
	Pier View Way Southbound				Clementine Street Westbound				Pier View Way Northbound				Clementine Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	0	12	0	0	0	0	0	0	0	4	0	0	0	2	0	0	18
07:15	0	19	1	0	1	0	0	0	0	4	0	0	1	1	0	0	27
07:30	1	25	2	0	1	2	0	0	1	3	0	0	0	0	0	0	35
07:45	4	15	4	0	0	1	1	0	0	6	0	0	1	1	0	0	33
Total	5	71	7	0	2	3	1	0	1	17	0	0	2	4	0	0	113
08:00	3	16	3	0	2	1	1	0	2	9	1	0	2	1	1	0	42
08:15	1	26	2	0	0	0	0	0	0	9	0	0	0	1	6	0	45
08:30	0	15	1	0	0	1	0	0	0	11	1	0	0	0	0	0	29
08:45	1	20	2	0	1	1	0	0	0	8	0	0	2	0	3	0	38
Total	5	77	8	0	3	3	1	0	2	37	2	0	4	2	10	0	154
16:00	3	23	0	0	4	1	0	0	1	34	0	0	1	0	2	0	69
16:15	2	24	0	0	4	0	0	0	1	45	1	0	0	0	3	0	80
16:30	5	21	1	0	2	2	1	0	0	37	1	0	3	0	1	0	74
16:45	3	34	1	0	1	0	2	0	0	42	0	0	0	2	1	0	86
Total	13	102	2	0	11	3	3	0	2	158	2	0	4	2	7	0	309
17:00	1	47	0	0	6	1	1	0	0	76	1	0	1	2	4	0	140
17:15	0	30	3	0	1	1	1	0	1	49	1	0	2	1	1	0	91
17:30	0	27	1	1	4	0	0	0	0	52	1	0	3	1	2	0	92
17:45	0	38	1	0	1	2	2	0	2	27	0	0	0	3	0	0	76
Total	1	142	5	1	12	4	4	0	3	204	3	0	6	7	7	0	399
Grand Total	24	392	22	1	28	13	9	0	8	416	7	0	16	15	24	0	975
Apprch %	5.5	89.3	5	0.2	56	26	18	0	1.9	96.5	1.6	0	29.1	27.3	43.6	0	
Total %	2.5	40.2	2.3	0.1	2.9	1.3	0.9	0	0.8	42.7	0.7	0	1.6	1.5	2.5	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Clementine Street

File Name : H2211001
Site Code : 00000000
Start Date : 11/3/2022

	Pier View Way Southbound					Clementine Street Westbound					Pier View Way Northbound					Clementine Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	1	25	2	0	28	1	**2**	0	0	3	1	3	0	0	4	0	0	0	0	0	35
07:45	**4**		**4**					**1**									**1**	0	0	2	33
08:00	3	16	3	0	22	**2**				**4**	**2**	**9**	**1**		**12**	**2**					
08:15	**1**	**26**	2	0	**29**	0	0	0	0	0	0	9	0	0	9	0	1	**6**	**0**	**7**	**45**
Total Volume	9	82	11	0	102	3	4	2	0	9	3	27	1	0	31	3	3	7	0	13	155
% App. Total	8.8	80.4	10.8	0		33.3	44.4	22.2	0		9.7	87.1	3.2	0		23.1	23.1	53.8	0		
PHF	.563	.788	.688	.000	.879	.375	.500	.500	.000	.563	.375	.750	.250	.000	.646	.375	.750	.292	.000	.464	.861

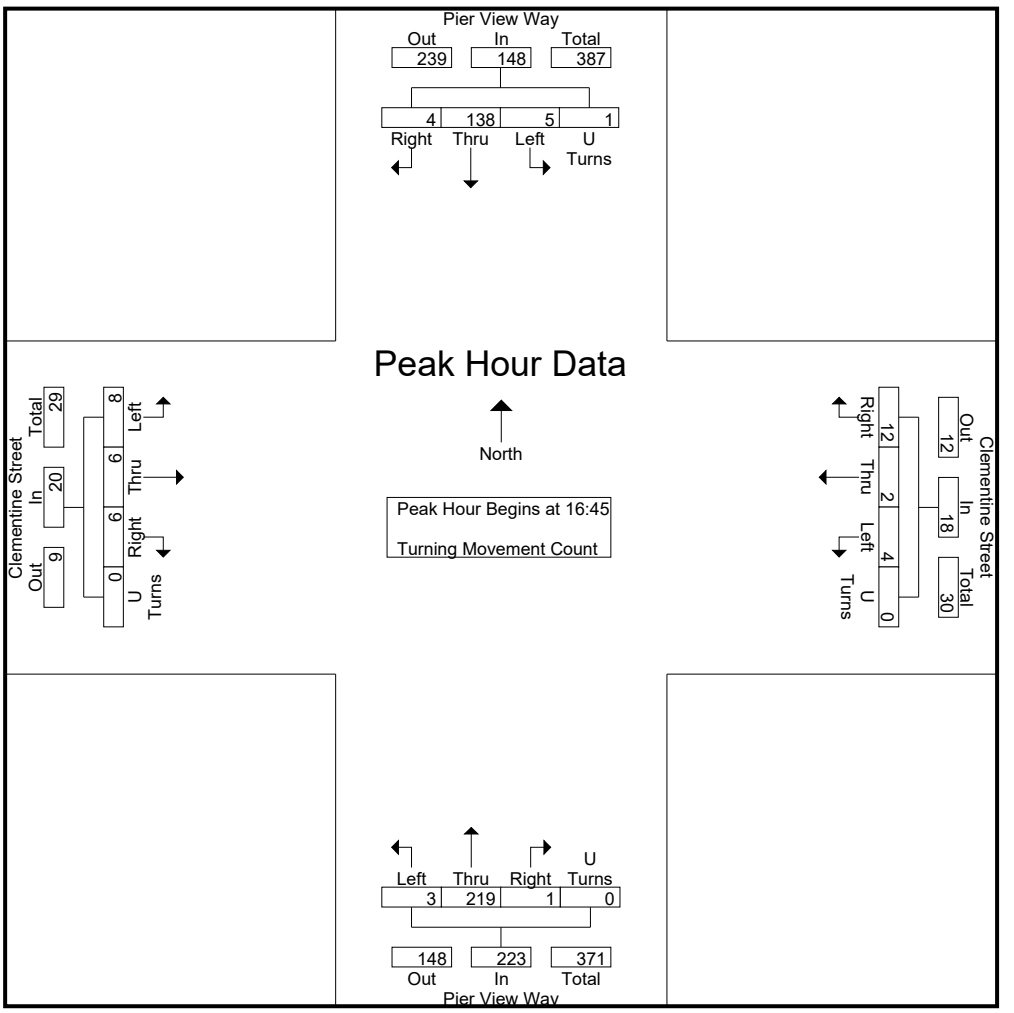


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Clementine Street

File Name : H2211001
Site Code : 00000000
Start Date : 11/3/2022
Page No : 3

	Pier View Way Southbound					Clementine Street Westbound					Pier View Way Northbound					Clementine Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**3**							**2**									**2**	1	0	3	86
17:00	1	**47**	0	0	**48**	**6**	**1**	1	0	**8**	0	**76**	**1**		**77**	1	2	**4**		**7**	**140**
17:15	0	30	**3**								**1**										
17:30	**0**	**27**	**1**	**1**	**29**	**4**	**0**	**0**	**0**	**4**	**0**	**52**	**1**	**0**	**53**	**3**	**1**	**2**	**0**	**6**	**92**
Total Volume	4	138	5	1	148	12	2	4	0	18	1	219	3	0	223	6	6	8	0	20	409
% App. Total	2.7	93.2	3.4	0.7		66.7	11.1	22.2	0		0.4	98.2	1.3	0		30	30	40	0		
PHF	.333	.734	.417	.250	.771	.500	.500	.500	.000	.563	.250	.720	.750	.000	.724	.500	.750	.500	.000	.714	.730



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Horne Street

File Name : H2211018
Site Code : 00000000
Start Date : 11/3/2022

Groups Printed- Turning Movement Count

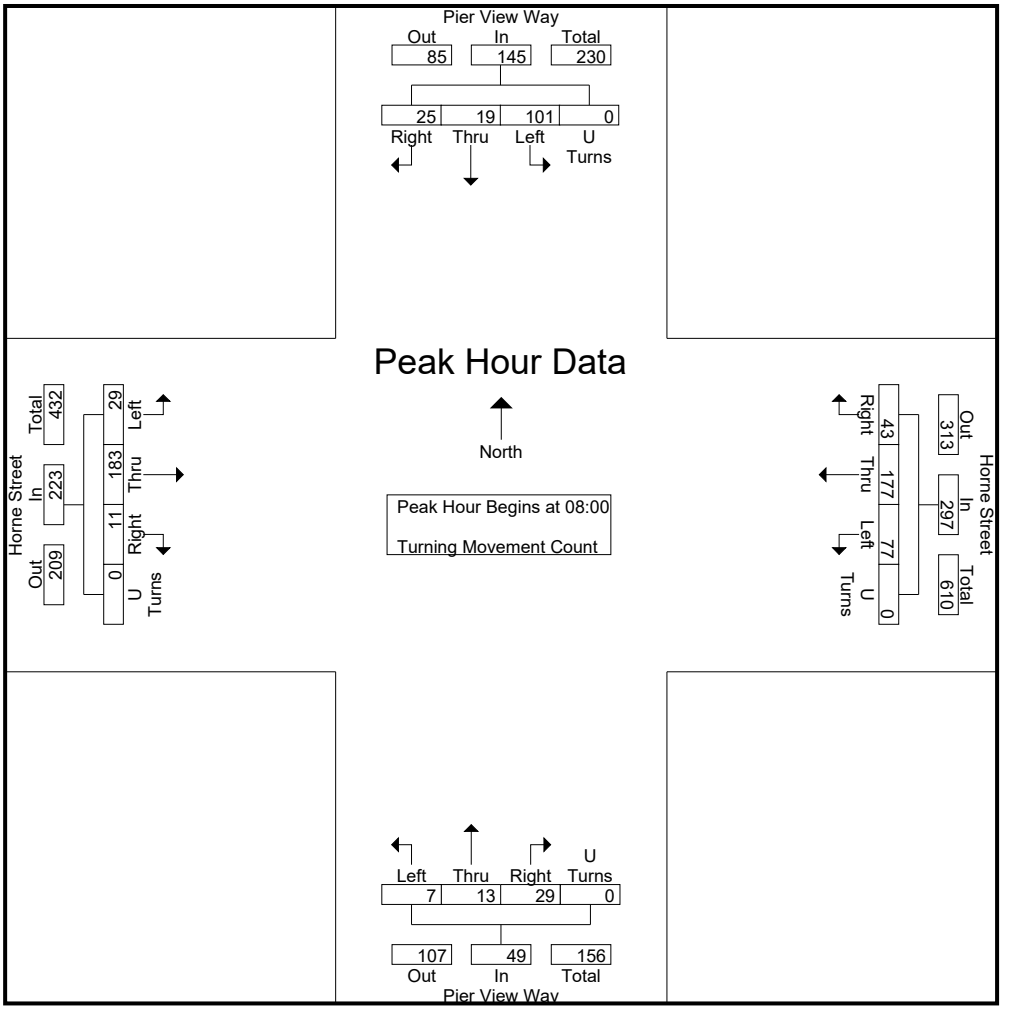
	Pier View Way Southbound				Horne Street Westbound				Pier View Way Northbound				Horne Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	2	2	7	0	3	15	8	0	2	0	0	0	1	20	1	0	61
07:15	2	4	6	0	0	31	17	0	6	0	0	0	1	28	3	0	98
07:30	1	6	9	0	3	37	24	0	3	1	0	0	0	33	4	0	121
07:45	1	3	9	0	3	48	21	2	4	0	2	0	1	34	1	0	129
Total	6	15	31	0	9	131	70	2	15	1	2	0	3	115	9	0	409
08:00	5	6	24	0	8	41	20	0	4	2	2	0	2	49	1	0	164
08:15	5	5	31	0	10	48	26	0	5	5	4	0	3	64	7	0	213
08:30	11	3	25	0	10	34	12	0	9	4	0	0	4	31	13	0	156
08:45	4	5	21	0	15	54	19	0	11	2	1	0	2	39	8	0	181
Total	25	19	101	0	43	177	77	0	29	13	7	0	11	183	29	0	714
16:00	14	10	45	0	13	31	15	0	27	8	8	0	2	47	16	0	236
16:15	13	3	43	0	20	40	21	0	41	7	5	0	2	53	12	0	260
16:30	9	9	52	0	15	43	16	0	25	9	6	0	3	46	11	0	244
16:45	13	12	43	0	13	49	20	0	32	12	3	0	4	42	15	0	258
Total	49	34	183	0	61	163	72	0	125	36	22	0	11	188	54	0	998
17:00	14	11	29	0	13	45	37	0	67	13	4	0	2	88	8	0	331
17:15	12	8	53	0	14	47	22	0	38	5	10	0	4	51	10	0	274
17:30	15	3	39	0	10	36	23	2	38	10	10	0	5	35	20	0	246
17:45	20	14	48	0	16	42	26	0	18	4	8	0	0	48	12	0	256
Total	61	36	169	0	53	170	108	2	161	32	32	0	11	222	50	0	1107
Grand Total	141	104	484	0	166	641	327	4	330	82	63	0	36	708	142	0	3228
Apprch %	19.3	14.3	66.4	0	14.6	56.3	28.7	0.4	69.5	17.3	13.3	0	4.1	79.9	16	0	
Total %	4.4	3.2	15	0	5.1	19.9	10.1	0.1	10.2	2.5	2	0	1.1	21.9	4.4	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Horne Street

File Name : H2211018
Site Code : 00000000
Start Date : 11/3/2022

	Pier View Way Southbound					Horne Street Westbound					Pier View Way Northbound					Horne Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	5	**6**	24	0	35	8	41	20	0	69	4	2	2	0	8	2	49	1	0	52	164
08:15	5	5	**31**		**41**	10	48	**26**				**5**	**4**		**14**	3	**64**	7	0	**74**	**213**
08:30	**11**															**4**		**13**			
08:45	**4**	**5**	**21**	**0**	**30**	**15**	**54**	19	0	**88**	**11**	**2**	**1**	**0**	**14**	**2**	**39**	**8**	**0**	**49**	**181**
Total Volume	25	19	101	0	145	43	177	77	0	297	29	13	7	0	49	11	183	29	0	223	714
% App. Total	17.2	13.1	69.7	0		14.5	59.6	25.9	0		59.2	26.5	14.3	0		4.9	82.1	13	0		
PHF	.568	.792	.815	.000	.884	.717	.819	.740	.000	.844	.659	.650	.438	.000	.875	.688	.715	.558	.000	.753	.838

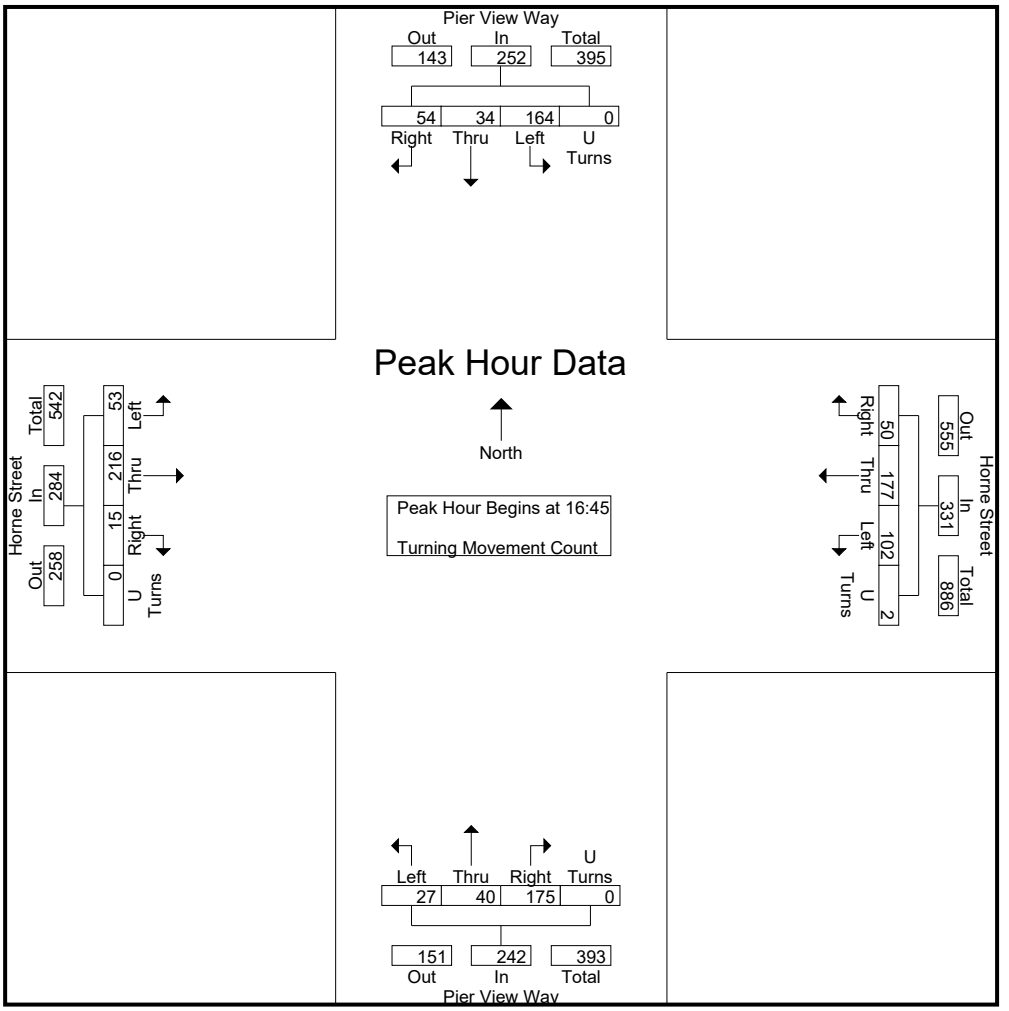


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Pier View Way
E-W Direction: Horne Street

File Name : H2211018
Site Code : 00000000
Start Date : 11/3/2022

	Pier View Way Southbound					Horne Street Westbound					Pier View Way Northbound					Horne Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	13	**12**	43	0	68	13	**49**	20	0	82	32	12	3	0	47	4	42	15	0	61	258
17:00	14	11	29	0	54	13	45	**37**		**95**	**67**	**13**	4	0	**84**	2	**88**	8	0	**98**	**331**
17:15	12	8	**53**		**73**	**14**							**10**								
17:30	**15**	**3**	**39**	**0**	**57**	**10**	**36**	**23**	**2**	**71**	**38**	**10**	**10**	**0**	**58**	**5**	**35**	**20**	**0**	**60**	**246**
Total Volume	54	34	164	0	252	50	177	102	2	331	175	40	27	0	242	15	216	53	0	284	1109
% App. Total	21.4	13.5	65.1	0		15.1	53.5	30.8	0.6		72.3	16.5	11.2	0		5.3	76.1	18.7	0		
PHF	.900	.708	.774	.000	.863	.893	.903	.689	.250	.871	.653	.769	.675	.000	.720	.750	.614	.663	.000	.724	.838



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Cleveland Street

File Name : H2211023
Site Code : 00000000
Start Date : 11/10/2022
Page No : 1

Groups Printed- Turning Movement Count

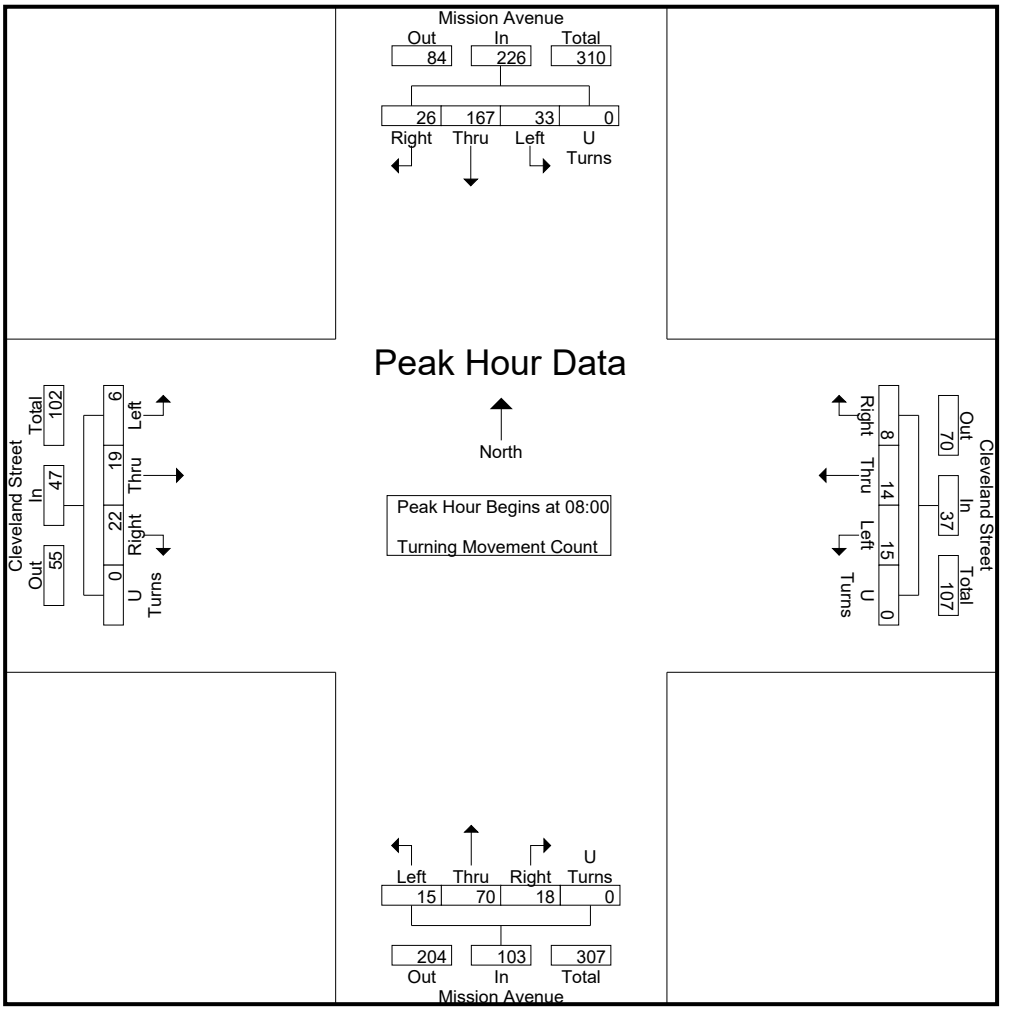
	Mission Avenue Southbound				Cleveland Street Westbound				Mission Avenue Northbound				Cleveland Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	8	20	5	0	5	3	0	0	5	16	3	0	4	5	0	0	74
07:15	5	26	3	0	2	2	1	0	8	17	0	0	3	1	2	0	70
07:30	5	37	3	0	3	1	4	0	4	16	1	0	4	1	1	0	80
07:45	5	42	3	0	0	1	2	0	5	23	1	0	7	6	4	0	99
Total	23	125	14	0	10	7	7	0	22	72	5	0	18	13	7	0	323
08:00	7	34	7	0	0	2	5	0	7	18	5	0	5	7	2	0	99
08:15	4	49	7	0	4	7	2	0	5	18	1	0	5	3	0	0	105
08:30	7	34	7	0	1	3	3	0	4	16	3	0	7	4	2	0	91
08:45	8	50	12	0	3	2	5	0	2	18	6	0	5	5	2	0	118
Total	26	167	33	0	8	14	15	0	18	70	15	0	22	19	6	0	413
16:00	35	55	20	0	5	7	5	0	12	32	9	0	5	11	8	0	204
16:15	14	59	18	0	11	10	8	0	9	28	5	0	5	15	6	0	188
16:30	29	49	16	1	5	9	6	0	11	37	11	1	5	13	14	0	207
16:45	28	71	17	0	9	8	9	0	15	40	4	0	2	7	12	0	222
Total	106	234	71	1	30	34	28	0	47	137	29	1	17	46	40	0	821
17:00	43	50	22	0	8	8	4	0	9	38	9	0	6	6	10	0	213
17:15	45	62	30	0	19	10	10	0	13	40	11	0	11	13	6	0	270
17:30	46	45	25	0	15	17	7	0	11	51	7	0	13	23	14	0	274
17:45	45	46	32	0	15	8	10	0	10	41	9	1	11	9	13	0	250
Total	179	203	109	0	57	43	31	0	43	170	36	1	41	51	43	0	1007
Grand Total	334	729	227	1	105	98	81	0	130	449	85	2	98	129	96	0	2564
Apprch %	25.9	56.5	17.6	0.1	37	34.5	28.5	0	19.5	67.4	12.8	0.3	30.3	39.9	29.7	0	
Total %	13	28.4	8.9	0	4.1	3.8	3.2	0	5.1	17.5	3.3	0.1	3.8	5	3.7	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Cleveland Street

File Name : H2211023
Site Code : 00000000
Start Date : 11/10/2022

	Mission Avenue Southbound					Cleveland Street Westbound					Mission Avenue Northbound					Cleveland Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	7	34	7	0	48	0	2	**5**			**7**	**18**	5	0	**30**	5	**7**	**2**		**14**	99
08:15	4	49	7	0	60	**4**	**7**	2	0	**13**	5	18	1	0	24	5	3	0	0	8	105
08:30	7	34	7	0	48	1	3	3	0	7	4	16	3	0	23	**7**					
08:45	**8**	**50**	**12**	**0**	**70**	3	2	5	0	10	2	18	**6**	**0**	**26**	**5**	**5**	**2**	**0**	**12**	**118**
Total Volume	26	167	33	0	226	8	14	15	0	37	18	70	15	0	103	22	19	6	0	47	413
% App. Total	11.5	73.9	14.6	0		21.6	37.8	40.5	0		17.5	68	14.6	0		46.8	40.4	12.8	0		
PHF	.813	.835	.688	.000	.807	.500	.500	.750	.000	.712	.643	.972	.625	.000	.858	.786	.679	.750	.000	.839	.875

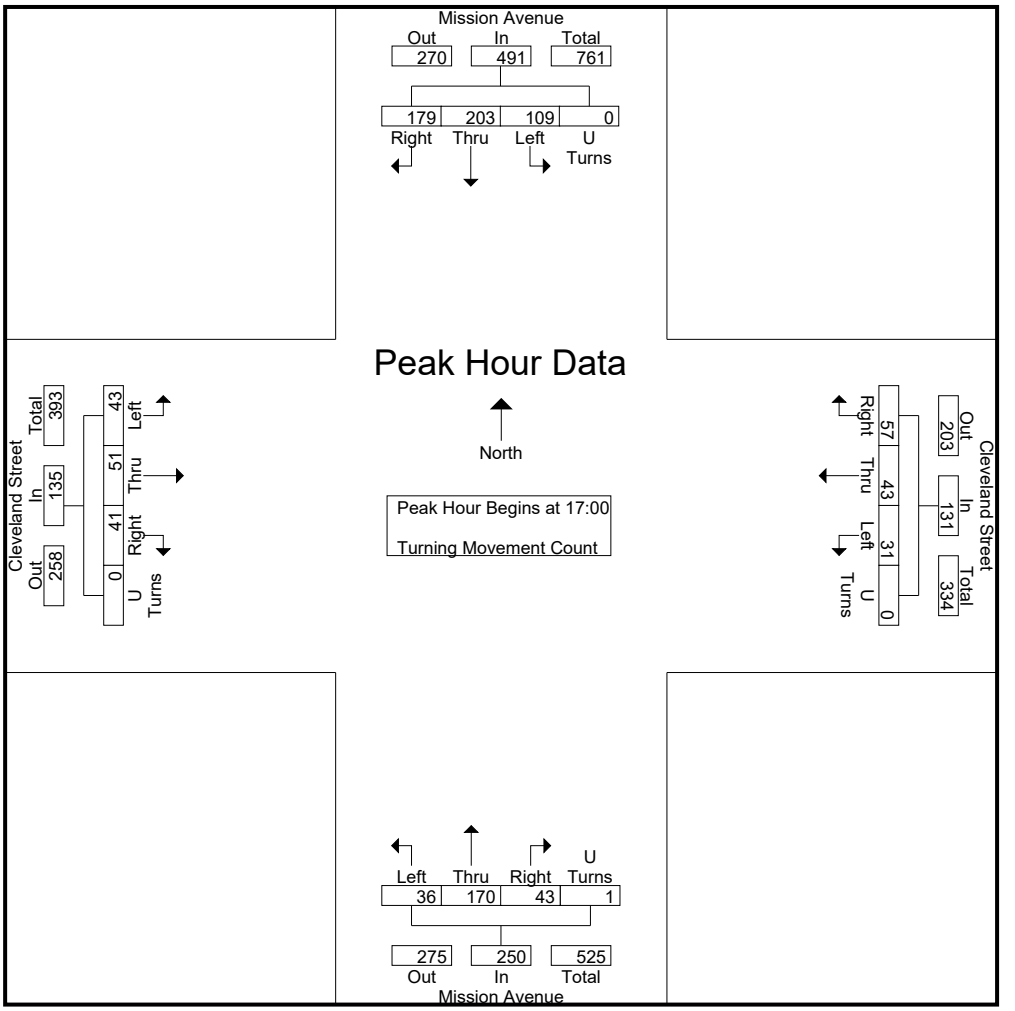


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Cleveland Street

File Name : H2211023
Site Code : 00000000
Start Date : 11/10/2022

	Mission Avenue Southbound					Cleveland Street Westbound					Mission Avenue Northbound					Cleveland Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	43	50	22	0	115	8	8	4	0	20	9	38	9	0	56	6	6	10	0	22	213
17:15	45	**62**	30	0	**137**	**19**		**10**		**39**	**13**		**11**								
17:30	**46**	**45**	**25**	**0**	**116**	**15**	**17**	7	0	39	11	**51**	7	0	**69**	**13**	**23**	**14**	**0**	**50**	**274**
17:45	45	46	**32**											**1**							
Total Volume	179	203	109	0	491	57	43	31	0	131	43	170	36	1	250	41	51	43	0	135	1007
% App. Total	36.5	41.3	22.2	0		43.5	32.8	23.7	0		17.2	68	14.4	0.4		30.4	37.8	31.9	0		
PHF	.973	.819	.852	.000	.896	.750	.632	.775	.000	.840	.827	.833	.818	.250	.906	.788	.554	.768	.000	.675	.919



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Coast Highway

File Name : H2211022
Site Code : 00000000
Start Date : 11/10/2022

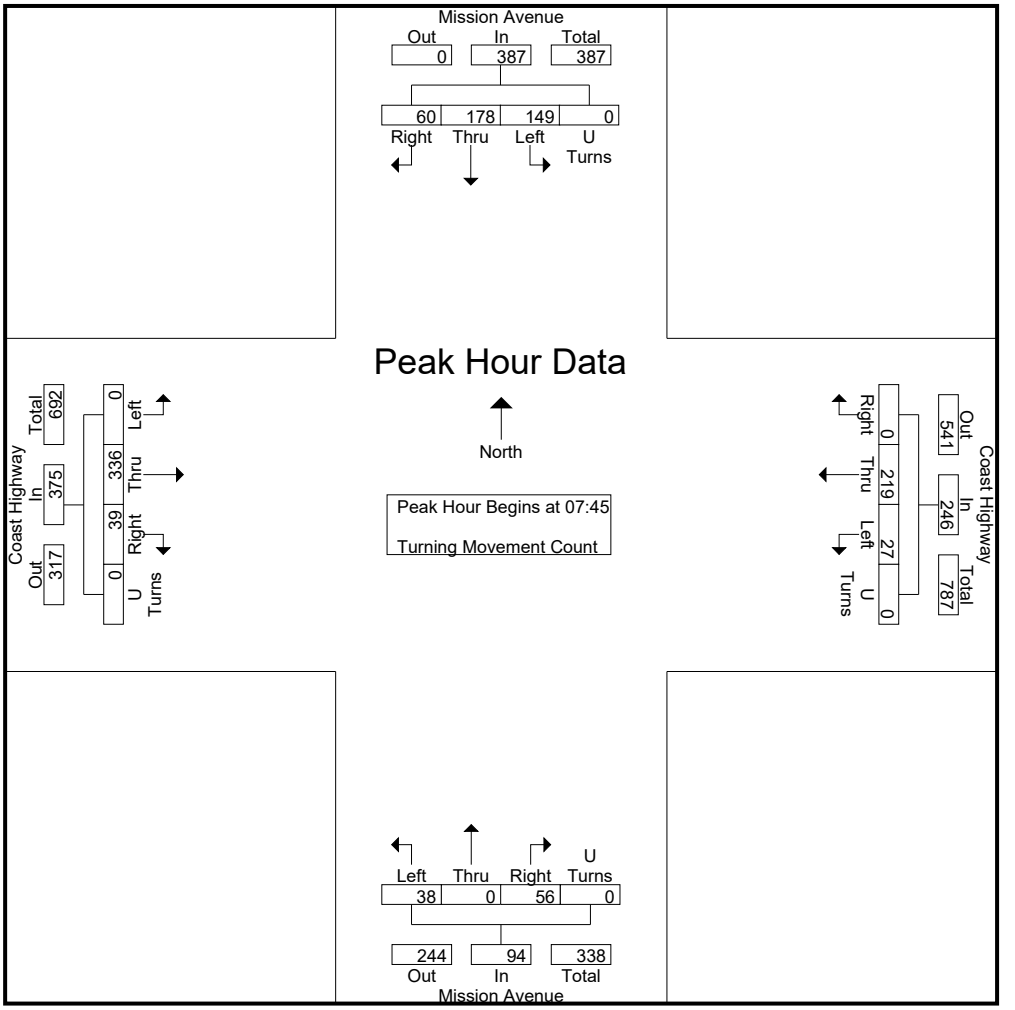
Groups Printed- Turning Movement Count

	Mission Avenue Southbound				Coast Highway Westbound				Mission Avenue Northbound				Coast Highway Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	5	26	32	0	0	41	3	0	8	0	6	0	10	47	0	0	178
07:15	5	25	31	0	0	43	7	0	9	0	12	0	9	66	0	0	207
07:30	10	33	36	0	0	52	6	0	17	0	6	0	9	73	0	0	242
07:45	13	46	48	0	0	57	5	0	18	0	11	0	10	80	0	0	288
Total	33	130	147	0	0	193	21	0	52	0	35	0	38	266	0	0	915
08:00	10	36	38	0	0	43	8	0	16	0	7	0	6	81	0	0	245
08:15	16	50	33	0	0	68	7	0	14	0	3	0	17	96	0	0	304
08:30	21	46	30	0	0	51	7	0	8	0	17	0	6	79	0	0	265
08:45	12	62	30	0	0	60	4	0	13	0	11	0	10	81	0	0	283
Total	59	194	131	0	0	222	26	0	51	0	38	0	39	337	0	0	1097
16:00	19	64	40	0	0	92	23	0	26	0	28	0	36	145	0	0	473
16:15	18	56	28	0	0	93	10	0	27	0	23	0	26	137	0	0	418
16:30	18	60	38	0	0	126	13	0	26	0	30	0	30	123	0	0	464
16:45	17	68	33	0	0	125	16	0	34	0	24	0	40	137	0	0	494
Total	72	248	139	0	0	436	62	0	113	0	105	0	132	542	0	0	1849
17:00	28	59	38	0	0	113	19	0	34	0	29	0	38	102	0	0	460
17:15	16	57	33	0	0	139	26	0	43	0	25	0	53	116	0	0	508
17:30	24	58	40	0	0	128	18	0	40	0	40	1	42	94	0	0	485
17:45	15	62	33	0	0	111	17	0	38	0	33	0	52	102	0	0	463
Total	83	236	144	0	0	491	80	0	155	0	127	1	185	414	0	0	1916
Grand Total	247	808	561	0	0	1342	189	0	371	0	305	1	394	1559	0	0	5777
Apprch %	15.3	50	34.7	0	0	87.7	12.3	0	54.8	0	45.1	0.1	20.2	79.8	0	0	
Total %	4.3	14	9.7	0	0	23.2	3.3	0	6.4	0	5.3	0	6.8	27	0	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

File Name : H2211022
Site Code : 00000000
Start Date : 11/10/2022
Page No : 2

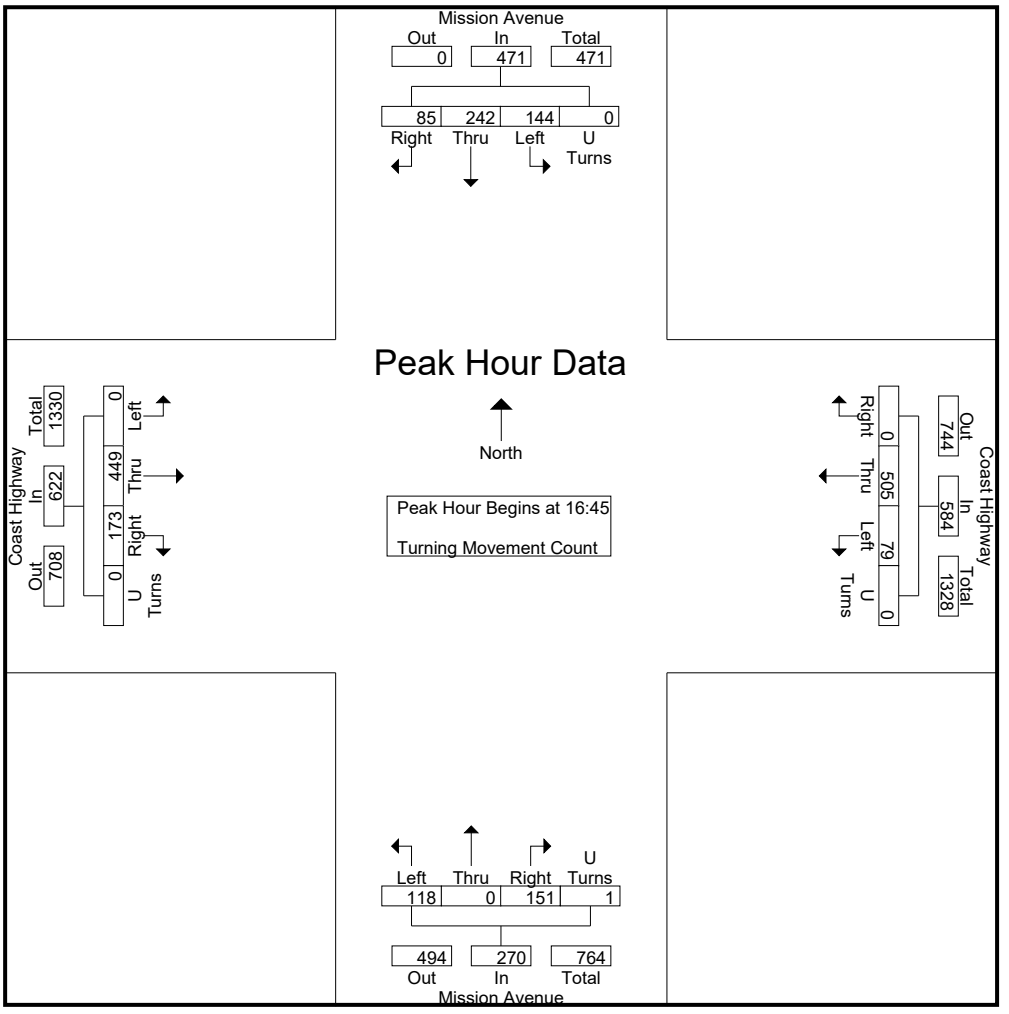
	Mission Avenue Southbound					Coast Highway Westbound					Mission Avenue Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	13	46	**48**		**107**	0	57	5	0	62	**18**				**29**	10	80	0	0	90	288
08:00	10	36	38	0	84	0	43	**8**													
08:15	**16**	**50**	33	0	99	0	**68**	7	0	**75**	14	0	3	0	17	**17**	**96**	0	0	**113**	**304**
08:30	**21**												**17**								
Total Volume	60	178	149	0	387	0	219	27	0	246	56	0	38	0	94	39	336	0	0	375	1102
% App. Total	15.5	46	38.5	0		0	89	11	0		59.6	0	40.4	0		10.4	89.6	0	0		
PHF	.714	.890	.776	.000	.904	.000	.805	.844	.000	.820	.778	.000	.559	.000	.810	.574	.875	.000	.000	.830	.906



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

File Name : H2211022
Site Code : 00000000
Start Date : 11/10/2022
Page No : 3

	Mission Avenue Southbound					Coast Highway Westbound					Mission Avenue Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	17	**68**	33	0	118	0	125	16	0	141	34	0	24	0	58	40	**137**	0	0	**177**	494
17:00	**28**				**125**	0	113	19	0	132	34	0	29	0	63	38	102	0	0	140	460
17:15	16	57	33	0	106	0	**139**	**26**		**165**	**43**					**53**					**508**
17:30	24	58	**40**										**40**	**1**	**81**	42	94	0	0	136	485
Total Volume	85	242	144	0	471	0	505	79	0	584	151	0	118	1	270	173	449	0	0	622	1947
% App. Total	18	51.4	30.6	0		0	86.5	13.5	0		55.9	0	43.7	0.4		27.8	72.2	0	0		
PHF	.759	.890	.900	.000	.942	.000	.908	.760	.000	.885	.878	.000	.738	.250	.833	.816	.819	.000	.000	.879	.958



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Ditmar Street

File Name : H2211021
Site Code : 00000000
Start Date : 11/3/2022
Page No : 1

Groups Printed- Turning Movement Count

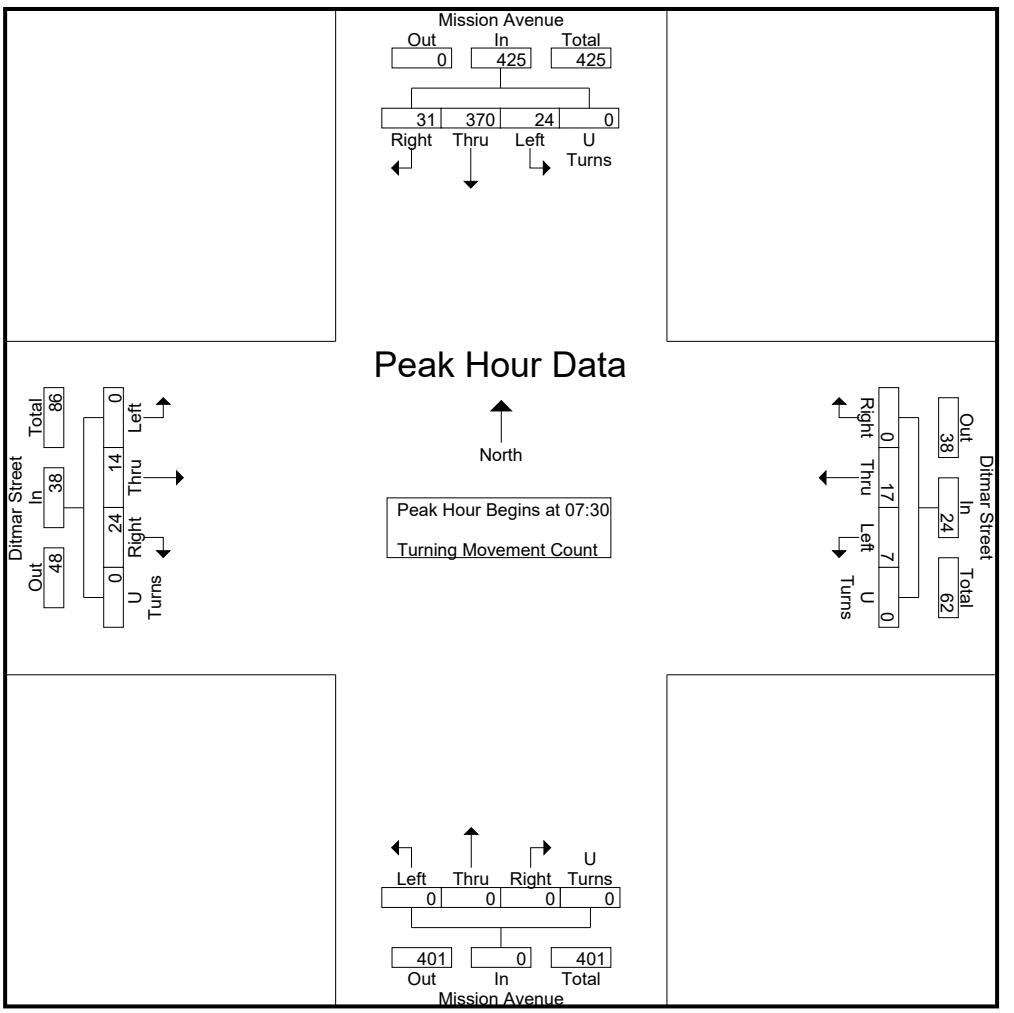
	Mission Avenue Southbound				Ditmar Street Westbound				Mission Avenue Northbound				Ditmar Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	4	57	3	0	0	3	1	0	0	0	0	0	1	3	0	0	72
07:15	7	51	3	0	0	5	0	0	0	0	0	0	2	2	0	0	70
07:30	12	92	7	0	0	1	2	0	0	0	0	0	1	3	0	0	118
07:45	7	89	6	0	0	7	3	0	0	0	0	0	8	3	0	0	123
Total	30	289	19	0	0	16	6	0	0	0	0	0	12	11	0	0	383
08:00	5	91	4	0	0	3	1	0	0	0	0	0	7	5	0	0	116
08:15	7	98	7	0	0	6	1	0	0	0	0	0	8	3	0	0	130
08:30	7	88	5	0	0	5	1	0	0	0	0	0	6	5	0	0	117
08:45	2	93	8	0	0	9	1	0	0	0	0	0	7	3	0	0	123
Total	21	370	24	0	0	23	4	0	0	0	0	0	28	16	0	0	486
16:00	1	110	8	0	0	11	3	1	0	0	0	0	2	6	0	0	142
16:15	2	111	14	0	0	4	2	0	0	0	0	0	10	9	0	0	152
16:30	8	119	20	0	0	11	0	0	0	0	0	0	3	5	0	0	166
16:45	11	121	18	0	0	6	2	0	0	0	0	0	7	7	0	0	172
Total	22	461	60	0	0	32	7	1	0	0	0	0	22	27	0	0	632
17:00	10	102	8	0	0	9	3	0	0	0	0	0	0	3	0	0	135
17:15	14	121	16	0	0	10	4	1	0	0	0	0	5	8	0	0	179
17:30	13	116	12	0	1	7	4	0	0	0	0	0	9	9	0	0	171
17:45	10	127	18	0	0	7	1	0	0	0	0	0	4	5	0	0	172
Total	47	466	54	0	1	33	12	1	0	0	0	0	18	25	0	0	657
Grand Total	120	1586	157	0	1	104	29	2	0	0	0	0	80	79	0	0	2158
Apprch %	6.4	85.1	8.4	0	0.7	76.5	21.3	1.5	0	0	0	0	50.3	49.7	0	0	
Total %	5.6	73.5	7.3	0	0	4.8	1.3	0.1	0	0	0	0	3.7	3.7	0	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Ditmar Street

File Name : H2211021
Site Code : 00000000
Start Date : 11/3/2022

	Mission Avenue Southbound					Ditmar Street Westbound					Mission Avenue Northbound					Ditmar Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	**12**		**7**																		
07:45	**7**	**89**	**6**	**0**	**102**	**0**	**7**	**3**	**0**	**10**	0	0	0	0	0	**8**	**3**	**0**	**0**	**11**	**123**
08:00	**5**	**91**	**4**	**0**	**100**	**0**	**3**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**7**	**5**	0	0	**12**	116
08:15	7	**98**	7	0	**112**	0	6	1	0	7	0	0	0	0	0	8	3	0	0	11	**130**
Total Volume	31	370	24	0	425	0	17	7	0	24	0	0	0	0	0	24	14	0	0	38	487
% App. Total	7.3	87.1	5.6	0		0	70.8	29.2	0		0	0	0	0		63.2	36.8	0	0		
PHF	.646	.944	.857	.000	.949	.000	.607	.583	.000	.600	.000	.000	.000	.000	.000	.750	.700	.000	.000	.792	.937

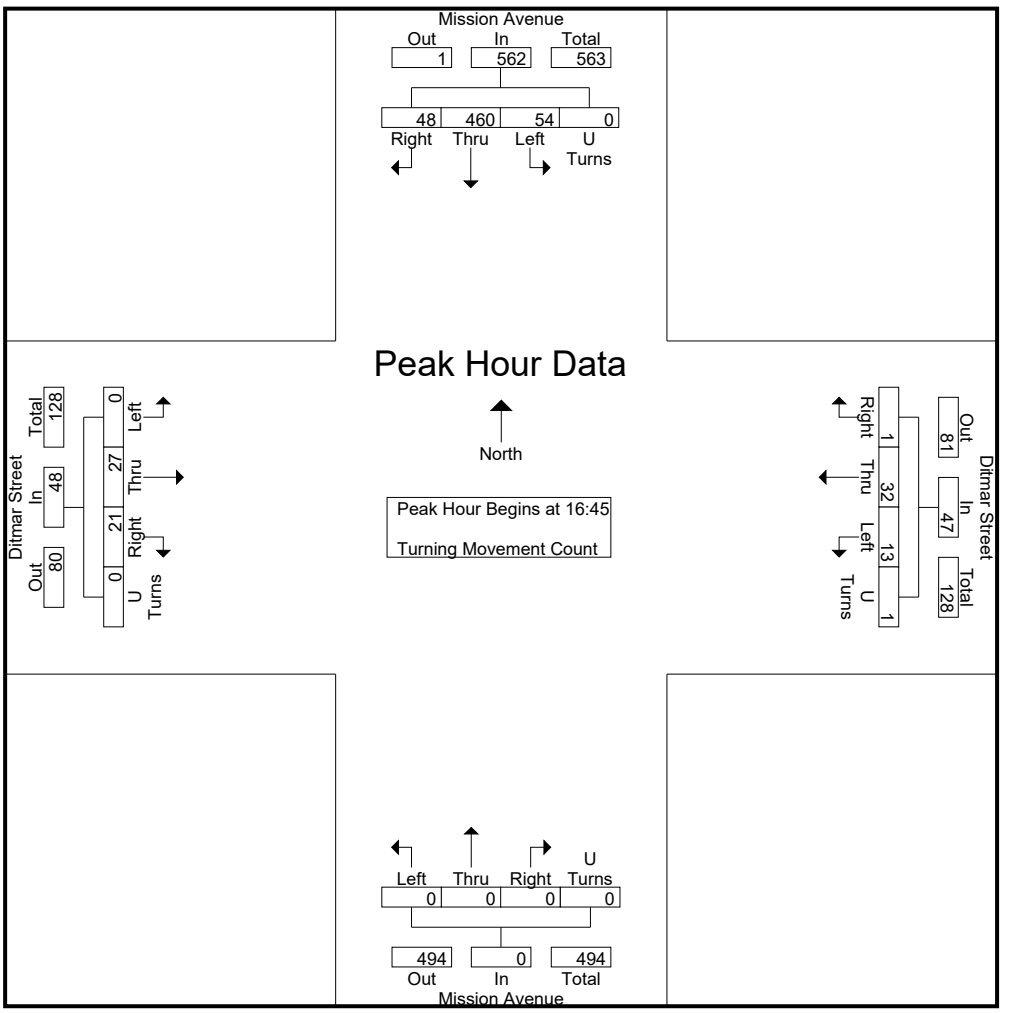


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Ditmar Street

File Name : H2211021
Site Code : 00000000
Start Date : 11/3/2022
Page No : 3

	Mission Avenue Southbound					Ditmar Street Westbound					Mission Avenue Northbound					Ditmar Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	11	**121**	**18**																		
17:00	**10**	**102**	**8**	**0**	**120**	**0**	**9**	**3**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**	**135**
17:15	**14**	**121**	**16**	**0**	**151**	0	**10**	**4**	**1**	**15**	0	0	0	0	0	5	8	0	0	13	**179**
17:30	13	116	12	0	141	**1**										**9**	**9**	0	0	**18**	171
Total Volume	48	460	54	0	562	1	32	13	1	47	0	0	0	0	0	21	27	0	0	48	657
% App. Total	8.5	81.9	9.6	0		2.1	68.1	27.7	2.1		0	0	0	0		43.8	56.2	0	0		
PHF	.857	.950	.750	.000	.930	.250	.800	.813	.250	.783	.000	.000	.000	.000	.000	.583	.750	.000	.000	.667	.918



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Nevada Street

File Name : H2211004
Site Code : 00000000
Start Date : 11/3/2022
Page No : 1

Groups Printed- Turning Movement Count

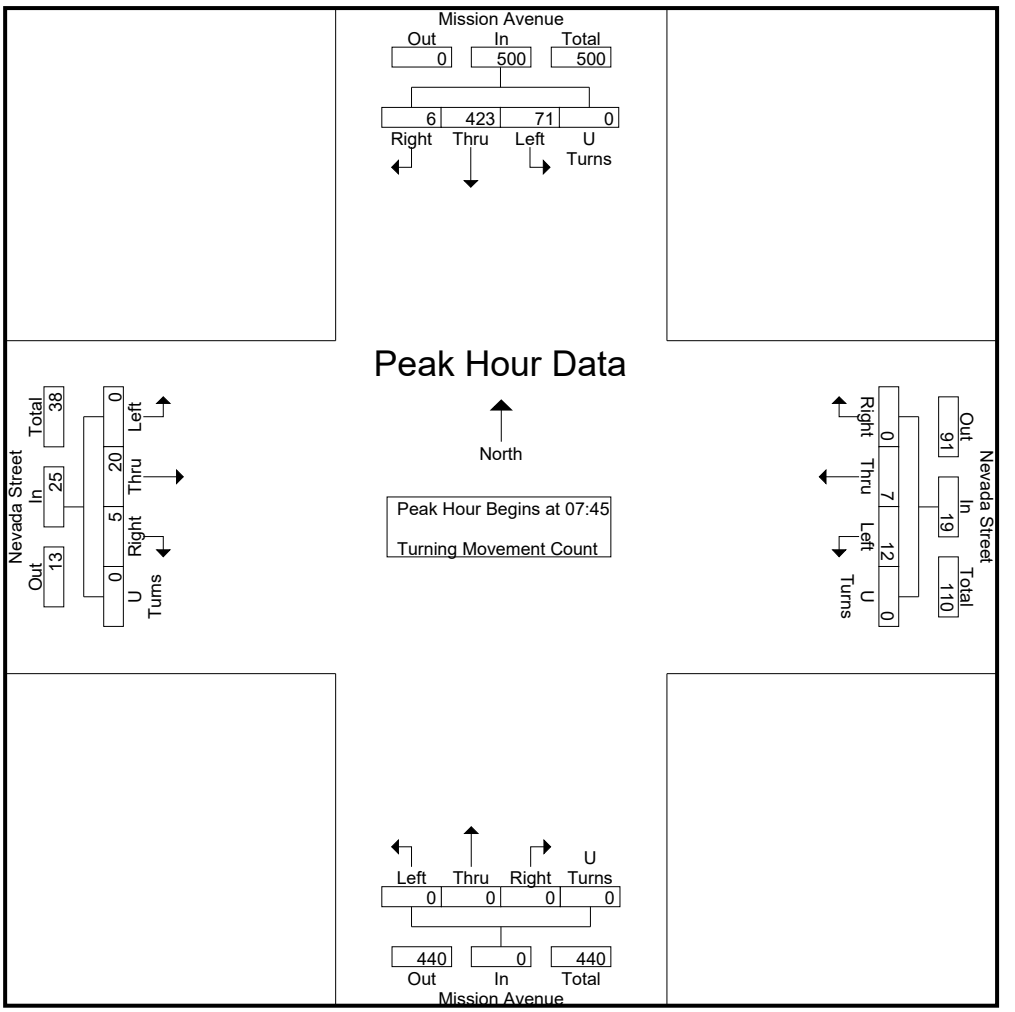
	Mission Avenue Southbound				Nevada Street Westbound				Mission Avenue Northbound				Nevada Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	1	61	1	0	0	4	1	0	0	0	0	0	1	0	0	0	69
07:15	0	59	4	0	0	1	2	0	0	0	0	0	0	1	0	0	67
07:30	1	94	5	0	0	2	1	0	0	0	0	0	1	0	0	0	104
07:45	1	116	18	0	0	2	3	0	0	0	0	0	0	2	0	0	142
Total	3	330	28	0	0	9	7	0	0	0	0	0	2	3	0	0	382
08:00	0	89	15	0	0	2	2	0	0	0	0	0	2	5	0	0	115
08:15	4	113	27	0	0	2	4	0	0	0	0	0	3	9	0	0	162
08:30	1	105	11	0	0	1	3	0	0	0	0	0	0	4	0	0	125
08:45	2	104	13	0	0	1	1	0	0	0	0	0	2	3	0	0	126
Total	7	411	66	0	0	6	10	0	0	0	0	0	7	21	0	0	528
16:00	1	112	6	0	0	3	1	0	0	0	0	0	4	4	0	0	131
16:15	1	119	6	0	0	2	4	0	0	0	0	0	6	3	0	0	141
16:30	2	150	7	0	0	4	2	0	0	0	0	0	2	5	0	0	172
16:45	0	138	5	0	0	3	1	0	0	0	0	0	4	5	0	0	156
Total	4	519	24	0	0	12	8	0	0	0	0	0	16	17	0	0	600
17:00	0	137	14	0	0	2	6	0	0	0	0	0	2	7	0	0	168
17:15	2	143	9	0	0	4	1	0	0	0	0	0	3	5	0	0	167
17:30	0	136	16	0	0	1	1	0	0	0	0	0	2	3	0	0	159
17:45	3	149	18	0	0	1	3	0	0	0	0	0	3	6	0	0	183
Total	5	565	57	0	0	8	11	0	0	0	0	0	10	21	0	0	677
Grand Total	19	1825	175	0	0	35	36	0	0	0	0	0	35	62	0	0	2187
Apprch %	0.9	90.4	8.7	0	0	49.3	50.7	0	0	0	0	0	36.1	63.9	0	0	
Total %	0.9	83.4	8	0	0	1.6	1.6	0	0	0	0	0	1.6	2.8	0	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Nevada Street

File Name : H2211004
Site Code : 00000000
Start Date : 11/3/2022

	Mission Avenue Southbound					Nevada Street Westbound					Mission Avenue Northbound					Nevada Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	1	**116**	18	0	135	0	**2**	3	0	5	0	0	0	0	0	0	2	0	0	2	142
08:00	0	89	15	0	104	0	2	2	0	4	0	0	0	0	0	2	5	0	0	7	115
08:15	**4**		**27**		**144**	0	2	**4**		**6**	0	0	0	0	0	**3**	**9**	0	0	**12**	**162**
08:30	1	105	11	0	117	0	1	3	0	4	0	0	0	0	0	0	4	0	0	4	125
Total Volume	6	423	71	0	500	0	7	12	0	19	0	0	0	0	0	5	20	0	0	25	544
% App. Total	1.2	84.6	14.2	0		0	36.8	63.2	0		0	0	0	0		20	80	0	0		
PHF	.375	.912	.657	.000	.868	.000	.875	.750	.000	.792	.000	.000	.000	.000	.000	.417	.556	.000	.000	.521	.840

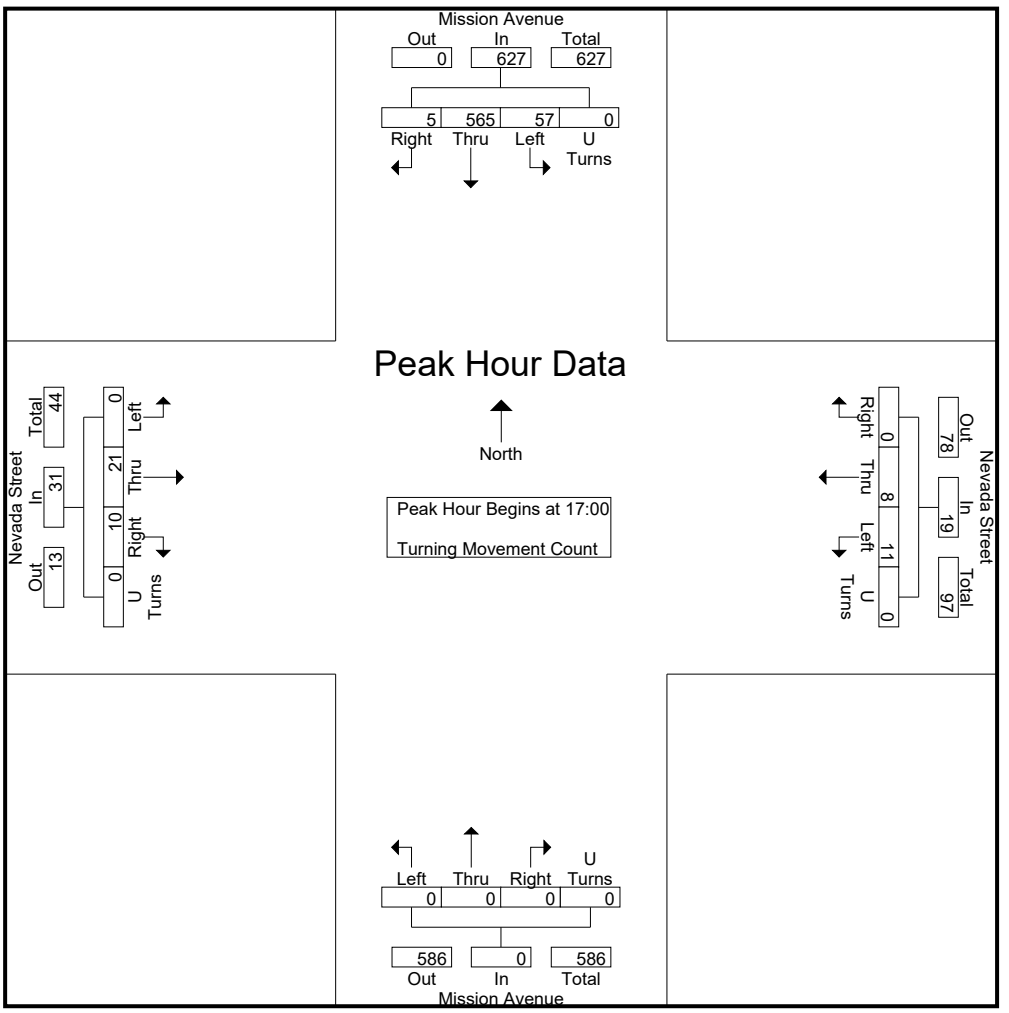


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Nevada Street

File Name : H2211004
Site Code : 00000000
Start Date : 11/3/2022
Page No : 3

	Mission Avenue Southbound					Nevada Street Westbound					Mission Avenue Northbound					Nevada Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	137	14	0	151	0	2	**6**		**8**	0	0	0	0	0	2	**7**	0	0	**9**	168
17:15	2	143	9	0	154	0	**4**	1	0	5	0	0	0	0	0	**3**					
17:30	**0**	**136**	**16**	**0**	**152**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**5**	**159**
17:45	**3**	**149**	**18**	**0**	**170**	0	1	3	0	4	0	0	0	0	0	3	6	0	0	9	**183**
Total Volume	5	565	57	0	627	0	8	11	0	19	0	0	0	0	0	10	21	0	0	31	677
% App. Total	0.8	90.1	9.1	0		0	42.1	57.9	0		0	0	0	0		32.3	67.7	0	0		
PHF	.417	.948	.792	.000	.922	.000	.500	.458	.000	.594	.000	.000	.000	.000	.000	.833	.750	.000	.000	.861	.925



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Clementine Street

File Name : H2211003
Site Code : 00000000
Start Date : 11/3/2022
Page No : 1

Groups Printed- Turning Movement Count

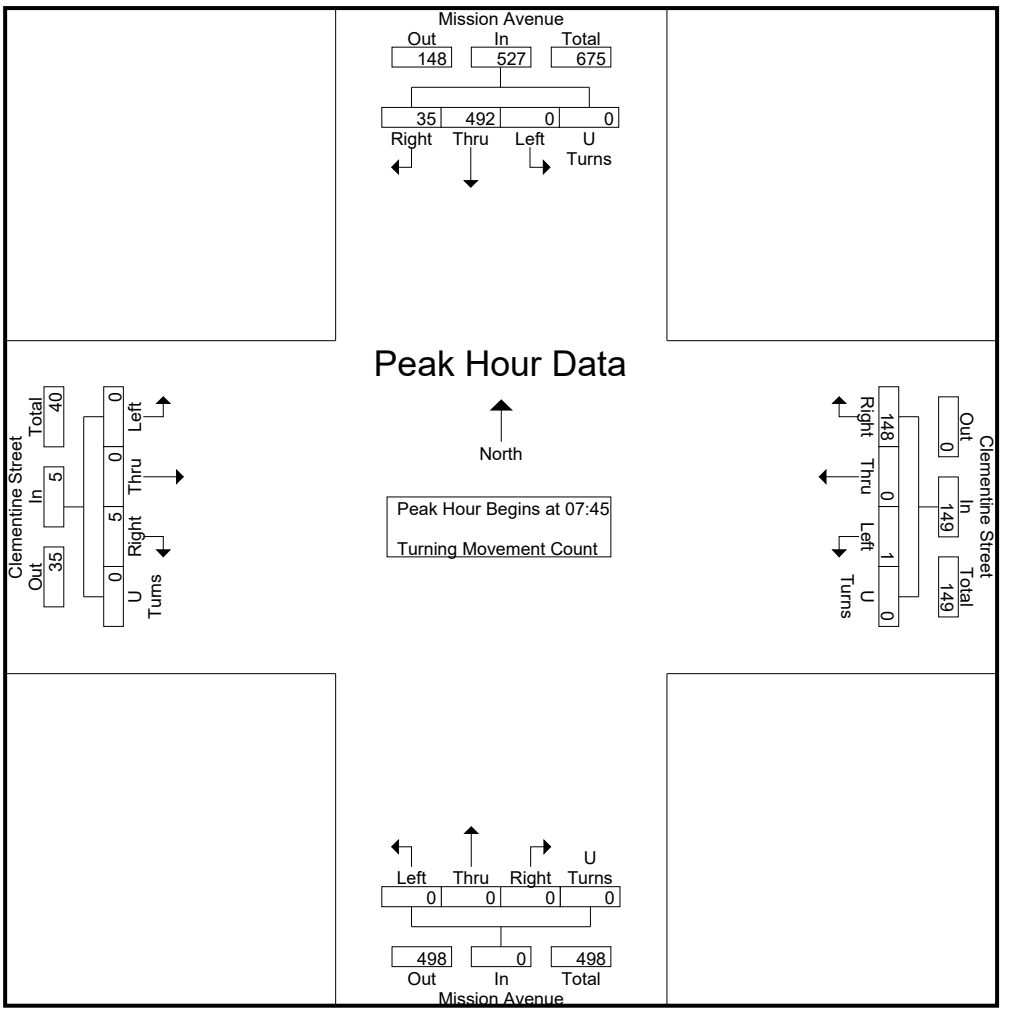
	Mission Avenue Southbound				Clementine Street Westbound				Mission Avenue Northbound				Clementine Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	8	63	0	0	4	0	0	0	0	0	0	0	0	0	0	0	75
07:15	3	62	0	0	9	0	0	0	0	0	0	0	0	0	0	0	74
07:30	6	102	0	0	15	0	0	0	0	0	0	0	0	0	0	0	123
07:45	13	141	0	0	20	0	0	0	0	0	0	0	0	0	0	0	174
Total	30	368	0	0	48	0	0	0	0	0	0	0	0	0	0	0	446
08:00	10	103	0	0	40	0	0	0	0	0	0	0	2	0	0	0	155
08:15	9	136	0	0	61	0	1	0	0	0	0	0	2	0	0	0	209
08:30	3	112	0	0	27	0	0	0	0	0	0	0	1	0	0	0	143
08:45	5	122	0	0	20	0	0	0	0	0	0	0	1	0	0	0	148
Total	27	473	0	0	148	0	1	0	0	0	0	0	6	0	0	0	655
16:00	0	115	0	0	35	0	0	0	0	0	0	0	1	0	0	0	151
16:15	2	123	0	0	35	0	0	0	0	0	0	0	0	0	0	0	160
16:30	5	162	0	0	34	0	0	0	0	0	0	0	1	0	0	0	202
16:45	1	136	0	0	33	0	1	0	0	0	0	0	1	0	0	0	172
Total	8	536	0	0	137	0	1	0	0	0	0	0	3	0	0	0	685
17:00	1	128	0	0	35	0	0	0	0	0	0	0	3	0	0	0	167
17:15	2	155	0	0	32	0	0	0	0	0	0	0	5	0	0	0	194
17:30	2	153	0	0	26	0	0	0	0	0	0	0	1	0	0	0	182
17:45	4	170	0	0	28	0	3	0	0	0	0	0	6	0	0	0	211
Total	9	606	0	0	121	0	3	0	0	0	0	0	15	0	0	0	754
Grand Total	74	1983	0	0	454	0	5	0	0	0	0	0	24	0	0	0	2540
Apprch %	3.6	96.4	0	0	98.9	0	1.1	0	0	0	0	0	100	0	0	0	
Total %	2.9	78.1	0	0	17.9	0	0.2	0	0	0	0	0	0.9	0	0	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Clementine Street

File Name : H2211003
Site Code : 00000000
Start Date : 11/3/2022

	Mission Avenue Southbound					Clementine Street Westbound					Mission Avenue Northbound					Clementine Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	**13**	**141**	0	0	**154**	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	174
08:00	10	103	0	0	113	40	0	0	0	40	0	0	0	0	0	**2**				**2**	155
08:15	9	136	0	0	145	**61**		**1**		**62**	0	0	0	0	0	2	0	0	0	2	**209**
08:30	3	112	0	0	115	27	0	0	0	27	0	0	0	0	0	1	0	0	0	1	143
Total Volume	35	492	0	0	527	148	0	1	0	149	0	0	0	0	0	5	0	0	0	5	681
% App. Total	6.6	93.4	0	0		99.3	0	0.7	0		0	0	0	0		100	0	0	0		
PHF	.673	.872	.000	.000	.856	.607	.000	.250	.000	.601	.000	.000	.000	.000	.000	.625	.000	.000	.000	.625	.815

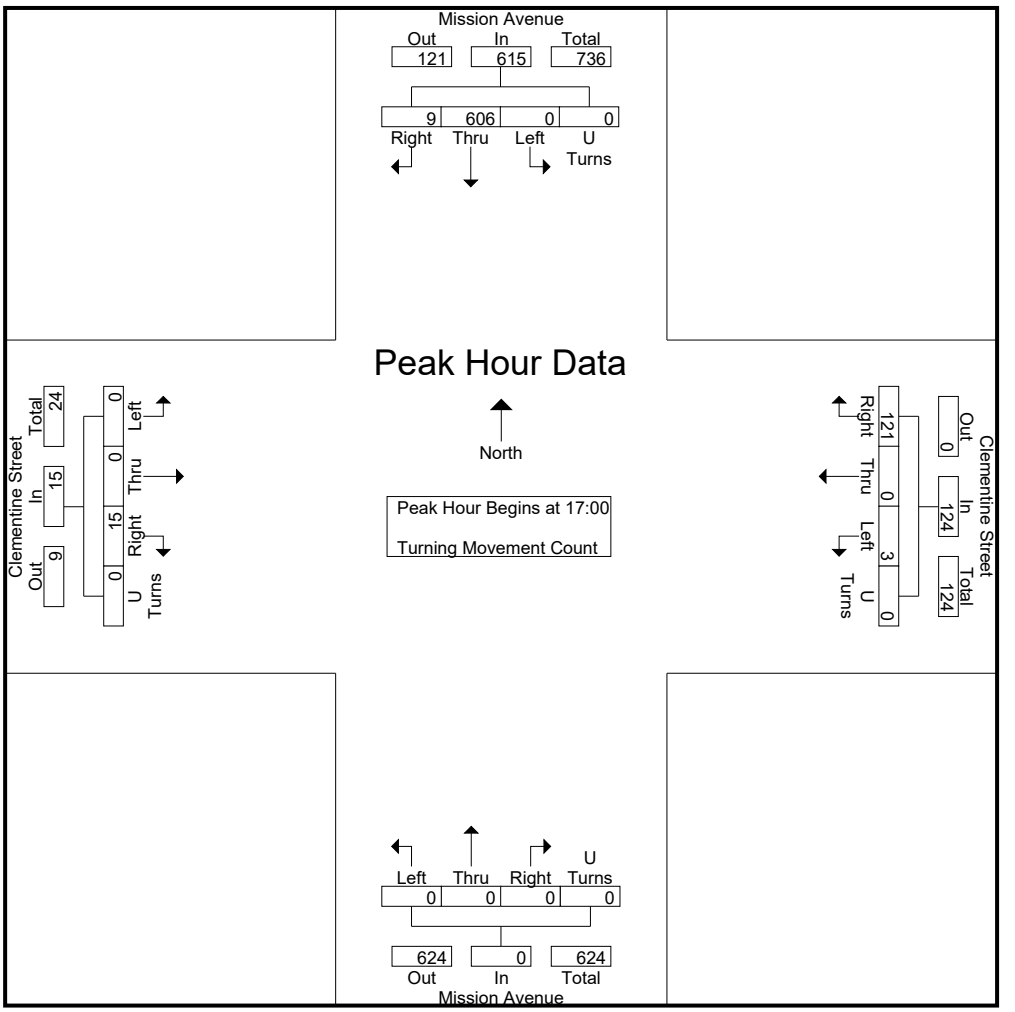


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Clementine Street

File Name : H2211003
Site Code : 00000000
Start Date : 11/3/2022
Page No : 3

	Mission Avenue Southbound					Clementine Street Westbound					Mission Avenue Northbound					Clementine Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	1	128	0	0	129	**35**				**35**	0	0	0	0	0	3	0	0	0	3	167
17:15	2	155	0	0	157	32	0	0	0	32	0	0	0	0	0	5	0	0	0	5	194
17:30	2	153	0	0	155	26	0	0	0	26	0	0	0	0	0	1	0	0	0	1	182
17:45	**4**	**170**	0	0	**174**	28	0	**3**								**6**				**6**	**211**
Total Volume	9	606	0	0	615	121	0	3	0	124	0	0	0	0	0	15	0	0	0	15	754
% App. Total	1.5	98.5	0	0		97.6	0	2.4	0		0	0	0	0		100	0	0	0		
PHF	.563	.891	.000	.000	.884	.864	.000	.250	.000	.886	.000	.000	.000	.000	.000	.625	.000	.000	.000	.625	.893



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Horne Street

File Name : H2211020
Site Code : 00000000
Start Date : 11/3/2022
Page No : 1

Groups Printed- Turning Movement Count

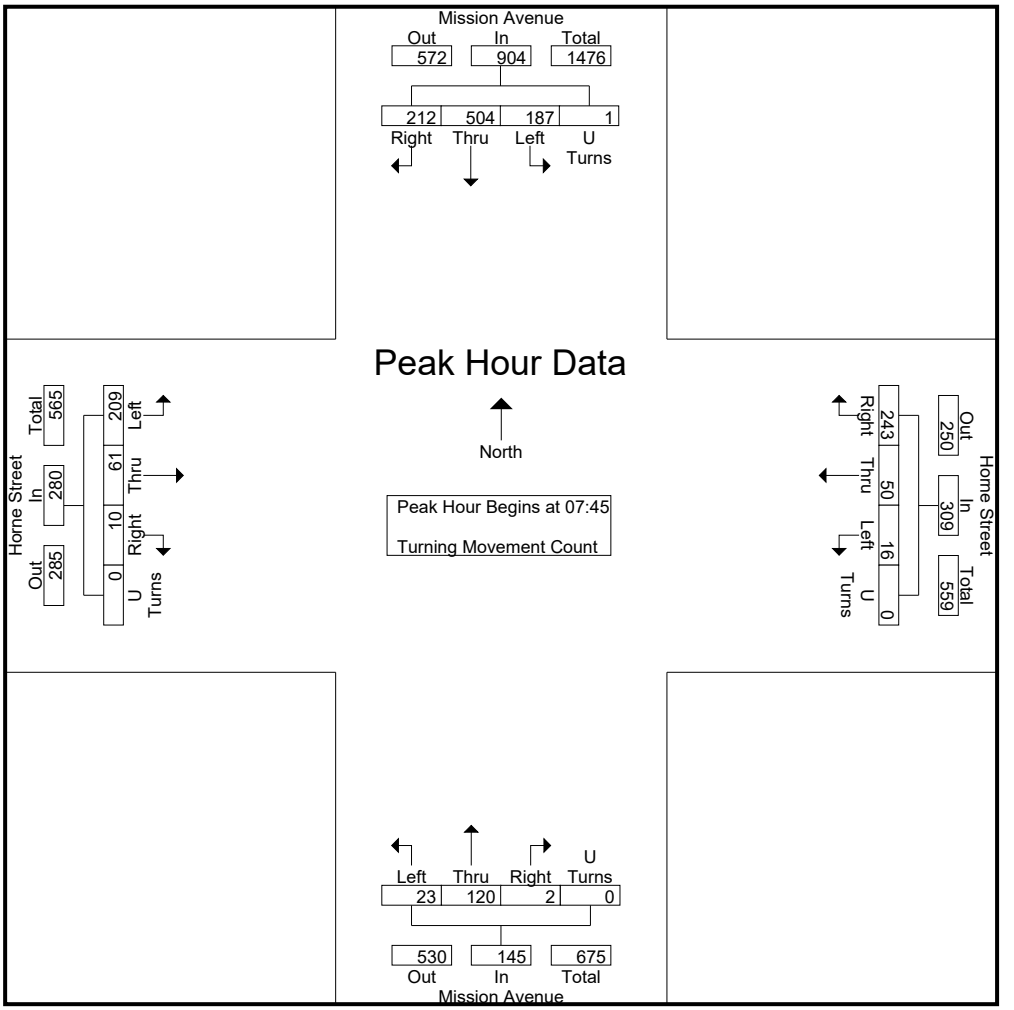
	Mission Avenue Southbound				Horne Street Westbound				Mission Avenue Northbound				Horne Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	22	69	6	0	45	6	1	0	0	4	0	0	1	3	26	0	183
07:15	47	66	16	0	74	3	1	0	0	9	0	0	0	3	34	0	253
07:30	54	107	30	0	59	4	1	0	0	12	2	0	2	3	42	0	316
07:45	63	151	50	0	58	6	2	0	0	18	2	0	2	1	35	0	388
Total	186	393	102	0	236	19	5	0	0	43	4	0	5	10	137	0	1140
08:00	52	100	48	0	58	15	3	0	0	30	5	0	4	21	52	0	388
08:15	56	141	59	1	66	15	6	0	1	46	11	0	3	27	72	0	504
08:30	41	112	30	0	61	14	5	0	1	26	5	0	1	12	50	0	358
08:45	73	120	19	0	38	11	1	0	0	16	4	0	4	10	54	0	350
Total	222	473	156	1	223	55	15	0	2	118	25	0	12	70	228	0	1600
16:00	43	110	37	0	80	8	2	0	0	27	7	0	4	5	108	0	431
16:15	58	133	40	0	81	16	4	0	1	27	7	0	2	10	118	0	497
16:30	53	160	43	0	85	11	4	0	0	33	0	0	4	10	118	0	521
16:45	72	135	41	0	80	12	3	0	0	29	1	0	4	7	104	0	488
Total	226	538	161	0	326	47	13	0	1	116	15	0	14	32	448	0	1937
17:00	69	128	45	0	103	14	5	0	0	33	2	0	4	8	184	0	595
17:15	60	148	57	0	70	18	9	0	1	30	0	0	2	12	115	0	522
17:30	59	142	39	1	74	10	2	0	0	20	3	0	8	17	97	0	472
17:45	68	156	39	1	81	18	7	0	0	24	2	0	5	10	106	0	517
Total	256	574	180	2	328	60	23	0	1	107	7	0	19	47	502	0	2106
Grand Total	890	1978	599	3	1113	181	56	0	4	384	51	0	50	159	1315	0	6783
Apprch %	25.6	57	17.3	0.1	82.4	13.4	4.1	0	0.9	87.5	11.6	0	3.3	10.4	86.3	0	
Total %	13.1	29.2	8.8	0	16.4	2.7	0.8	0	0.1	5.7	0.8	0	0.7	2.3	19.4	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Horne Street

File Name : H2211020
Site Code : 00000000
Start Date : 11/3/2022
Page No : 2

	Mission Avenue Southbound					Horne Street Westbound					Mission Avenue Northbound					Horne Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	**63**	**151**	50	0	**264**	58	6	2	0	66	0	18	2	0	20	2	1	35	0	38	388
08:00	52	100	48	0	200	58	**15**	3	0	76	0	30	5	0	35	**4**					
08:15	**56**	**141**	**59**	**1**	**257**	**66**	**15**	**6**	**0**	**87**	**1**	**46**	**11**	**0**	**58**	3	**27**	**72**	**0**	**102**	**504**
08:30	41	112	30	0	183	61	14	5	0	80	1	26	5	0	32	1	12	50	0	63	358
Total Volume	212	504	187	1	904	243	50	16	0	309	2	120	23	0	145	10	61	209	0	280	1638
% App. Total	23.5	55.8	20.7	0.1		78.6	16.2	5.2	0		1.4	82.8	15.9	0		3.6	21.8	74.6	0		
PHF	.841	.834	.792	.250	.856	.920	.833	.667	.000	.888	.500	.652	.523	.000	.625	.625	.565	.726	.000	.686	.813

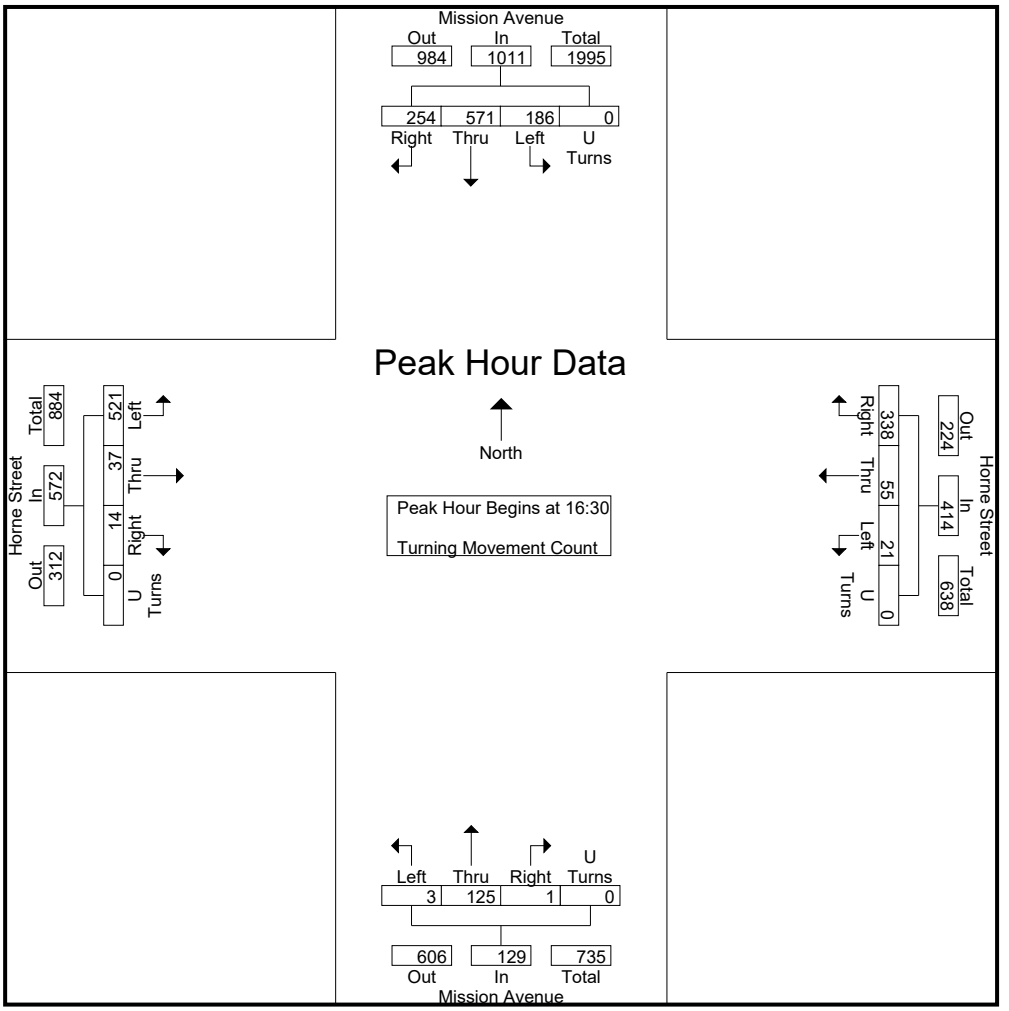


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Mission Avenue
E-W Direction: Horne Street

File Name : H2211020
Site Code : 00000000
Start Date : 11/3/2022

	Mission Avenue Southbound					Horne Street Westbound					Mission Avenue Northbound					Horne Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	53	**160**	43	0	256	85	11	4	0	100	0	**33**	0	0	33	**4**					
16:45	**72**	**135**	**41**	**0**	**248**	**80**	**12**	**3**	**0**	**95**	**0**	**29**	**1**	**0**	**30**	**4**	**7**	**104**	**0**	**115**	**488**
17:00	**69**	**128**	**45**	**0**	**242**	**103**	**14**	**5**	**0**	**122**	0	33	**2**	**0**	**35**	4	8	**184**	**0**	**196**	**595**
17:15	60	148	**57**		**265**	70	**18**	**9**			**1**						**12**	115	0	129	522
Total Volume	254	571	186	0	1011	338	55	21	0	414	1	125	3	0	129	14	37	521	0	572	2126
% App. Total	25.1	56.5	18.4	0		81.6	13.3	5.1	0		0.8	96.9	2.3	0		2.4	6.5	91.1	0		
PHF	.882	.892	.816	.000	.954	.820	.764	.583	.000	.848	.250	.947	.375	.000	.921	.875	.771	.708	.000	.730	.893



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Cleveland Street

File Name : H2211007
Site Code : 00000000
Start Date : 11/10/2022
Page No : 1

Groups Printed- Turning Movement Count

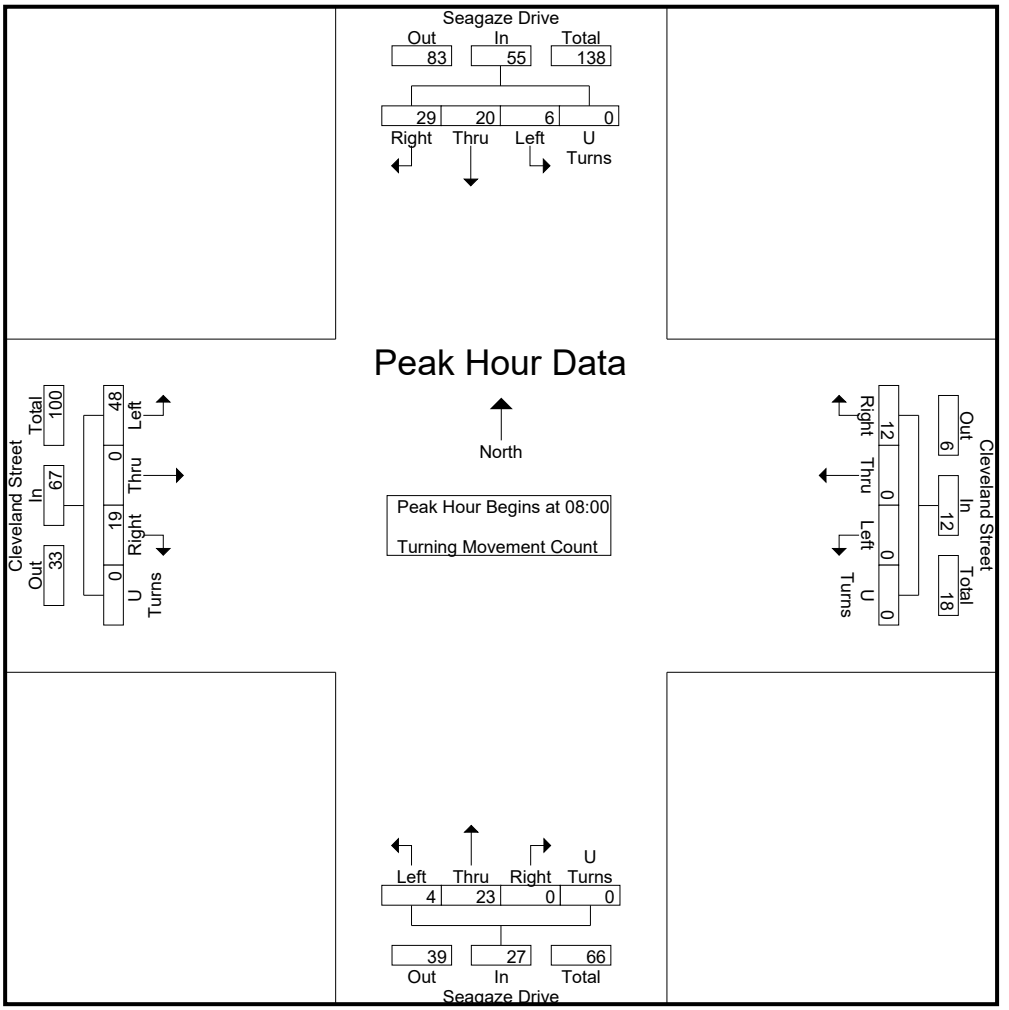
	Seagaze Drive Southbound				Cleveland Street Westbound				Seagaze Drive Northbound				Cleveland Street Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	5	3	0	0	4	0	0	0	0	7	2	0	3	0	12	0	36
07:15	1	7	0	0	0	0	0	0	0	11	4	0	7	0	6	0	36
07:30	5	2	0	0	3	0	0	0	0	13	2	0	3	0	5	0	33
07:45	2	7	1	0	3	0	0	0	0	5	2	0	3	0	9	0	32
Total	13	19	1	0	10	0	0	0	0	36	10	0	16	0	32	0	137
08:00	4	4	2	0	3	0	0	0	0	6	2	0	3	0	19	0	43
08:15	10	8	1	0	1	0	0	0	0	10	1	0	4	0	6	0	41
08:30	9	4	1	0	3	0	0	0	0	3	0	0	4	0	12	0	36
08:45	6	4	2	0	5	0	0	0	0	4	1	0	8	0	11	0	41
Total	29	20	6	0	12	0	0	0	0	23	4	0	19	0	48	0	161
16:00	15	10	3	2	2	0	0	0	0	6	4	0	16	1	25	2	86
16:15	22	22	1	0	1	0	0	0	0	17	4	0	14	0	24	0	105
16:30	12	14	0	0	4	0	0	0	1	12	3	0	20	0	18	0	84
16:45	21	15	1	0	3	0	0	0	1	11	6	0	17	0	22	3	100
Total	70	61	5	2	10	0	0	0	2	46	17	0	67	1	89	5	375
17:00	20	34	0	1	3	0	0	0	0	15	0	0	20	0	23	2	118
17:15	28	41	1	0	1	0	0	0	0	20	11	0	29	0	22	1	154
17:30	24	33	1	0	3	0	0	0	0	25	10	1	33	2	23	0	155
17:45	23	25	0	0	3	0	0	0	0	22	7	0	29	0	22	2	133
Total	95	133	2	1	10	0	0	0	0	82	28	1	111	2	90	5	560
Grand Total	207	233	14	3	42	0	0	0	2	187	59	1	213	3	259	10	1233
Apprch %	45.3	51	3.1	0.7	100	0	0	0	0.8	75.1	23.7	0.4	43.9	0.6	53.4	2.1	
Total %	16.8	18.9	1.1	0.2	3.4	0	0	0	0.2	15.2	4.8	0.1	17.3	0.2	21	0.8	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Cleveland Street

File Name : H2211007
Site Code : 00000000
Start Date : 11/10/2022

	Seagaze Drive Southbound					Cleveland Street Westbound					Seagaze Drive Northbound					Cleveland Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	4	4	**2**										**2**					**19**		**22**	**43**
08:15	**10**	**8**	1	0	**19**	1	0	0	0	1	0	**10**	1	0	**11**	4	0	6	0	10	41
08:30	9	4	1	0	14	3	0	0	0	3	0	3	0	0	3	4	0	12	0	16	36
08:45	6	4	2	0	12	**5**				**5**	0	4	1	0	5	**8**					
Total Volume	29	20	6	0	55	12	0	0	0	12	0	23	4	0	27	19	0	48	0	67	161
% App. Total	52.7	36.4	10.9	0		100	0	0	0		0	85.2	14.8	0		28.4	0	71.6	0		
PHF	.725	.625	.750	.000	.724	.600	.000	.000	.000	.600	.000	.575	.500	.000	.614	.594	.000	.632	.000	.761	.936

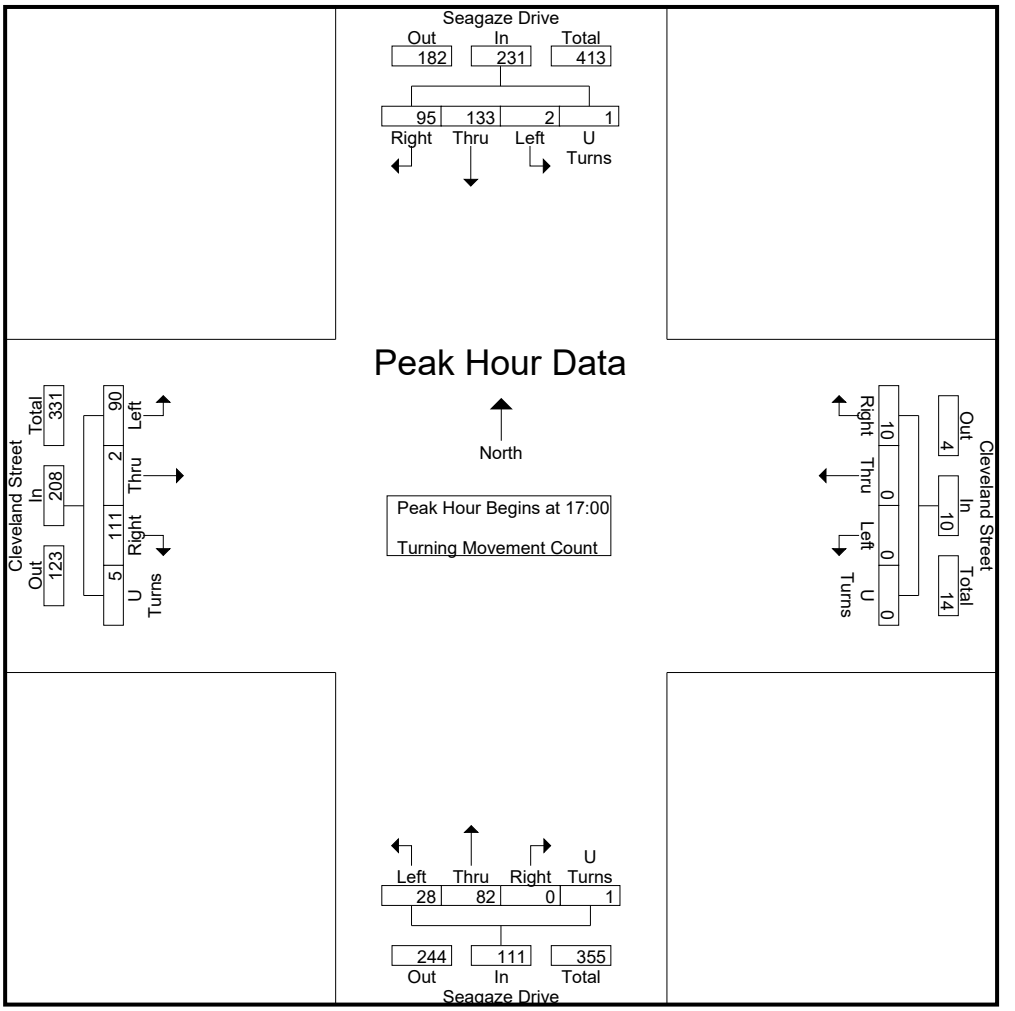


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Cleveland Street

File Name : H2211007
Site Code : 00000000
Start Date : 11/10/2022

	Seagaze Drive Southbound					Cleveland Street Westbound					Seagaze Drive Northbound					Cleveland Street Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	20	34	0	**1**		**3**				**3**	0	15	0	0	15	20	0	**23**	**2**		
17:15	**28**	**41**	**1**	**0**	**70**	1	0	0	0	1	0	20	**11**	**0**	**31**	**29**	**0**	**22**	**1**	**52**	**154**
17:30	**24**	**33**	**1**	**0**	**58**	**3**	**0**	**0**	**0**	**3**	**0**	**25**	10	**1**	**36**	**33**	**2**	23	0	**58**	**155**
17:45	23	25	0	0	48	3	0	0	0	3	0	22	7	0	29	29	0	22	2	53	133
Total Volume	95	133	2	1	231	10	0	0	0	10	0	82	28	1	111	111	2	90	5	208	560
% App. Total	41.1	57.6	0.9	0.4		100	0	0	0		0	73.9	25.2	0.9		53.4	1	43.3	2.4		
PHF	.848	.811	.500	.250	.825	.833	.000	.000	.000	.833	.000	.820	.636	.250	.771	.841	.250	.978	.625	.897	.903



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Tremont Street

File Name : H2211006
Site Code : 00000000
Start Date : 11/10/2022
Page No : 1

Groups Printed- Turning Movement Count

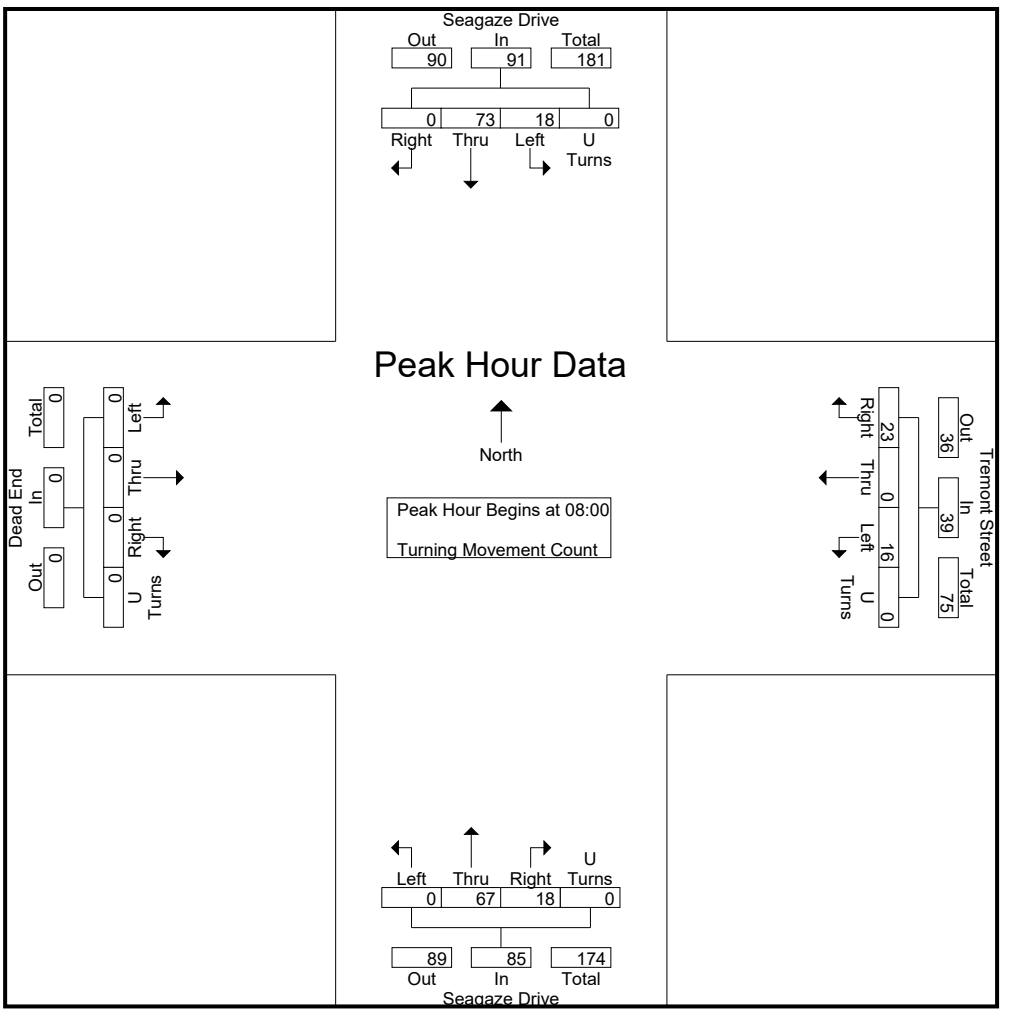
	Seagaze Drive Southbound				Tremont Street Westbound				Seagaze Drive Northbound				Dead End Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	0	8	11	0	2	0	1	0	4	19	0	0	0	0	0	0	45
07:15	0	10	5	1	3	0	1	0	2	14	0	1	0	0	0	0	37
07:30	0	9	5	0	5	0	2	0	0	22	0	0	0	0	0	0	43
07:45	0	17	6	0	4	0	3	0	5	16	0	0	0	0	0	0	51
Total	0	44	27	1	14	0	7	0	11	71	0	1	0	0	0	0	176
08:00	0	17	5	0	4	0	2	0	8	20	0	0	0	0	0	0	56
08:15	0	26	5	0	7	0	5	0	3	16	0	0	0	0	0	0	62
08:30	0	13	3	0	5	0	7	0	2	15	0	0	0	0	0	0	45
08:45	0	17	5	0	7	0	2	0	5	16	0	0	0	0	0	0	52
Total	0	73	18	0	23	0	16	0	18	67	0	0	0	0	0	0	215
16:00	0	32	10	0	7	0	5	0	5	34	0	0	0	0	0	0	93
16:15	0	40	8	0	13	0	8	0	11	34	0	0	0	0	0	0	114
16:30	0	24	6	1	17	0	5	0	10	28	0	0	0	0	0	0	91
16:45	0	37	9	2	15	0	8	1	6	33	0	0	0	0	0	0	111
Total	0	133	33	3	52	0	26	1	32	129	0	0	0	0	0	0	409
17:00	0	49	5	0	8	0	5	0	8	46	0	0	0	0	0	0	121
17:15	0	70	8	1	9	0	12	0	7	37	0	0	0	0	0	0	144
17:30	0	43	6	1	5	0	13	1	8	47	0	1	0	0	0	0	125
17:45	0	46	5	0	7	0	8	0	3	44	0	0	0	0	0	0	113
Total	0	208	24	2	29	0	38	1	26	174	0	1	0	0	0	0	503
Grand Total	0	458	102	6	118	0	87	2	87	441	0	2	0	0	0	0	1303
Apprch %	0	80.9	18	1.1	57	0	42	1	16.4	83.2	0	0.4	0	0	0	0	
Total %	0	35.1	7.8	0.5	9.1	0	6.7	0.2	6.7	33.8	0	0.2	0	0	0	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Tremont Street

File Name : H2211006
Site Code : 00000000
Start Date : 11/10/2022
Page No : 2

	Seagaze Drive Southbound					Tremont Street Westbound					Seagaze Drive Northbound					Dead End Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	17	**5**								**8**	**20**	0	0	**28**	0	0	0	0	0	56
08:15	0	**26**	5	0	**31**	**7**				**12**	3	16	0	0	19	0	0	0	0	0	**62**
08:30	0	13	3	0	16	5	0	**7**													
08:45	**0**	**17**	**5**	**0**	**22**	**7**	**0**	**2**	**0**	**9**	**5**	**16**	**0**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**52**
Total Volume	0	73	18	0	91	23	0	16	0	39	18	67	0	0	85	0	0	0	0	0	215
% App. Total	0	80.2	19.8	0		59	0	41	0		21.2	78.8	0	0		0	0	0	0		
PHF	.000	.702	.900	.000	.734	.821	.000	.571	.000	.813	.563	.838	.000	.000	.759	.000	.000	.000	.000	.000	.867

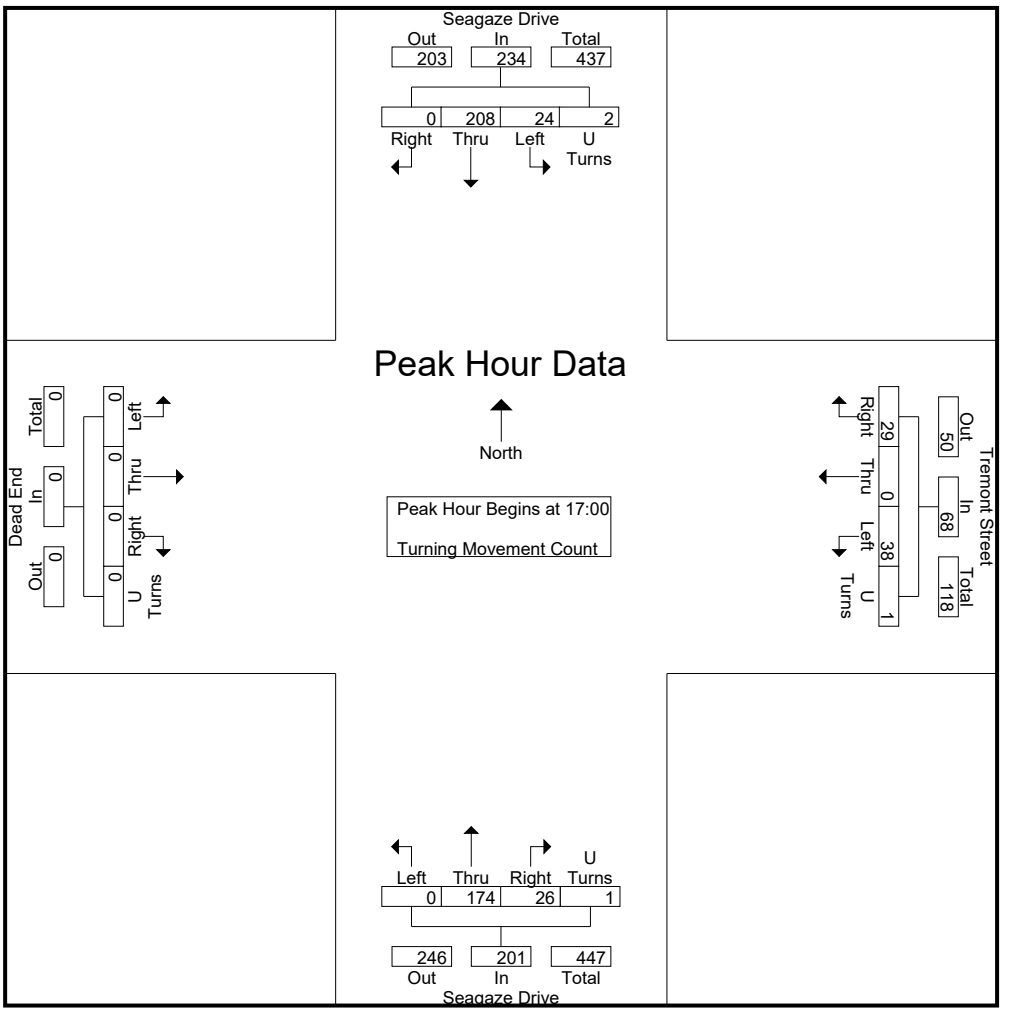


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Tremont Street

File Name : H2211006
Site Code : 00000000
Start Date : 11/10/2022
Page No : 3

	Seagaze Drive Southbound					Tremont Street Westbound					Seagaze Drive Northbound					Dead End Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	49	5	0	54	8	0	5	0	13	**8**										
17:15	**0**	**70**	**8**	**1**	**79**	**9**	**0**	**12**	**0**	**21**	7	37	0	0	44	0	0	0	0	0	**144**
17:30	0	43	6	1	50	5	0	**13**	**1**			**47**	0	**1**	**56**	0	0	0	0	0	125
17:45	0	46	5	0	51	7	0	8	0	15	3	44	0	0	47	0	0	0	0	0	113
Total Volume	0	208	24	2	234	29	0	38	1	68	26	174	0	1	201	0	0	0	0	0	503
% App. Total	0	88.9	10.3	0.9		42.6	0	55.9	1.5		12.9	86.6	0	0.5		0	0	0	0		
PHF	.000	.743	.750	.500	.741	.806	.000	.731	.250	.810	.813	.926	.000	.250	.897	.000	.000	.000	.000	.000	.873



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Coast Highway

File Name : H2211005
Site Code : 00000000
Start Date : 11/10/2022
Page No : 1

Groups Printed- Turning Movement Count

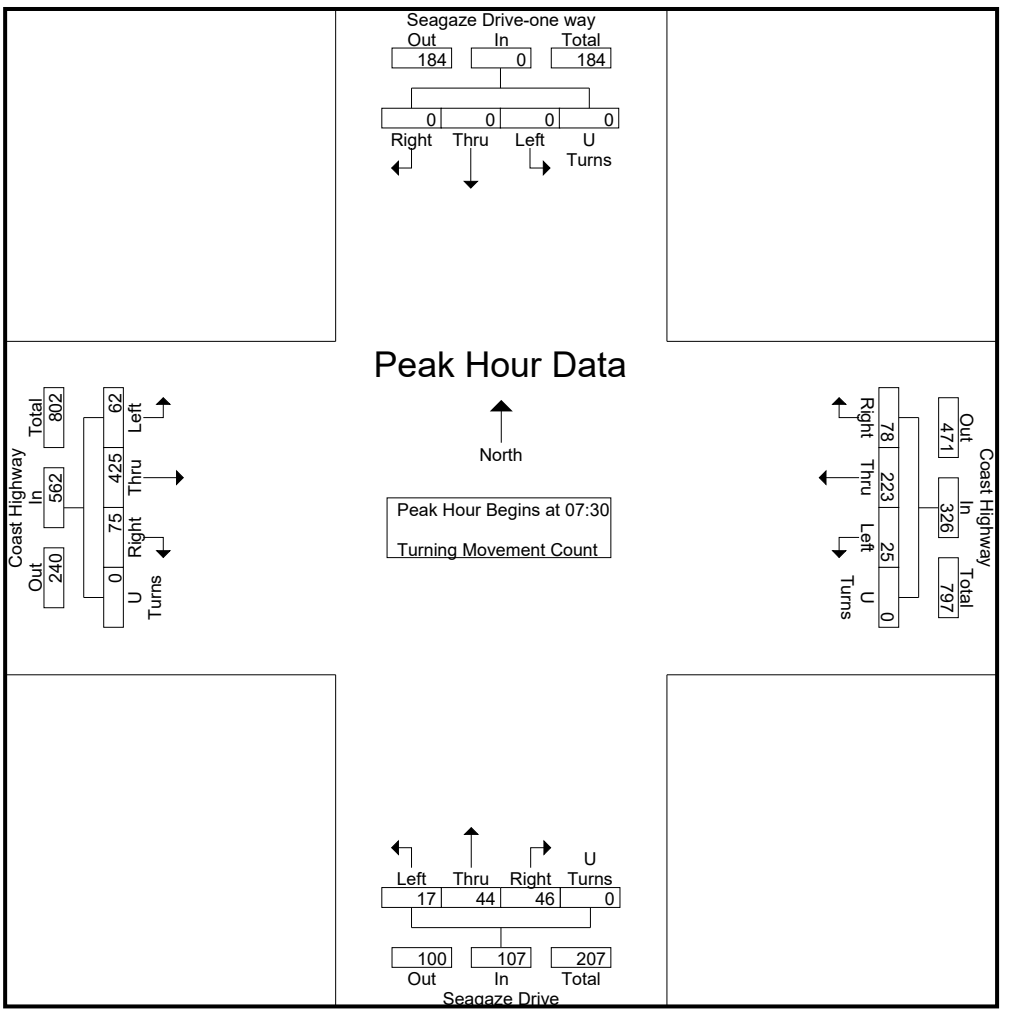
	Seagaze Drive-one way Southbound				Coast Highway Westbound				Seagaze Drive Northbound				Coast Highway Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	0	0	0	0	5	43	3	0	8	9	4	0	16	63	7	0	158
07:15	0	0	0	0	15	47	6	0	6	5	5	0	14	80	8	0	186
07:30	0	0	0	0	11	53	2	0	12	10	4	0	14	117	10	0	233
07:45	0	0	0	0	20	53	5	0	8	10	5	0	18	112	10	0	241
Total	0	0	0	0	51	196	16	0	34	34	18	0	62	372	35	0	818
08:00	0	0	0	0	24	50	6	0	14	12	3	0	21	109	22	0	261
08:15	0	0	0	0	23	67	12	0	12	12	5	0	22	87	20	0	260
08:30	0	0	0	0	12	56	5	0	10	8	2	0	14	83	22	0	212
08:45	0	0	0	0	14	63	8	0	3	11	6	0	16	88	15	0	224
Total	0	0	0	0	73	236	31	0	39	43	16	0	73	367	79	0	957
16:00	0	0	0	0	34	99	19	0	17	15	9	0	24	164	18	0	399
16:15	0	0	0	0	28	94	24	0	13	21	8	0	26	169	23	0	406
16:30	0	0	0	0	19	132	17	0	14	30	14	0	17	138	26	0	407
16:45	0	0	0	0	38	130	15	0	15	21	12	0	34	130	27	0	422
Total	0	0	0	0	119	455	75	0	59	87	43	0	101	601	94	0	1634
17:00	0	0	0	0	24	119	23	0	16	29	13	0	32	109	28	0	393
17:15	0	0	0	0	31	145	34	0	8	21	12	0	49	119	32	0	451
17:30	0	0	0	0	34	139	25	0	23	23	15	0	27	108	32	0	426
17:45	0	0	0	0	29	122	22	0	17	26	10	0	29	115	33	0	403
Total	0	0	0	0	118	525	104	0	64	99	50	0	137	451	125	0	1673
Grand Total	0	0	0	0	361	1412	226	0	196	263	127	0	373	1791	333	0	5082
Apprch %	0	0	0	0	18.1	70.6	11.3	0	33.4	44.9	21.7	0	14.9	71.7	13.3	0	
Total %	0	0	0	0	7.1	27.8	4.4	0	3.9	5.2	2.5	0	7.3	35.2	6.6	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Coast Highway

File Name : H2211005
Site Code : 00000000
Start Date : 11/10/2022
Page No : 2

	Seagaze Drive-one way Southbound					Coast Highway Westbound					Seagaze Drive Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	11	53	2	0	66	12	10	4	0	26	14	**117**	10	0	141	233
07:45	0	0	0	0	0	20	53	5	0	78	8	10	**5**								
08:00	**0**	**0**	**0**	**0**	**0**	**24**	**50**	**6**	**0**	**80**	**14**	**12**	3	0	**29**	21	109	**22**	**0**	**152**	**261**
08:15	0	0	0	0	0	23	**67**	**12**		**102**	12	12	5	0	29	**22**					
Total Volume	0	0	0	0	0	78	223	25	0	326	46	44	17	0	107	75	425	62	0	562	995
% App. Total	0	0	0	0		23.9	68.4	7.7	0		43	41.1	15.9	0		13.3	75.6	11	0		
PHF	.000	.000	.000	.000	.000	.813	.832	.521	.000	.799	.821	.917	.850	.000	.922	.852	.908	.705	.000	.924	.953

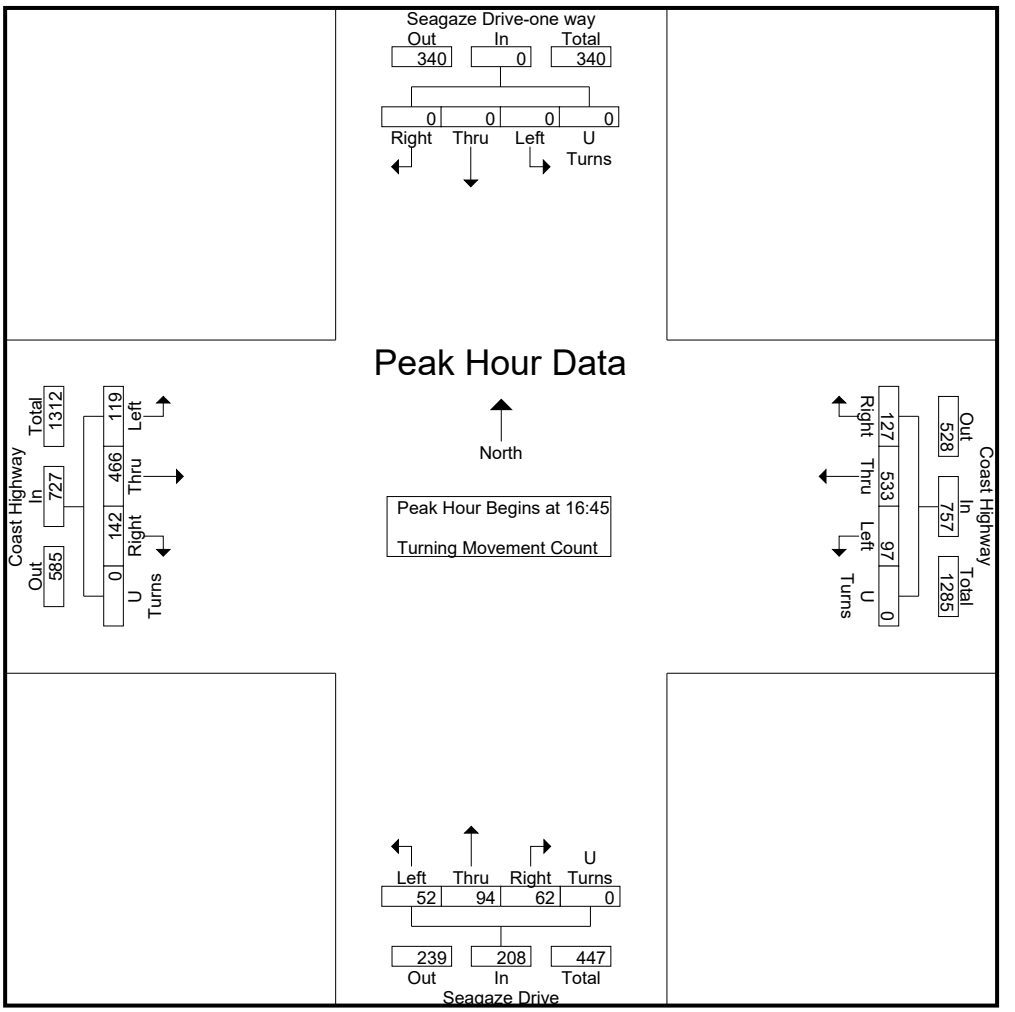


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Seagaze Drive
E-W Direction: Coast Highway

File Name : H2211005
Site Code : 00000000
Start Date : 11/10/2022
Page No : 3

	Seagaze Drive-one way Southbound					Coast Highway Westbound					Seagaze Drive Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	**38**											**130**	27	0	191	422
17:00	0	0	0	0	0	24	119	23	0	166	16	**29**	13	0	58	32	109	28	0	169	393
17:15	0	0	0	0	0	31	**145**	**34**		**210**	8	21	12	0	41	**49**		**32**		**200**	**451**
17:30	0	0	0	0	0	34	139	25	0	198	**23**		**15**		**61**	27	108	32	0	167	426
Total Volume	0	0	0	0	0	127	533	97	0	757	62	94	52	0	208	142	466	119	0	727	1692
% App. Total	0	0	0	0		16.8	70.4	12.8	0		29.8	45.2	25	0		19.5	64.1	16.4	0		
PHF	.000	.000	.000	.000	.000	.836	.919	.713	.000	.901	.674	.810	.867	.000	.852	.724	.896	.930	.000	.909	.938



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Topeka Street E
E-W Direction: Coast Highway

File Name : H2210024
Site Code : 00000000
Start Date : 11/10/2022

Groups Printed- Turning Movement Count

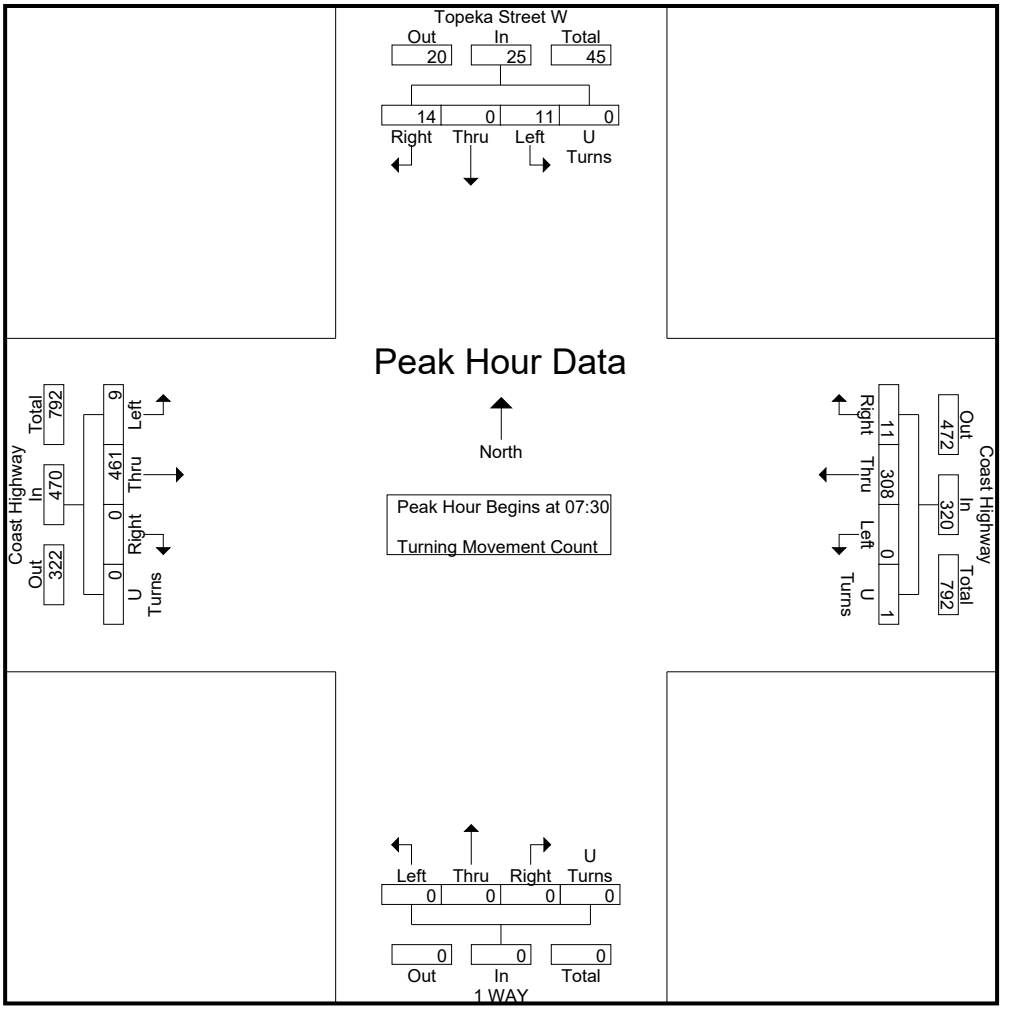
	Topeka Street W Southbound				Coast Highway Westbound				1 WAY Northbound				Coast Highway Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	0	0	0	0	0	48	0	0	0	0	0	0	0	70	1	0	119
07:15	0	0	6	0	0	68	0	0	0	0	0	0	0	88	1	0	163
07:30	1	0	0	0	1	62	0	0	0	0	0	0	0	132	1	0	197
07:45	5	0	3	0	4	74	0	0	0	0	0	0	0	115	3	0	204
Total	6	0	9	0	5	252	0	0	0	0	0	0	0	405	6	0	683
08:00	3	0	4	0	3	75	0	1	0	0	0	0	0	119	1	0	206
08:15	5	0	4	0	3	97	0	0	0	0	0	0	0	95	4	0	208
08:30	4	0	2	0	2	71	0	0	0	0	0	0	0	92	2	0	173
08:45	4	0	1	0	5	80	0	0	0	0	0	0	0	89	2	0	181
Total	16	0	11	0	13	323	0	1	0	0	0	0	0	395	9	0	768
16:00	6	0	2	0	3	150	0	0	0	0	0	0	0	185	1	0	347
16:15	6	0	2	0	5	142	0	0	0	0	0	0	0	183	1	1	340
16:30	4	0	4	0	3	159	0	0	0	0	0	0	0	149	1	0	320
16:45	11	0	0	0	4	173	0	0	0	0	0	0	0	140	3	1	332
Total	27	0	8	0	15	624	0	0	0	0	0	0	0	657	6	2	1339
17:00	9	0	0	0	5	170	0	0	0	0	0	0	0	127	1	0	312
17:15	10	0	5	0	0	196	0	0	0	0	0	0	0	127	0	0	338
17:30	7	0	0	0	3	187	0	0	0	0	0	0	0	127	1	0	325
17:45	6	0	3	0	7	167	0	0	0	0	0	0	0	132	3	0	318
Total	32	0	8	0	15	720	0	0	0	0	0	0	0	513	5	0	1293
Grand Total	81	0	36	0	48	1919	0	1	0	0	0	0	0	1970	26	2	4083
Apprch %	69.2	0	30.8	0	2.4	97.5	0	0.1	0	0	0	0	0	98.6	1.3	0.1	
Total %	2	0	0.9	0	1.2	47	0	0	0	0	0	0	0	48.2	0.6	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Topeka Street E
E-W Direction: Coast Highway

File Name : H2210024
Site Code : 00000000
Start Date : 11/10/2022
Page No : 2

	Topeka Street W Southbound					Coast Highway Westbound					1 WAY Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	1	0	0	0	1	1	62	0	0	63	0	0	0	0	0	0	**132**	1	0	**133**	197
07:45	**5**					**4**															
08:00	**3**	**0**	**4**	**0**	**7**	**3**	**75**	**0**	**1**	**79**	**0**	**0**	**0**	**0**	**0**	**0**	**119**	**1**	**0**	**120**	**206**
08:15	**5**	**0**	**4**	**0**	**9**	3	**97**	0	0	**100**	0	0	0	0	0	0	95	**4**	**0**	**99**	**208**
Total Volume	14	0	11	0	25	11	308	0	1	320	0	0	0	0	0	0	461	9	0	470	815
% App. Total	56	0	44	0		3.4	96.2	0	0.3		0	0	0	0		0	98.1	1.9	0		
PHF	.700	.000	.688	.000	.694	.688	.794	.000	.250	.800	.000	.000	.000	.000	.000	.000	.873	.563	.000	.883	.980

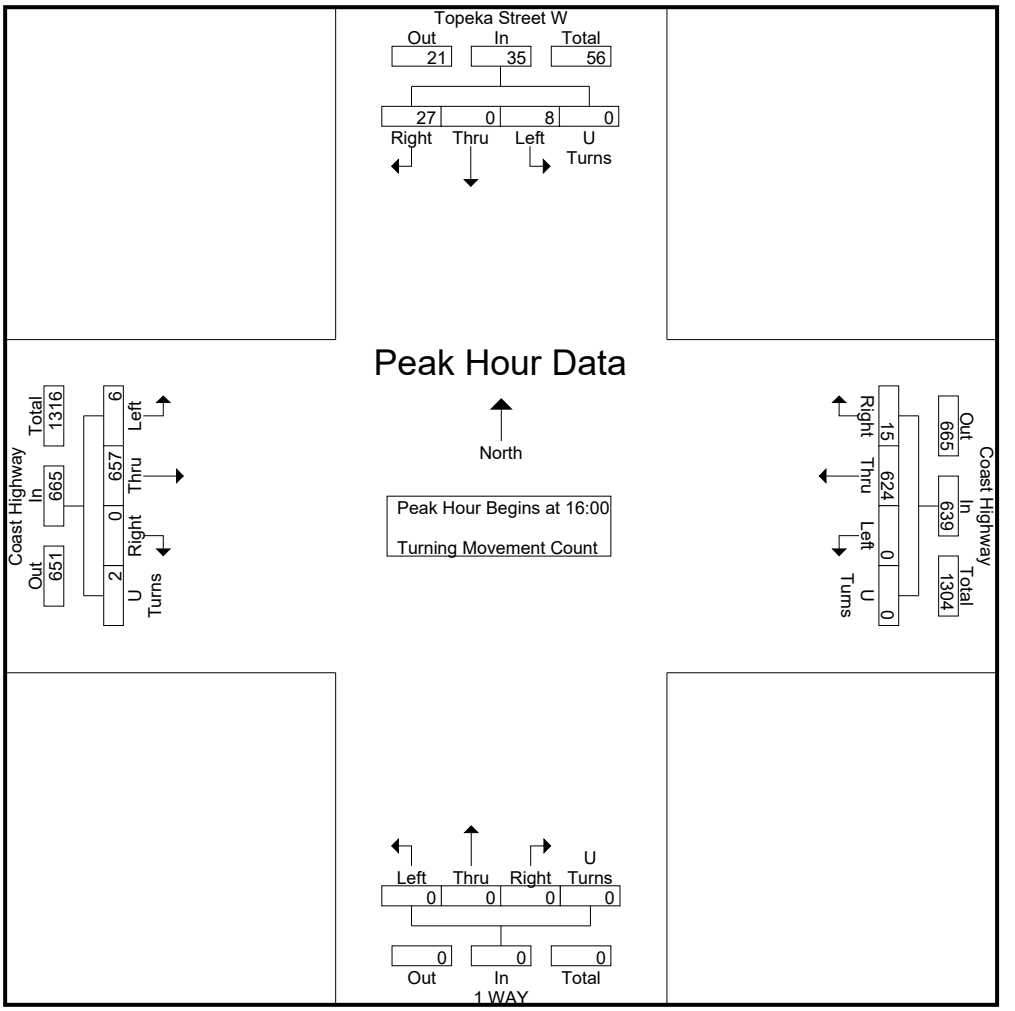


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Topeka Street E
E-W Direction: Coast Highway

File Name : H2210024
Site Code : 00000000
Start Date : 11/10/2022
Page No : 3

	Topeka Street W Southbound					Coast Highway Westbound					1 WAY Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	6	0	2	0	8	3	150	0	0	153	0	0	0	0	0	0	**185**	1	0	**186**	**347**
16:15	6	0	2	0	8	**5**													**1**		
16:30	**4**	**0**	**4**	**0**	**8**	**3**	**159**	**0**	**0**	**162**	**0**	**0**	**0**	**0**	**0**	**0**	**149**	**1**	**0**	**150**	**320**
16:45	**11**	**0**	**0**	**0**	**11**	4	**173**	0	0	**177**	0	0	0	0	0	0	140	**3**	**1**	**144**	**332**
Total Volume	27	0	8	0	35	15	624	0	0	639	0	0	0	0	0	0	657	6	2	665	1339
% App. Total	77.1	0	22.9	0		2.3	97.7	0	0		0	0	0	0		0	98.8	0.9	0.3		
PHF	.614	.000	.500	.000	.795	.750	.902	.000	.000	.903	.000	.000	.000	.000	.000	.000	.888	.500	.500	.894	.965



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Topeka Street (W)
E-W Direction: Trentmont Street

File Name : H2211009
Site Code : 00000000
Start Date : 11/16/2022

Groups Printed- Turning Movement Count

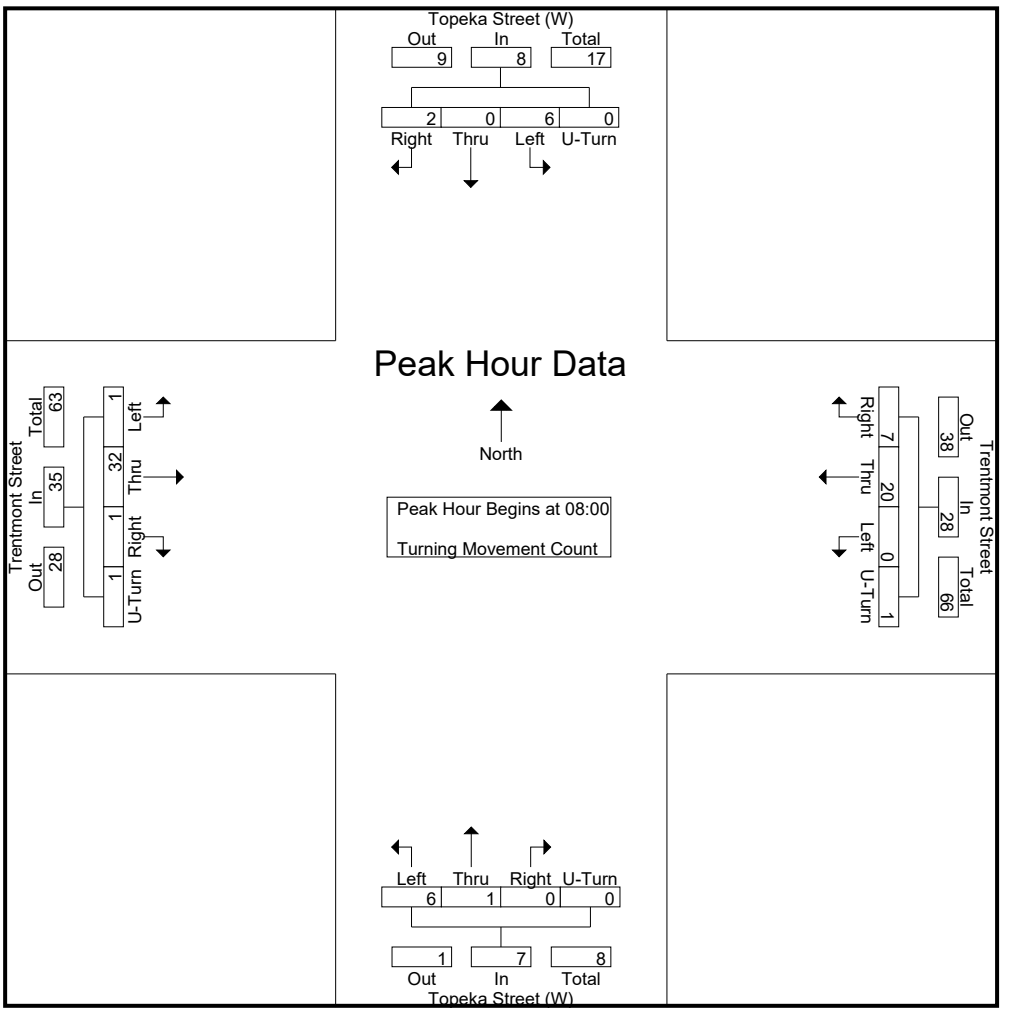
	Topeka Street (W) Southbound				Trentmont Street Westbound				Topeka Street (W) Northbound				Trentmont Street Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	0	1	3	0	1	1	0	0	1	0	0	0	0	10	0	0	17
07:15	0	0	4	0	1	3	0	0	0	0	2	0	0	10	0	0	20
07:30	1	0	3	0	1	8	0	1	0	0	0	0	0	4	0	0	18
07:45	0	0	3	0	4	1	0	0	0	0	0	0	0	7	0	0	15
Total	1	1	13	0	7	13	0	1	1	0	2	0	0	31	0	0	70
08:00	0	0	0	0	1	2	0	0	0	0	1	0	0	8	1	1	14
08:15	0	0	4	0	2	7	0	0	0	0	2	0	0	6	0	0	21
08:30	0	0	1	0	0	7	0	0	0	0	2	0	1	10	0	0	21
08:45	2	0	1	0	4	4	0	1	0	1	1	0	0	8	0	0	22
Total	2	0	6	0	7	20	0	1	0	1	6	0	1	32	1	1	78
*** BREAK ***																	
16:00	4	0	5	0	2	8	0	0	0	0	0	0	0	6	1	2	28
16:15	4	0	3	0	2	5	0	0	0	0	1	0	2	11	0	0	28
16:30	4	0	6	1	1	4	0	0	0	0	0	0	0	6	0	1	23
16:45	5	0	3	0	3	13	0	0	0	1	1	0	2	12	3	1	44
Total	17	0	17	1	8	30	0	0	0	1	2	0	4	35	4	4	123
17:00	4	0	4	0	0	11	0	1	2	0	0	0	3	8	0	1	34
17:15	5	0	2	0	2	9	0	1	1	0	0	0	3	7	0	2	32
17:30	2	0	2	0	3	8	0	0	1	0	2	1	3	3	1	1	27
17:45	7	0	1	0	2	6	0	0	2	10	0	0	0	0	1	0	29
Total	18	0	9	0	7	34	0	2	6	10	2	1	9	18	2	4	122
Grand Total	38	1	45	1	29	97	0	4	7	12	12	1	14	116	7	9	393
Apprch %	44.7	1.2	52.9	1.2	22.3	74.6	0	3.1	21.9	37.5	37.5	3.1	9.6	79.5	4.8	6.2	
Total %	9.7	0.3	11.5	0.3	7.4	24.7	0	1	1.8	3.1	3.1	0.3	3.6	29.5	1.8	2.3	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Topeka Street (W)
E-W Direction: Trentmont Street

File Name : H2211009
Site Code : 00000000
Start Date : 11/16/2022
Page No : 2

	Topeka Street (W) Southbound					Trentmont Street Westbound					Topeka Street (W) Northbound					Trentmont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	1	2	0	0	3	0	0	1	0	1	0	8	**1**	**1**		
08:15	**0**	**0**	**4**	**0**	**4**	2	**7**	0	0	**9**	0	0	**2**	**0**	**2**	0	6	0	0	6	21
08:30	0	0	1	0	1	0	7	0	0	7	0	0	2	0	2	**1**	**10**	0	0	**11**	21
08:45	**2**					**4**			**1**			**1**	1	0	2	0	8	0	0	8	**22**
Total Volume	2	0	6	0	8	7	20	0	1	28	0	1	6	0	7	1	32	1	1	35	78
% App. Total	25	0	75	0		25	71.4	0	3.6		0	14.3	85.7	0		2.9	91.4	2.9	2.9		
PHF	.250	.000	.375	.000	.500	.438	.714	.000	.250	.778	.000	.250	.750	.000	.875	.250	.800	.250	.250	.795	.886

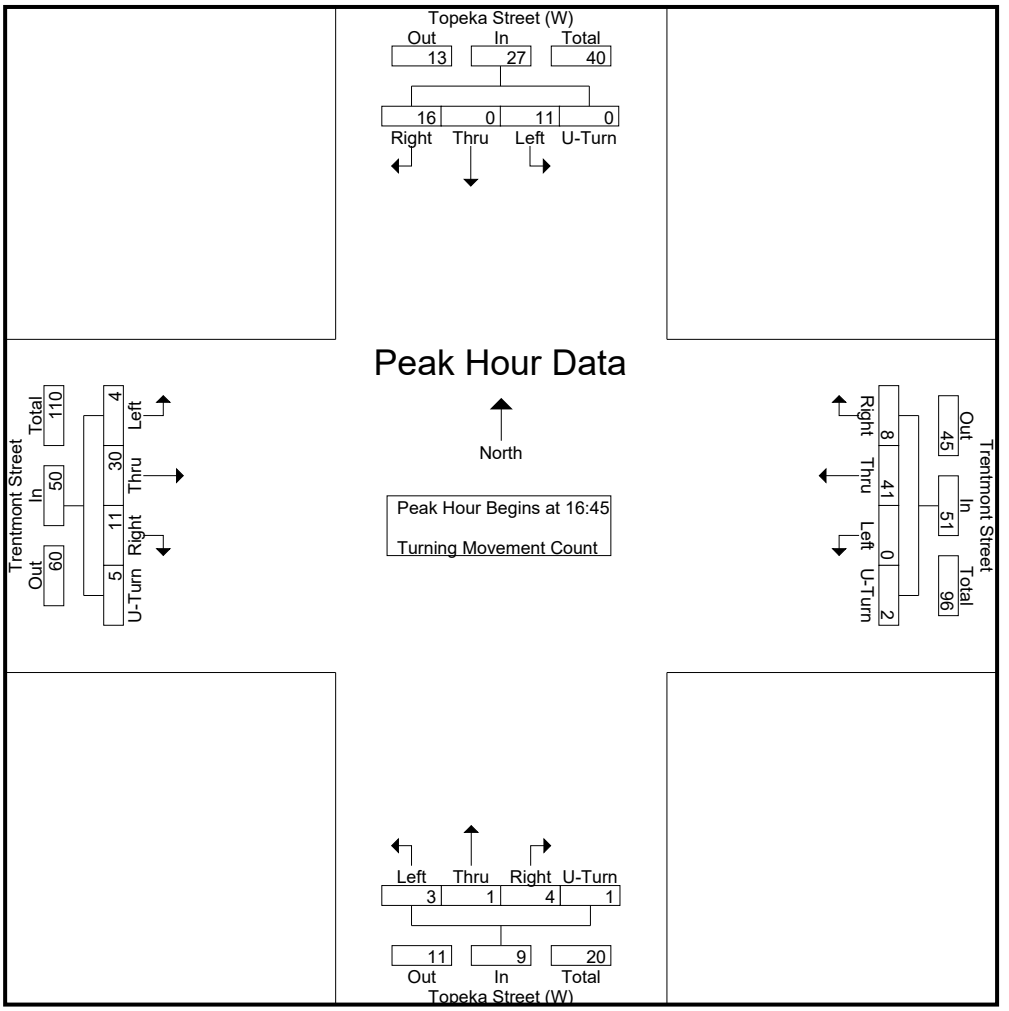


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Topeka Street (W)
E-W Direction: Trentmont Street

File Name : H2211009
Site Code : 00000000
Start Date : 11/16/2022
Page No : 3

	Topeka Street (W) Southbound					Trentmont Street Westbound					Topeka Street (W) Northbound					Trentmont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	**5**				**8**	**3**	**13**	0	0	**16**	0	**1**	1	0	2	2	**12**	**3**		**18**	**44**
17:00	4	0	**4**						**1**		**2**					**3**					
17:15	**5**	**0**	**2**	**0**	**7**	**2**	**9**	**0**	**1**	**12**	**1**	**0**	**0**	**0**	**1**	**3**	**7**	**0**	**2**	**12**	**32**
17:30	**2**	**0**	**2**	**0**	**4**	**3**	**8**	**0**	**0**	**11**	**1**	**0**	**2**	**1**	**4**	3	3	1	1	8	27
Total Volume	16	0	11	0	27	8	41	0	2	51	4	1	3	1	9	11	30	4	5	50	137
% App. Total	59.3	0	40.7	0		15.7	80.4	0	3.9		44.4	11.1	33.3	11.1		22	60	8	10		
PHF	.800	.000	.688	.000	.844	.667	.788	.000	.500	.797	.500	.250	.375	.250	.563	.917	.625	.333	.625	.694	.778



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Topeka Street W
E-W Direction: Coast Highway

File Name : H2211008
Site Code : 00000000
Start Date : 11/10/2022
Page No : 1

Groups Printed- Turning Movement Count

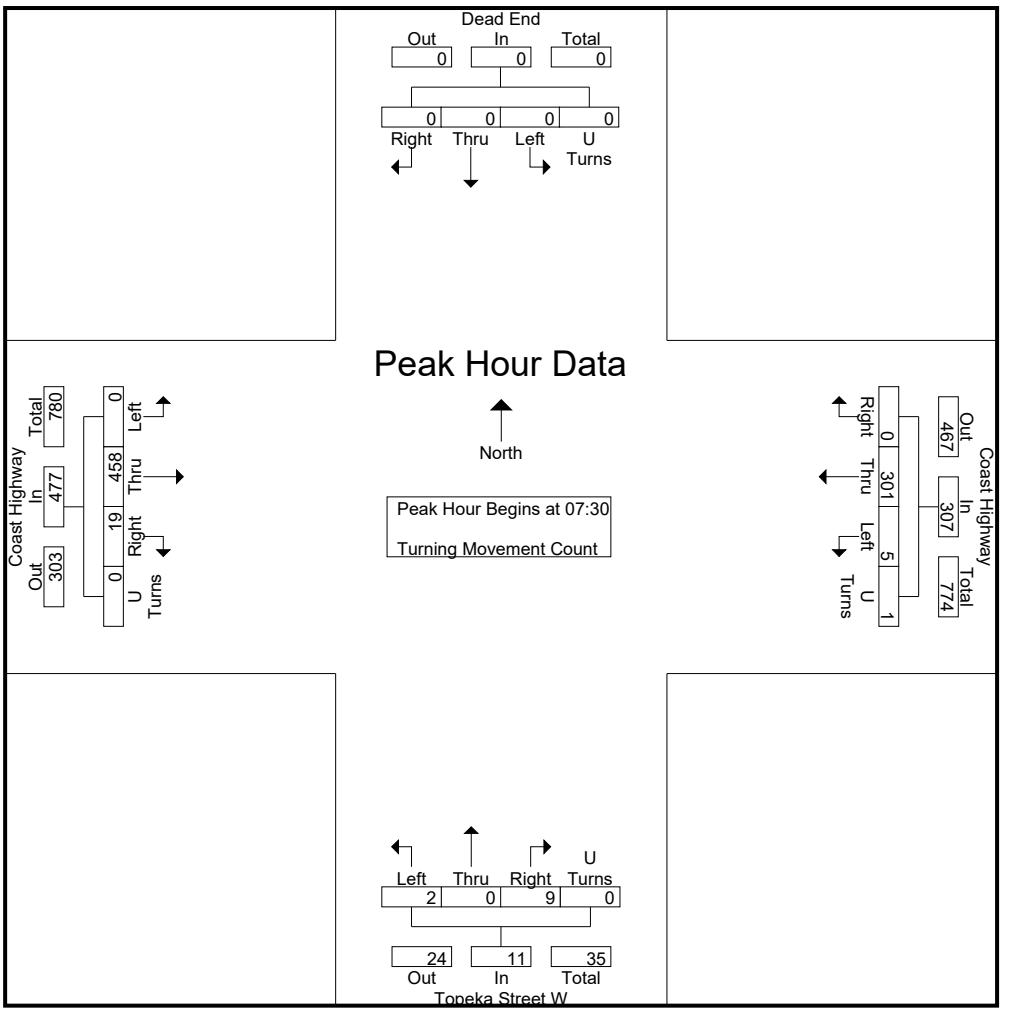
	Dead End Southbound				Coast Highway Westbound				Topeka Street W Northbound				Coast Highway Eastbound				
Start Time	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Right	Thru	Left	U Turns	Int. Total
07:00	0	0	0	0	0	46	0	0	1	0	3	0	6	61	0	0	117
07:15	0	0	0	0	0	64	1	0	1	0	1	0	7	81	0	0	155
07:30	0	0	0	0	0	61	0	1	2	0	1	0	2	122	0	0	189
07:45	0	0	0	0	0	77	1	0	2	0	0	0	2	130	0	0	212
Total	0	0	0	0	0	248	2	1	6	0	5	0	17	394	0	0	673
08:00	0	0	0	0	0	78	2	0	2	0	0	0	3	119	0	0	204
08:15	0	0	0	0	0	85	2	0	3	0	1	0	12	87	0	0	190
08:30	0	0	0	0	0	72	1	0	2	0	0	0	4	82	0	0	161
08:45	0	0	0	0	0	79	1	1	1	0	0	0	5	93	0	0	180
Total	0	0	0	0	0	314	6	1	8	0	1	0	24	381	0	0	735
16:00	0	0	0	0	0	143	2	0	1	0	0	0	6	183	0	0	335
16:15	0	0	0	0	0	146	4	0	2	0	0	0	7	181	0	1	341
16:30	0	0	0	0	0	163	7	0	2	0	2	0	4	145	0	0	323
16:45	0	0	0	0	0	178	3	0	0	0	2	0	11	131	0	0	325
Total	0	0	0	0	0	630	16	0	5	0	4	0	28	640	0	1	1324
17:00	0	0	0	0	0	173	3	0	5	0	2	0	10	120	0	0	313
17:15	0	0	0	0	0	193	4	0	5	0	1	0	9	114	0	0	326
17:30	0	0	0	0	0	195	3	0	7	0	1	0	3	135	0	0	344
17:45	0	0	0	0	0	171	4	0	7	0	2	0	10	122	0	0	316
Total	0	0	0	0	0	732	14	0	24	0	6	0	32	491	0	0	1299
Grand Total	0	0	0	0	0	1924	38	2	43	0	16	0	101	1906	0	1	4031
Apprch %	0	0	0	0	0	98	1.9	0.1	72.9	0	27.1	0	5	94.9	0	0	
Total %	0	0	0	0	0	47.7	0.9	0	1.1	0	0.4	0	2.5	47.3	0	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Topeka Street W
E-W Direction: Coast Highway

File Name : H2211008
Site Code : 00000000
Start Date : 11/10/2022
Page No : 2

	Dead End Southbound					Coast Highway Westbound					Topeka Street W Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	0	0	0	61	0	**1**				**1**								
07:45	**0**	**0**	**0**	**0**	**0**	**0**	**77**	**1**	**0**	**78**	**2**	**0**	**0**	**0**	**2**	**2**	**130**	0	0	**132**	**212**
08:00	0	0	0	0	0	0	78	**2**													
08:15	**0**	**0**	**0**	**0**	**0**	**0**	**85**	2	0	**87**	**3**	**0**	**1**	**0**	**4**	**12**	**87**	**0**	**0**	**99**	**190**
Total Volume	0	0	0	0	0	0	301	5	1	307	9	0	2	0	11	19	458	0	0	477	795
% App. Total	0	0	0	0		0	98	1.6	0.3		81.8	0	18.2	0		4	96	0	0		
PHF	.000	.000	.000	.000	.000	.000	.885	.625	.250	.882	.750	.000	.500	.000	.688	.396	.881	.000	.000	.903	.938

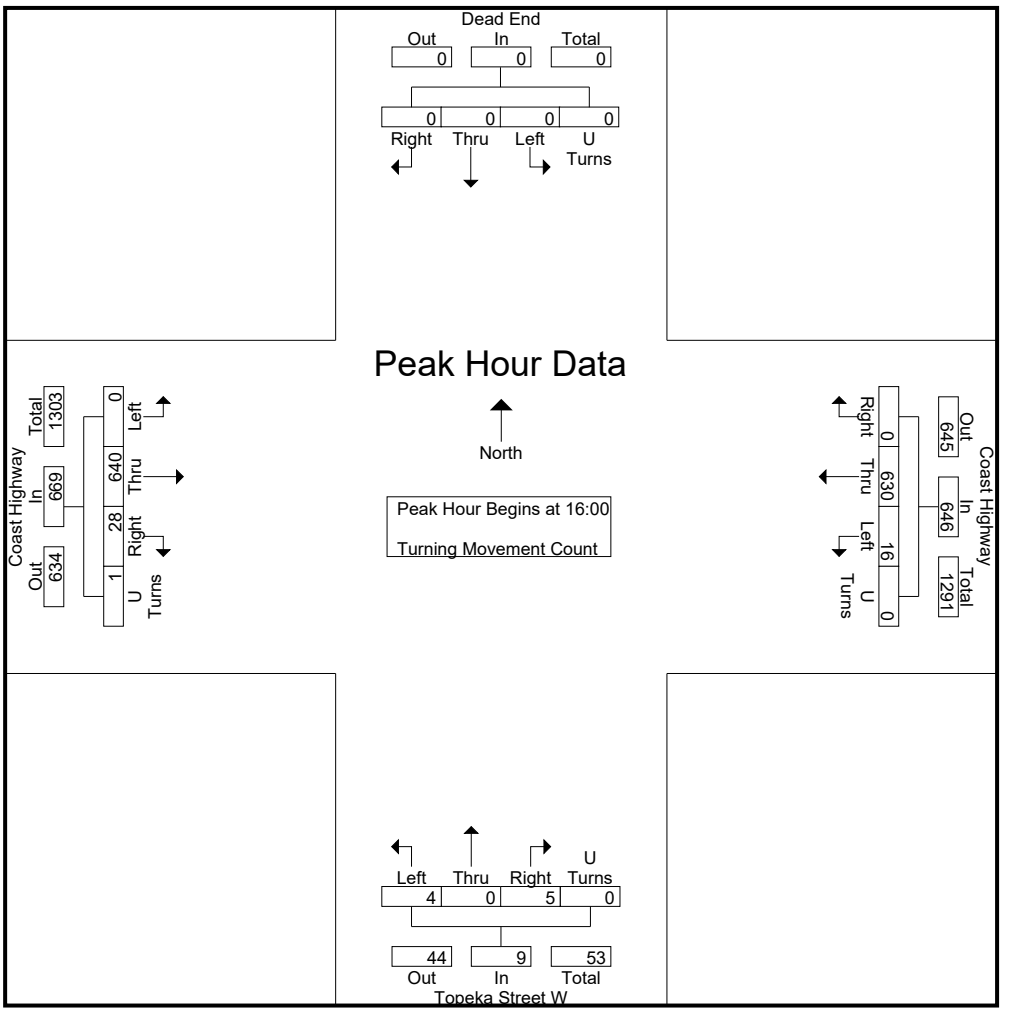


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City: Oceanside
N-S Direction: Topeka Street W
E-W Direction: Coast Highway

File Name : H2211008
Site Code : 00000000
Start Date : 11/10/2022
Page No : 3

	Dead End Southbound					Coast Highway Westbound					Topeka Street W Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Right	Thru	Left	U Turns	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	143	2	0	145	1	0	0	0	1	6	**183**	0	0	**189**	335
16:15	0	0	0	0	0	0	146	4	0	150	**2**								**1**		**341**
16:30	0	0	0	0	0	0	163	**7**					**2**		**4**	4	145	0	0	149	323
16:45	0	0	0	0	0	0	**178**	3	0	**181**	0	0	2	0	2	**11**					
Total Volume	0	0	0	0	0	0	630	16	0	646	5	0	4	0	9	28	640	0	1	669	1324
% App. Total	0	0	0	0		0	97.5	2.5	0		55.6	0	44.4	0		4.2	95.7	0	0.1		
PHF	.000	.000	.000	.000	.000	.000	.885	.571	.000	.892	.625	.000	.500	.000	.563	.636	.874	.000	.250	.885	.971



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Oceanside Transit Center
E-W Direction:Tremont St

File Name : H2211010
Site Code : 00000000
Start Date : 11/16/2022
Page No : 1

Groups Printed- Turning Movement Count

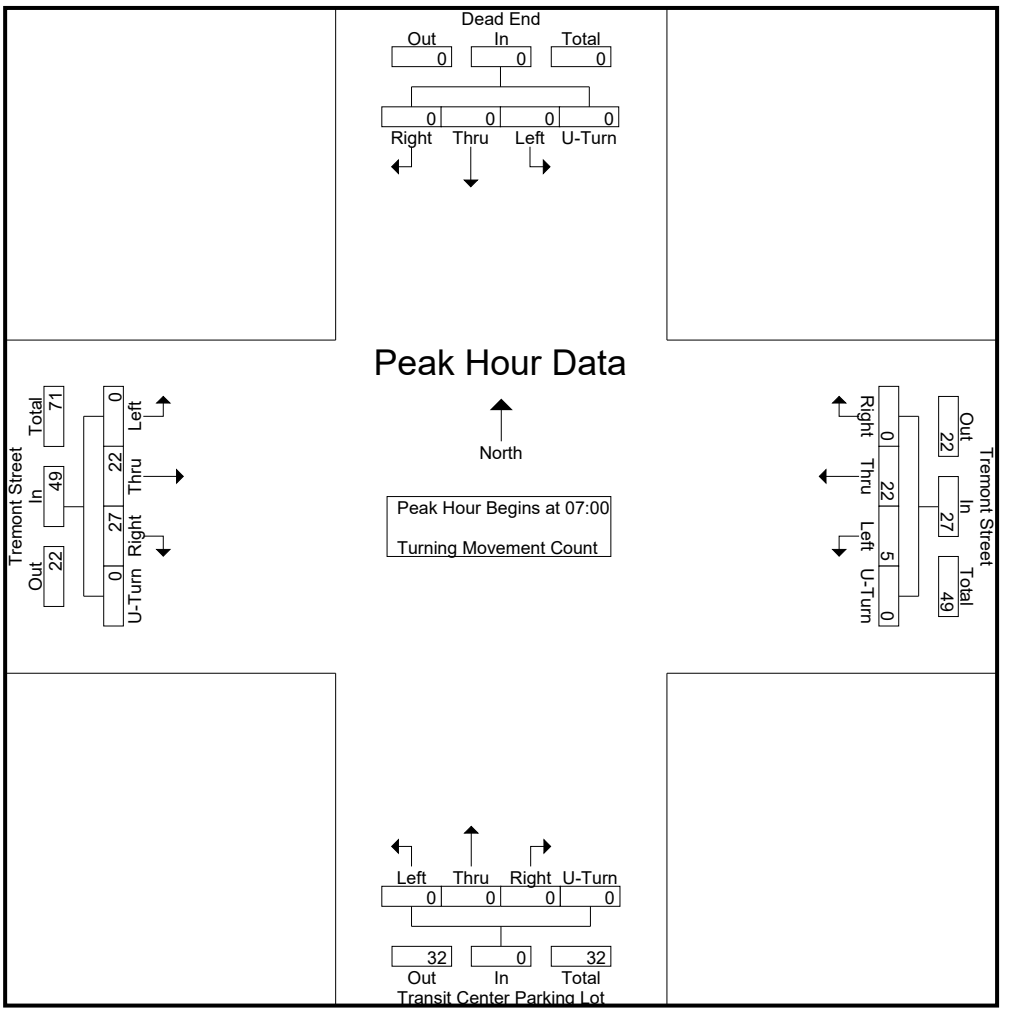
	Dead End Southbound				Tremont Street Westbound				Transit Center Parking Lot Northbound				Tremont Street Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	0	0	0	0	0	2	1	0	0	0	0	0	12	3	0	0	18
07:15	0	0	0	0	0	4	4	0	0	0	0	0	9	6	0	0	23
07:30	0	0	0	0	0	10	0	0	0	0	0	0	3	6	0	0	19
07:45	0	0	0	0	0	6	0	0	0	0	0	0	3	7	0	0	16
Total	0	0	0	0	0	22	5	0	0	0	0	0	27	22	0	0	76
08:00	0	0	0	0	0	3	1	0	0	0	0	0	4	4	0	0	12
08:15	0	0	0	0	0	9	2	0	0	0	0	0	7	2	0	0	20
08:30	0	0	0	0	0	5	0	0	0	0	0	0	4	7	0	0	16
08:45	0	0	0	0	0	10	0	0	0	0	0	0	6	4	0	0	20
Total	0	0	0	0	0	27	3	0	0	0	0	0	21	17	0	0	68
*** BREAK ***																	
16:00	0	0	0	0	0	10	3	0	0	0	0	0	3	7	0	0	23
16:15	0	0	0	0	0	7	2	0	0	0	0	0	6	9	0	0	24
16:30	0	0	0	0	0	5	4	0	0	0	0	0	8	4	0	0	21
16:45	0	0	0	0	0	13	1	0	0	0	0	0	3	11	0	2	30
Total	0	0	0	0	0	35	10	0	0	0	0	0	20	31	0	2	98
17:00	0	0	0	0	0	12	5	0	0	0	0	0	9	7	0	0	33
17:15	0	0	0	0	0	12	1	0	0	0	0	0	2	6	0	0	21
17:30	0	0	0	0	0	11	3	0	0	0	0	0	2	3	0	0	19
17:45	0	0	0	0	0	8	2	0	0	0	0	0	0	11	0	0	21
Total	0	0	0	0	0	43	11	0	0	0	0	0	13	27	0	0	94
Grand Total	0	0	0	0	0	127	29	0	0	0	0	0	81	97	0	2	336
Apprch %	0	0	0	0	0	81.4	18.6	0	0	0	0	0	45	53.9	0	1.1	
Total %	0	0	0	0	0	37.8	8.6	0	0	0	0	0	24.1	28.9	0	0.6	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Oceanside Transit Center
E-W Direction:Tremont St

File Name : H2211010
Site Code : 00000000
Start Date : 11/16/2022

	Dead End Southbound					Tremont Street Westbound					Transit Center Parking Lot Northbound					Tremont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	**12**				**15**	18
07:15	0	0	0	0	0	0	4	**4**													**23**
07:30	0	0	0	0	0	0	**10**	0	0	**10**	0	0	0	0	0	3	6	0	0	9	19
07:45	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	3	**7**	0	0	10	16
Total Volume	0	0	0	0	0	0	22	5	0	27	0	0	0	0	0	27	22	0	0	49	76
% App. Total	0	0	0	0		0	81.5	18.5	0		0	0	0	0		55.1	44.9	0	0		
PHF	.000	.000	.000	.000	.000	.000	.550	.313	.000	.675	.000	.000	.000	.000	.000	.563	.786	.000	.000	.817	.826

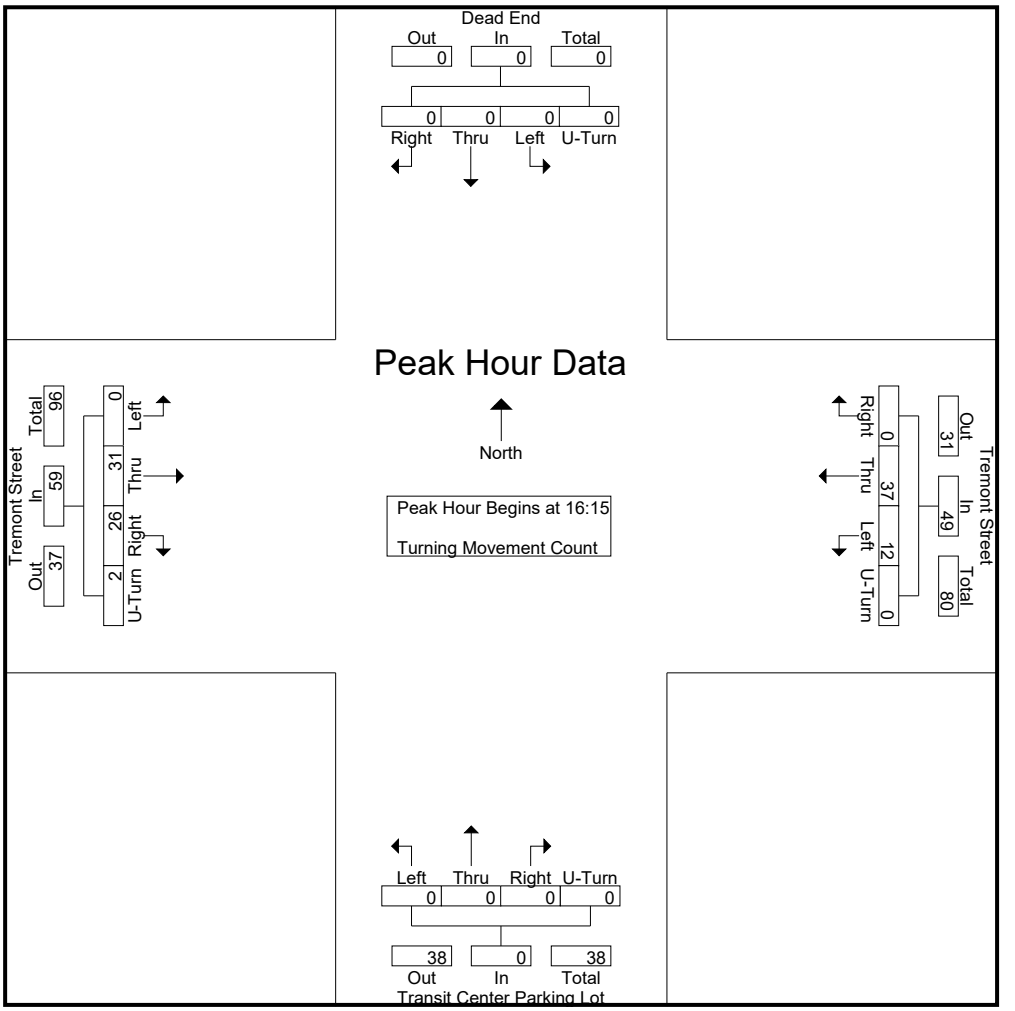


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Oceanside Transit Center
E-W Direction:Tremont St

File Name : H2211010
Site Code : 00000000
Start Date : 11/16/2022
Page No : 3

	Dead End Southbound					Tremont Street Westbound					Transit Center Parking Lot Northbound					Tremont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	0	0	0	7	2	0	9	0	0	0	0	0	6	9	0	0	15	24
16:30	0	0	0	0	0	0	5	4	0	9	0	0	0	0	0	8	4	0	0	12	21
16:45	0	0	0	0	0	0	**13**	1	0	14	0	0	0	0	0	3	**11**	0	**2**	**16**	30
17:00	0	0	0	0	0	0	12	**5**		**17**	0	0	0	0	0	**9**					**33**
Total Volume	0	0	0	0	0	0	37	12	0	49	0	0	0	0	0	26	31	0	2	59	108
% App. Total	0	0	0	0		0	75.5	24.5	0		0	0	0	0		44.1	52.5	0	3.4		
PHF	.000	.000	.000	.000	.000	.000	.712	.600	.000	.721	.000	.000	.000	.000	.000	.722	.705	.000	.250	.922	.818



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Michigan Ave
E-W Direction:Tremont St

File Name : H2211012
Site Code : 00000000
Start Date : 11/16/2022

Groups Printed- Turning Movement Count

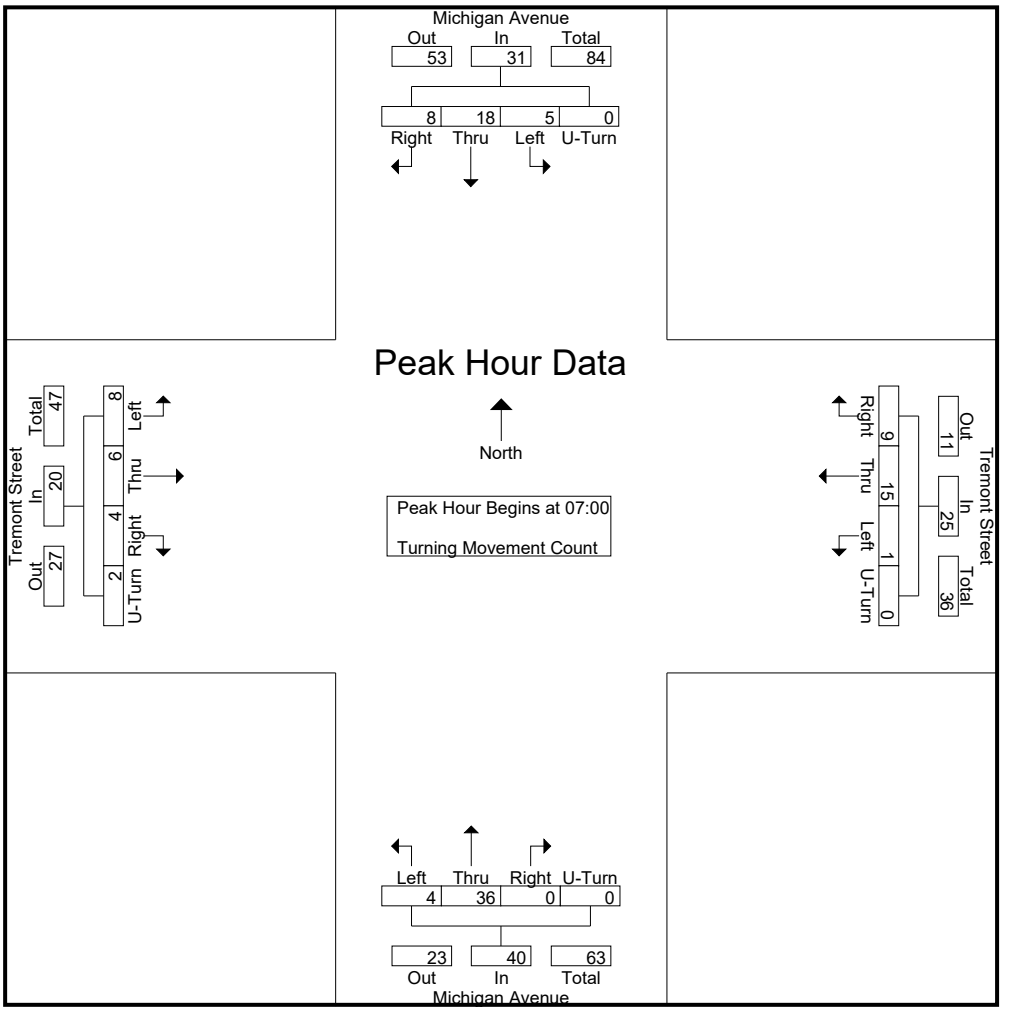
	Michigan Avenue Southbound				Tremont Street Westbound				Michigan Avenue Northbound				Tremont Street Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	1	8	0	0	1	2	1	0	0	7	1	0	0	2	1	0	24
07:15	5	6	1	0	1	2	0	0	0	10	1	0	3	0	2	1	32
07:30	2	1	0	0	5	6	0	0	0	11	1	0	0	2	3	1	32
07:45	0	3	4	0	2	5	0	0	0	8	1	0	1	2	2	0	28
Total	8	18	5	0	9	15	1	0	0	36	4	0	4	6	8	2	116
08:00	1	4	1	0	5	2	0	0	1	3	0	0	0	2	3	0	22
08:15	3	3	3	0	1	4	0	0	0	3	3	0	0	1	2	0	23
08:30	2	1	1	0	1	4	0	0	0	4	1	0	1	6	0	0	21
08:45	5	1	3	0	6	4	0	0	0	2	1	0	1	1	1	1	26
Total	11	9	8	0	13	14	0	0	1	12	5	0	2	10	6	1	92
*** BREAK ***																	
16:00	3	4	5	0	7	7	1	0	1	10	1	0	0	6	1	0	46
16:15	1	2	3	0	1	6	1	0	0	10	2	0	1	7	0	0	34
16:30	3	3	1	0	2	2	2	0	2	18	4	0	1	1	2	0	41
16:45	6	2	5	1	5	10	1	0	2	24	0	0	1	8	2	0	67
Total	13	11	14	1	15	25	5	0	5	62	7	0	3	22	5	0	188
17:00	3	1	1	0	4	12	0	0	1	13	1	0	0	3	1	0	40
17:15	2	0	3	0	5	8	0	0	0	21	3	0	0	5	0	0	47
17:30	3	3	3	0	3	8	1	0	0	6	4	0	2	0	0	0	33
17:45	3	2	0	0	3	4	0	0	2	5	1	0	0	10	0	2	32
Total	11	6	7	0	15	32	1	0	3	45	9	0	2	18	1	2	152
Grand Total	43	44	34	1	52	86	7	0	9	155	25	0	11	56	20	5	548
Apprch %	35.2	36.1	27.9	0.8	35.9	59.3	4.8	0	4.8	82	13.2	0	12	60.9	21.7	5.4	
Total %	7.8	8	6.2	0.2	9.5	15.7	1.3	0	1.6	28.3	4.6	0	2	10.2	3.6	0.9	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Michigan Ave
E-W Direction:Tremont St

File Name : H2211012
Site Code : 00000000
Start Date : 11/16/2022
Page No : 2

	Michigan Avenue Southbound					Tremont Street Westbound					Michigan Avenue Northbound					Tremont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	1	**8**	0	0	9	1	2	**1**					**1**				**2**	1	0	3	24
07:15	**5**				**12**	1	2	0	0	3	0	10	1	0	11	**3**			**1**	**6**	**32**
07:30	2	1	0	0	3	**5**	**6**	0	0	**11**	0	**11**	1	0	**12**	0	2	**3**			
07:45	**0**	**3**	**4**	**0**	**7**	**2**	**5**	**0**	**0**	**7**	**0**	**8**	**1**	**0**	**9**	**1**	**2**	**2**	**0**	**5**	**28**
Total Volume	8	18	5	0	31	9	15	1	0	25	0	36	4	0	40	4	6	8	2	20	116
% App. Total	25.8	58.1	16.1	0		36	60	4	0		0	90	10	0		20	30	40	10		
PHF	.400	.563	.313	.000	.646	.450	.625	.250	.000	.568	.000	.818		.000	.833	.333	.750	.667	.500	.833	.906

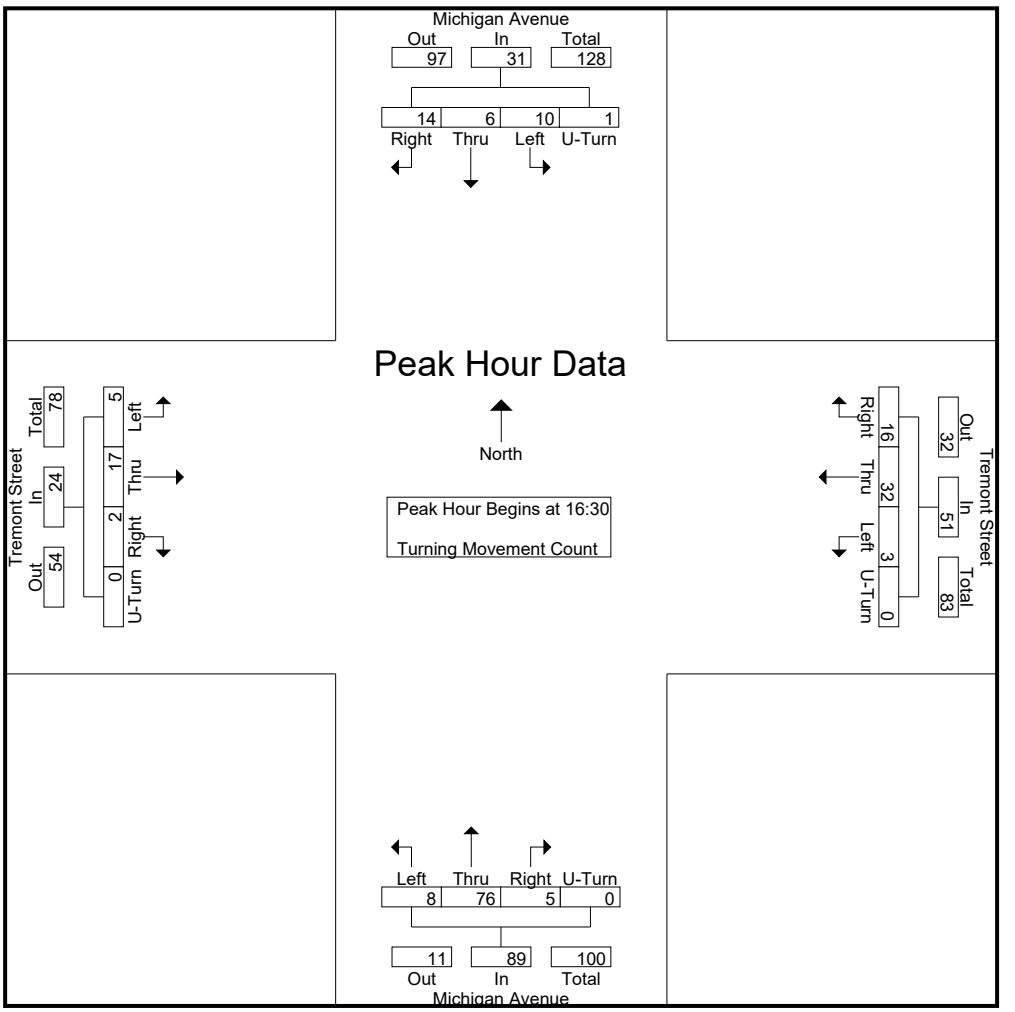


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Michigan Ave
E-W Direction:Tremont St

File Name : H2211012
Site Code : 00000000
Start Date : 11/16/2022
Page No : 3

	Michigan Avenue Southbound					Tremont Street Westbound					Michigan Avenue Northbound					Tremont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	3	**3**	1	0	7	2	2	**2**			**2**		**4**			**1**		**2**			
16:45	**6**	**2**	**5**	**1**	**14**	**5**	**10**	**1**	**0**	**16**	2	**24**	0	0	**26**	1	**8**	2	0	**11**	**67**
17:00	3	1	1	0	5	4	**12**	0	0	16	1	13	1	0	15	0	3	1	0	4	40
17:15	2	0	3	0	5	5	8	0	0	13	0	21	3	0	24	0	5	0	0	5	47
Total Volume	14	6	10	1	31	16	32	3	0	51	5	76	8	0	89	2	17	5	0	24	195
% App. Total	45.2	19.4	32.3	3.2		31.4	62.7	5.9	0		5.6	85.4	9	0		8.3	70.8	20.8	0		
PHF	.583	.500	.500	.250	.554	.800	.667	.375	.000	.797	.625	.792	.500	.000	.856	.500	.531	.625	.000	.545	.728



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Michigan Ave
E-W Direction:Coast Hwy

File Name : H2211011
Site Code : 00000000
Start Date : 11/16/2022

Groups Printed- Turning Movement Count

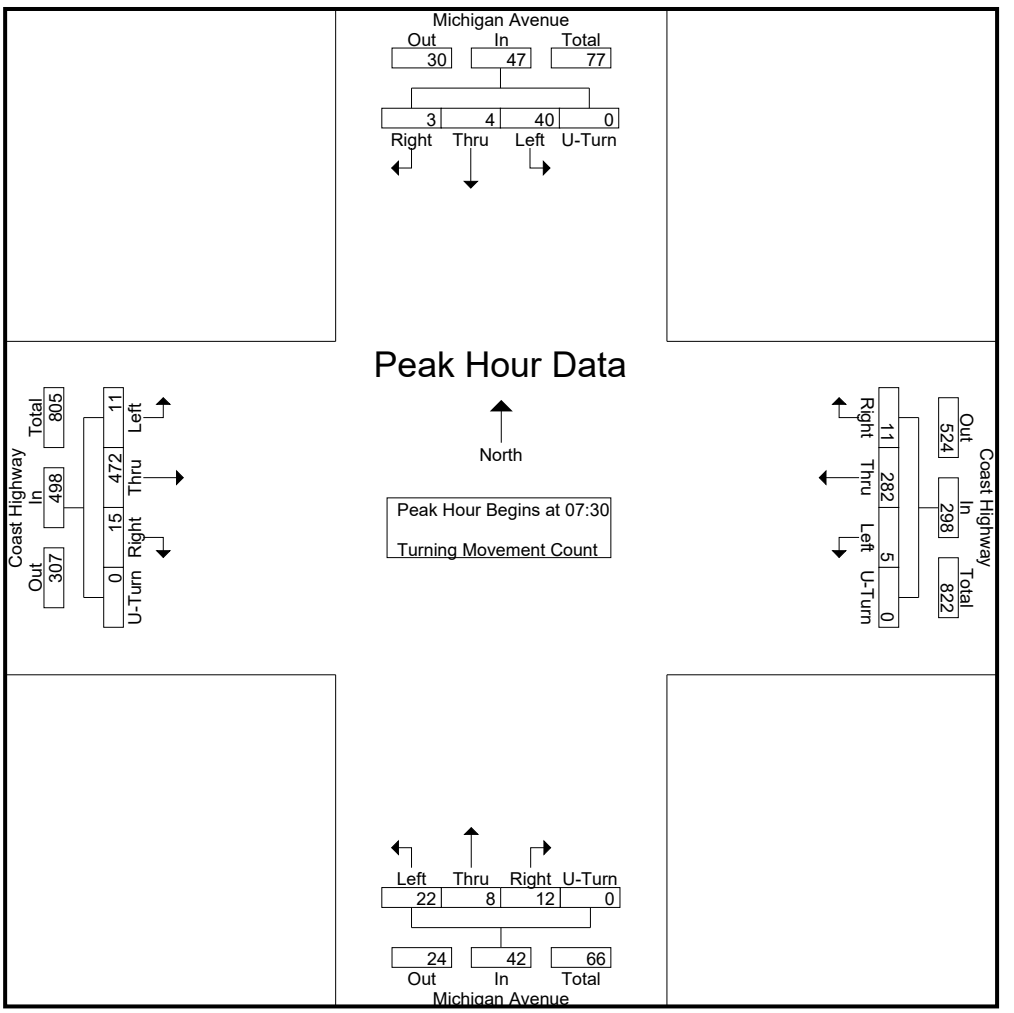
	Michigan Avenue Southbound				Coast Highway Westbound				Michigan Avenue Northbound				Coast Highway Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	0	1	2	0	1	49	6	0	5	2	1	0	2	48	0	0	117
07:15	1	2	7	0	1	56	5	0	6	1	7	0	5	63	1	0	155
07:30	1	0	8	0	1	49	2	0	3	2	13	0	0	98	4	0	181
07:45	1	2	14	0	3	75	2	0	5	1	3	0	3	143	1	0	253
Total	3	5	31	0	6	229	15	0	19	6	24	0	10	352	6	0	706
08:00	0	0	8	0	4	76	0	0	2	3	5	0	6	124	4	0	232
08:15	1	2	10	0	3	82	1	0	2	2	1	0	6	107	2	0	219
08:30	1	2	7	0	0	63	1	0	3	1	2	0	2	76	0	0	158
08:45	3	2	5	0	3	79	2	0	4	1	2	0	6	78	3	0	188
Total	5	6	30	0	10	300	4	0	11	7	10	0	20	385	9	0	797
*** BREAK ***																	
16:00	1	4	7	0	5	124	6	0	6	5	8	0	0	121	0	0	287
16:15	2	4	4	0	2	99	1	0	3	3	7	0	4	113	4	0	246
16:30	6	3	9	0	10	131	3	0	8	3	13	0	2	110	1	0	299
16:45	2	6	7	0	4	124	2	0	10	6	15	0	4	126	7	0	313
Total	11	17	27	0	21	478	12	0	27	17	43	0	10	470	12	0	1145
17:00	3	1	10	0	7	152	3	0	6	5	10	0	0	125	3	0	325
17:15	2	2	11	0	5	128	3	0	5	5	19	0	3	124	8	0	315
17:30	5	4	3	0	7	135	0	0	2	3	3	0	3	113	3	0	281
17:45	5	1	7	0	8	116	1	0	4	0	4	0	3	78	1	0	228
Total	15	8	31	0	27	531	7	0	17	13	36	0	9	440	15	0	1149
Grand Total	34	36	119	0	64	1538	38	0	74	43	113	0	49	1647	42	0	3797
Apprch %	18	19	63	0	3.9	93.8	2.3	0	32.2	18.7	49.1	0	2.8	94.8	2.4	0	
Total %	0.9	0.9	3.1	0	1.7	40.5	1	0	1.9	1.1	3	0	1.3	43.4	1.1	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Michigan Ave
E-W Direction:Coast Hwy

File Name : H2211011
Site Code : 00000000
Start Date : 11/16/2022

	Michigan Avenue Southbound					Coast Highway Westbound					Michigan Avenue Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	**1**							**2**					**13**		**18**	0	98	**4**			
07:45	**1**	**2**	**14**	**0**	**17**	3	75	2	0	80	**5**	**1**	**3**	**0**	**9**	**3**	**143**	1	0	**147**	**253**
08:00	0	0	8	0	8	**4**						**3**	5	0	10	**6**					
08:15	**1**	**2**	**10**	**0**	**13**	**3**	**82**	1	0	**86**	2	2	1	0	5	6	107	2	0	115	219
Total Volume	3	4	40	0	47	11	282	5	0	298	12	8	22	0	42	15	472	11	0	498	885
% App. Total	6.4	8.5	85.1	0		3.7	94.6	1.7	0		28.6	19	52.4	0		3	94.8	2.2	0		
PHF	.750	.500	.714	.000	.691	.688	.860	.625	.000	.866	.600	.667	.423	.000	.583	.625	.825	.688	.000	.847	.875

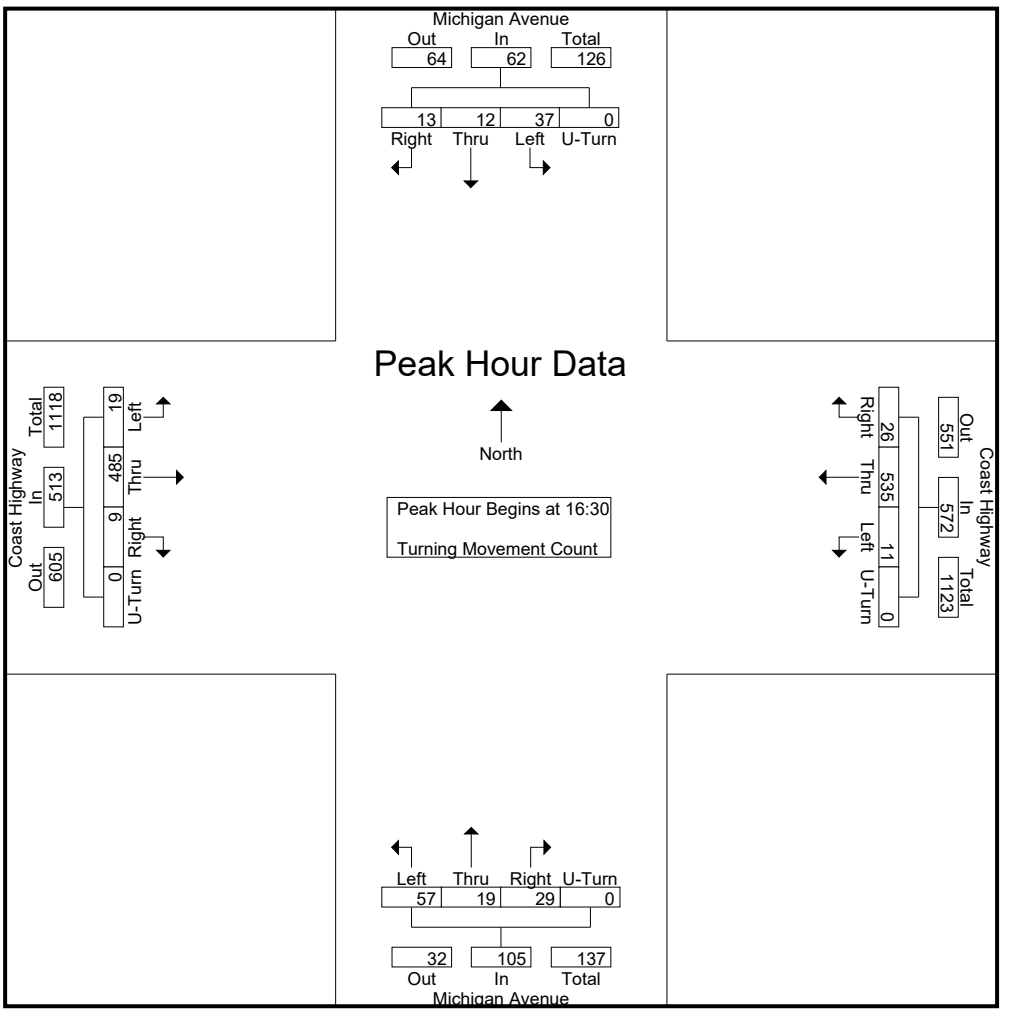


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Michigan Ave
E-W Direction:Coast Hwy

File Name : H2211011
Site Code : 00000000
Start Date : 11/16/2022
Page No : 3

	Michigan Avenue Southbound					Coast Highway Westbound					Michigan Avenue Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	**6**				**18**	**10**		**3**													
16:45	**2**	**6**	7	0	15	4	124	2	0	130	**10**	**6**	15	0	**31**	**4**	**126**	7	0	**137**	313
17:00	3	1	10	0	14	7	**152**	3	0	**162**	6	5	10	0	21	0	125	3	0	128	**325**
17:15	2	2	**11**										**19**					**8**			
Total Volume	13	12	37	0	62	26	535	11	0	572	29	19	57	0	105	9	485	19	0	513	1252
% App. Total	21	19.4	59.7	0		4.5	93.5	1.9	0		27.6	18.1	54.3	0		1.8	94.5	3.7	0		
PHF	.542	.500	.841	.000	.861	.650	.880	.917	.000	.883	.725	.792	.750	.000	.847	.563	.962	.594	.000	.936	.963



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Missouri St
E-W Direction:Cleveland St

File Name : H2211015
Site Code : 00000000
Start Date : 11/16/2022

Groups Printed- Turning Movement Count

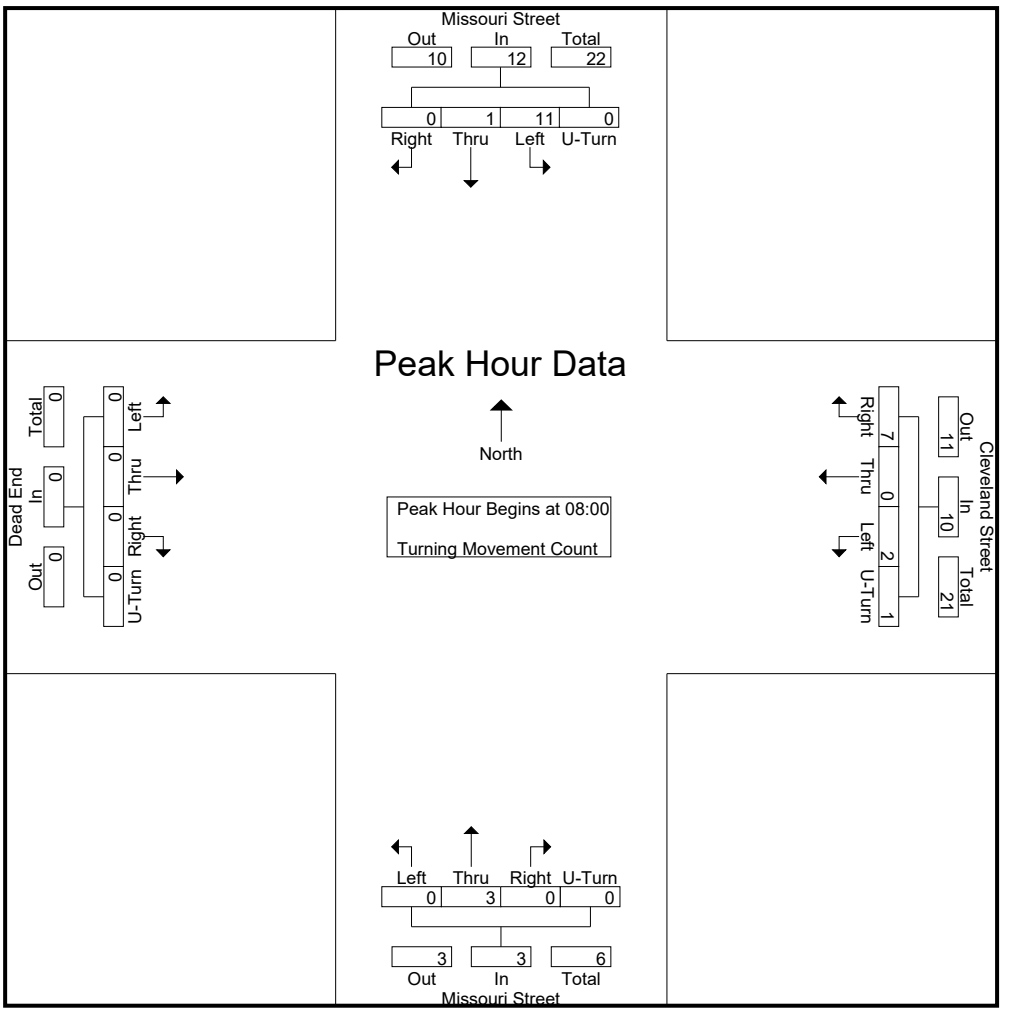
	Missouri Street Southbound				Cleveland Street Westbound				Missouri Street Northbound				Dead End Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
07:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	3
07:45	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Total	0	2	3	0	0	0	0	0	0	4	0	0	0	0	0	0	9
08:00	0	0	3	0	2	0	1	0	0	0	0	0	0	0	0	0	6
08:15	0	0	2	0	2	0	0	1	0	1	0	0	0	0	0	0	6
08:30	0	1	4	0	3	0	0	0	0	1	0	0	0	0	0	0	9
08:45	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	4
Total	0	1	11	0	7	0	2	1	0	3	0	0	0	0	0	0	25
*** BREAK ***																	
16:00	0	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0	4
16:15	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3
16:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
16:45	0	0	1	0	0	0	0	1	0	2	0	0	0	0	0	0	4
Total	0	3	3	0	3	0	0	1	0	5	0	0	0	0	0	0	15
17:00	0	0	3	0	2	0	1	0	1	1	0	0	0	0	0	0	8
17:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	2	0	2	0	0	0	1	0	0	0	0	0	0	0	5
17:45	0	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	9	0	7	0	1	0	2	1	0	0	0	0	0	0	20
Grand Total	0	6	26	0	17	0	3	2	2	13	0	0	0	0	0	0	69
Apprch %	0	18.8	81.2	0	77.3	0	13.6	9.1	13.3	86.7	0	0	0	0	0	0	
Total %	0	8.7	37.7	0	24.6	0	4.3	2.9	2.9	18.8	0	0	0	0	0	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Missouri St
E-W Direction:Cleveland St

File Name : H2211015
Site Code : 00000000
Start Date : 11/16/2022

	Missouri Street Southbound					Cleveland Street Westbound					Missouri Street Northbound					Dead End Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	3	0	3	2	0	**1**		**3**	0	0	0	0	0	0	0	0	0	0	6
08:15	0	0	2	0	2	2	0	0	**1**			**1**	0	0	**1**	0	0	0	0	0	6
08:30	0	**1**	**4**		**5**	**3**															**9**
08:45	0	0	2	0	2	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	4
Total Volume	0	1	11	0	12	7	0	2	1	10	0	3	0	0	3	0	0	0	0	0	25
% App. Total	0	8.3	91.7	0		70	0	20	10		0	100	0	0		0	0	0	0		
PHF	.000	.250	.688	.000	.600	.583	.000	.500	.250	.833	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.694

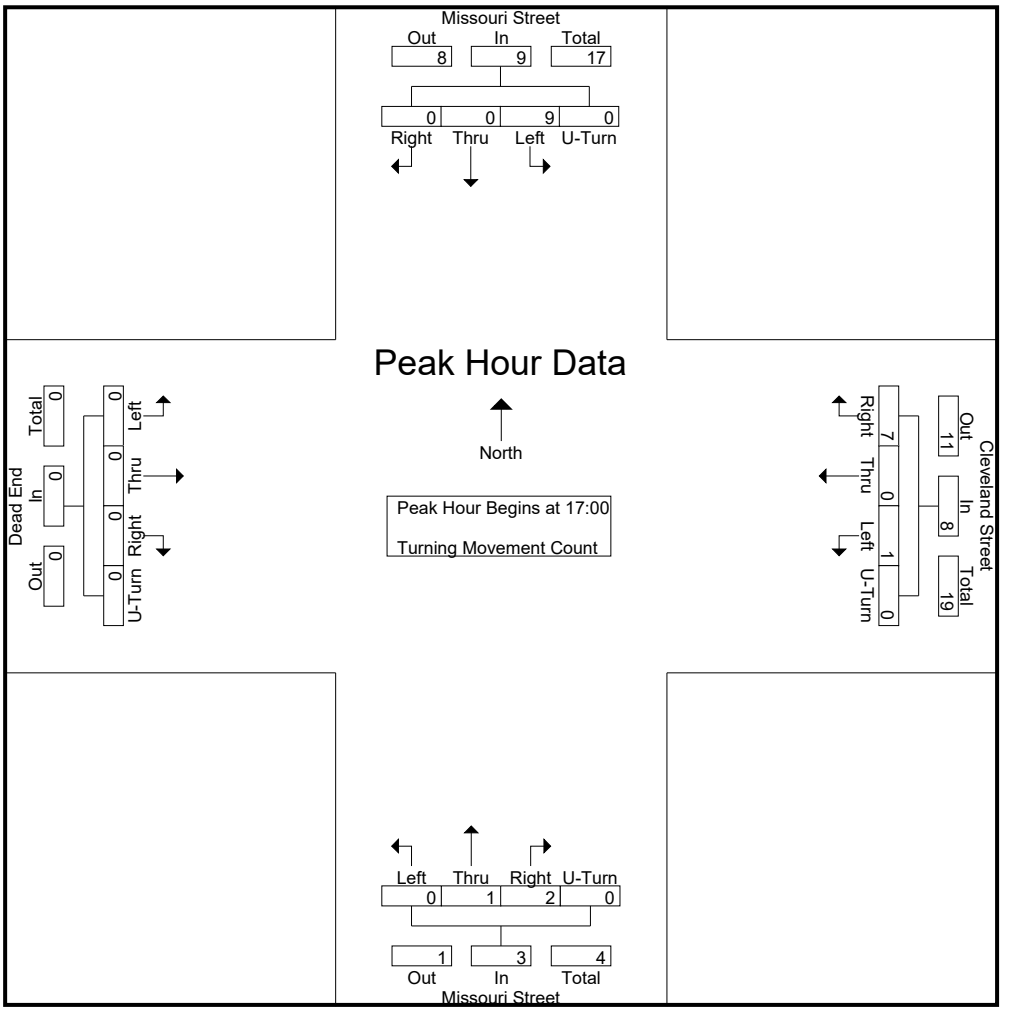


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction :Missouri St
E-W Direction:Cleveland St

File Name : H2211015
Site Code : 00000000
Start Date : 11/16/2022
Page No : 3

	Missouri Street Southbound					Cleveland Street Westbound					Missouri Street Northbound					Dead End Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	**3**		**3**	**2**		**1**		**3**	**1**	**1**	0	0	**2**	0	0	0	0	0	**8**
17:15	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
17:30	0	0	2	0	2	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	5
17:45	0	0	3	0	3	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
Total Volume	0	0	9	0	9	7	0	1	0	8	2	1	0	0	3	0	0	0	0	0	20
% App. Total	0	0	100	0		87.5	0	12.5	0		66.7	33.3	0	0		0	0	0	0		
PHF	.000	.000	.750	.000	.750	.875	.000	.250	.000	.667	.500	.250	.000	.000	.375	.000	.000	.000	.000	.000	.625



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Missouri St
E-W Direction:Tremont St

File Name : H2211014
Site Code : 00000000
Start Date : 11/16/2022
Page No : 1

Groups Printed- Turning Movement Count

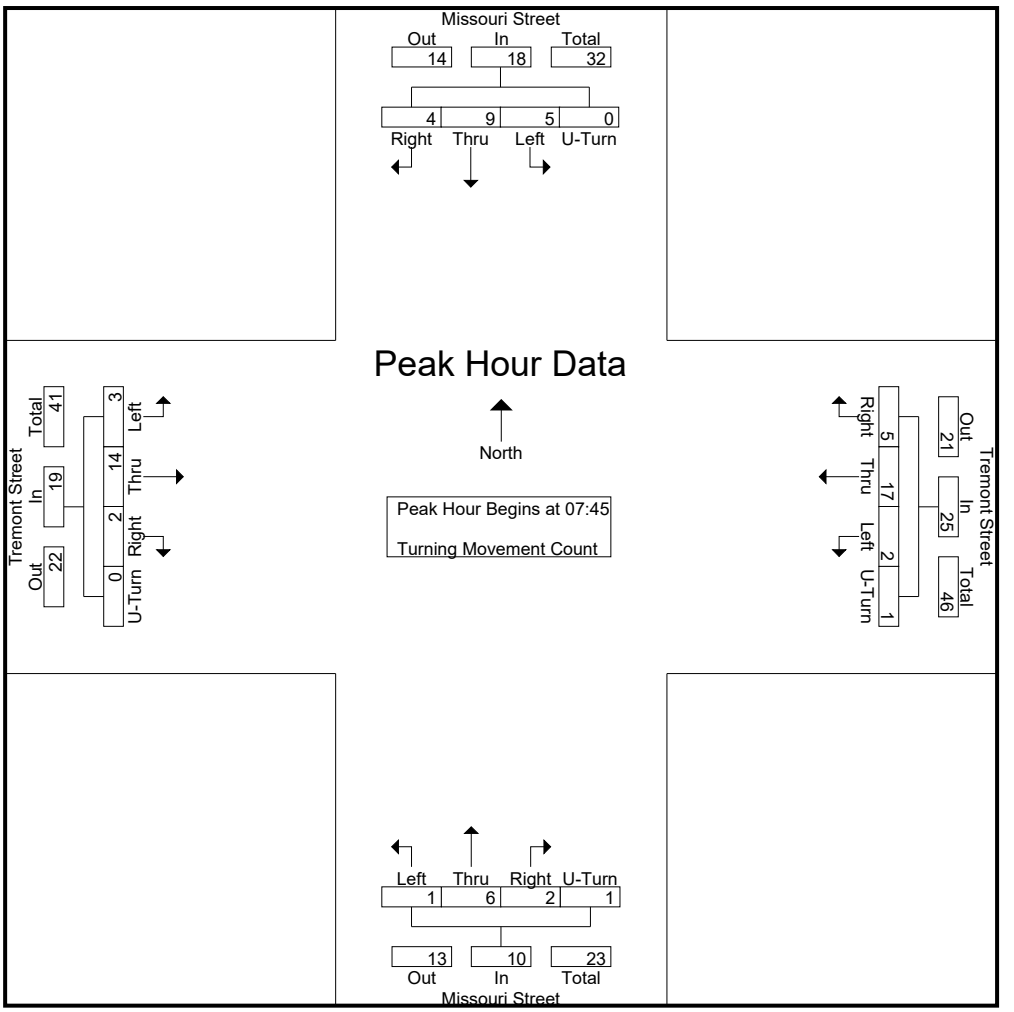
	Missouri Street Southbound				Tremont Street Westbound				Missouri Street Northbound				Tremont Street Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	0	2	0	0	0	3	0	0	0	2	1	0	1	1	0	0	10
07:15	0	3	0	0	1	2	0	0	0	0	1	0	0	0	0	0	7
07:30	1	1	0	0	0	9	0	0	0	0	2	0	1	0	0	0	14
07:45	1	1	0	0	1	7	1	0	0	0	0	0	0	2	2	0	15
Total	2	7	0	0	2	21	1	0	0	2	4	0	2	3	2	0	46
08:00	2	4	2	0	1	2	1	1	0	2	0	0	0	3	0	0	18
08:15	1	1	1	0	2	4	0	0	0	3	1	0	1	2	1	0	17
08:30	0	3	2	0	1	4	0	0	2	1	0	1	1	7	0	0	22
08:45	1	1	3	0	1	6	0	0	1	1	0	0	1	0	0	0	15
Total	4	9	8	0	5	16	1	1	3	7	1	1	3	12	1	0	72
*** BREAK ***																	
16:00	2	1	3	1	2	8	0	0	1	1	2	0	2	11	0	0	34
16:15	0	0	1	0	2	5	1	0	2	1	1	0	1	11	0	0	25
16:30	1	2	1	0	1	5	0	0	0	3	1	0	0	7	0	0	21
16:45	4	3	2	0	4	11	0	1	0	4	1	0	0	8	1	0	39
Total	7	6	7	1	9	29	1	1	3	9	5	0	3	37	1	0	119
17:00	2	2	1	0	4	13	1	0	1	2	0	0	0	4	2	0	32
17:15	2	3	1	1	2	12	0	0	1	3	0	0	0	7	0	0	32
17:30	0	2	0	0	4	9	0	0	1	0	1	0	0	2	1	0	20
17:45	0	4	1	1	8	7	2	0	0	3	1	0	1	9	1	0	38
Total	4	11	3	2	18	41	3	0	3	8	2	0	1	22	4	0	122
Grand Total	17	33	18	3	34	107	6	2	9	26	12	1	9	74	8	0	359
Apprch %	23.9	46.5	25.4	4.2	22.8	71.8	4	1.3	18.8	54.2	25	2.1	9.9	81.3	8.8	0	
Total %	4.7	9.2	5	0.8	9.5	29.8	1.7	0.6	2.5	7.2	3.3	0.3	2.5	20.6	2.2	0	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Missouri St
E-W Direction:Tremont St

File Name : H2211014
Site Code : 00000000
Start Date : 11/16/2022
Page No : 2

	Missouri Street Southbound					Tremont Street Westbound					Missouri Street Northbound					Tremont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	1	1	0	0	2	1	**7**	**1**		**9**	0	0	0	0	0	0	2	**2**			
08:00	**2**	**4**	**2**	**0**	**8**	1	2	1	**1**	**5**	**0**	**2**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**3**	**18**
08:15	**1**	**1**	**1**	**0**	**3**	**2**	**4**	**0**	**0**	**6**	**0**	**3**	**1**	**0**	**4**	**1**	**2**	**1**	**0**	**4**	**17**
08:30	**0**	**3**	**2**	**0**	**5**	**1**	**4**	**0**	**0**	**5**	**2**	**1**	**0**	**1**	**4**	**1**	**7**	0	0	**8**	**22**
Total Volume	4	9	5	0	18	5	17	2	1	25	2	6	1	1	10	2	14	3	0	19	72
% App. Total	22.2	50	27.8	0		20	68	8	4		20	60	10	10		10.5	73.7	15.8	0		
PHF	.500	.563	.625	.000	.563	.625	.607	.500	.250	.694	.250	.500	.250	.250	.625	.500	.500	.375	.000	.594	.818

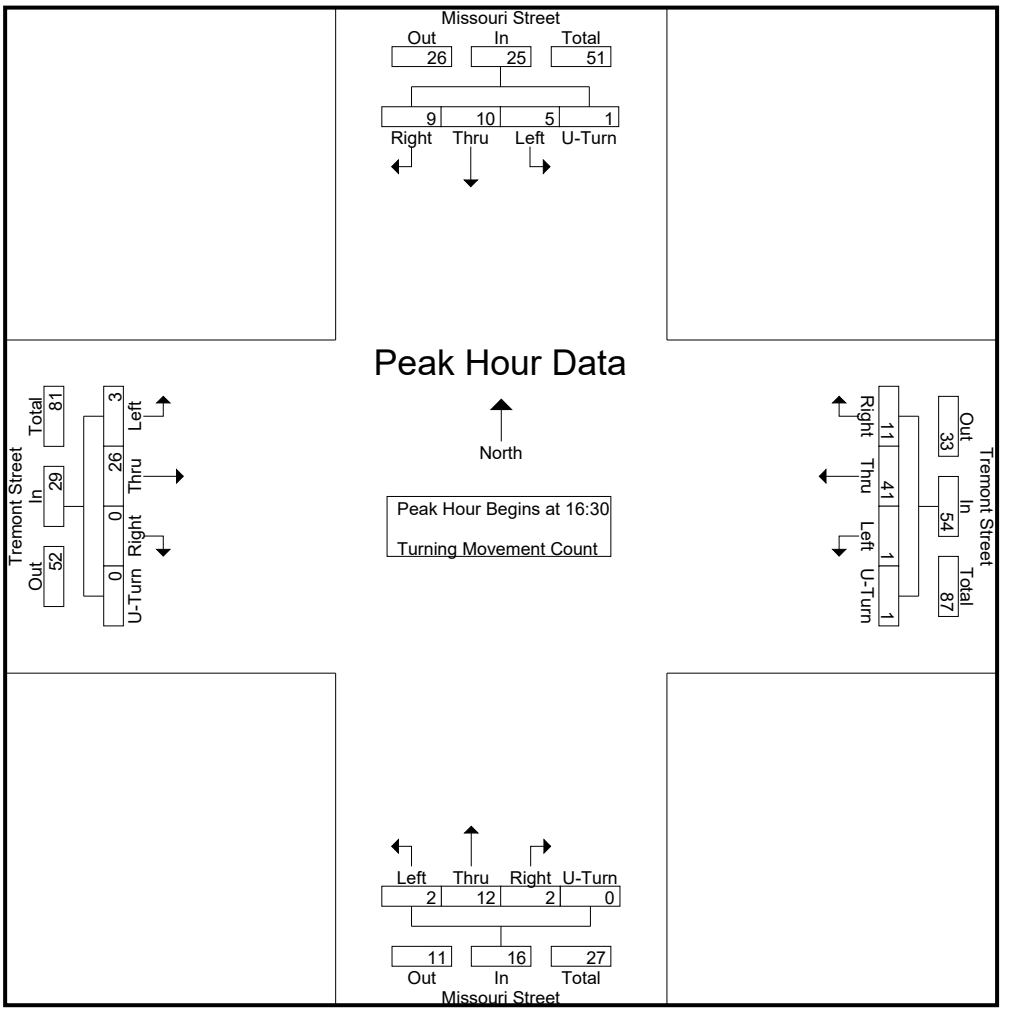


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Missouri St
E-W Direction:Tremont St

File Name : H2211014
Site Code : 00000000
Start Date : 11/16/2022
Page No : 3

	Missouri Street Southbound					Tremont Street Westbound					Missouri Street Northbound					Tremont Street Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	1	2	1	0	4	1	5	0	0	6	0	3	**1**								
16:45	**4**	**3**	**2**	**0**	**9**	**4**	**11**	**0**	**1**	**16**	**0**	**4**	1	0	**5**	0	**8**	1	0	**9**	**39**
17:00	2	2	1	0	5	4	**13**	**1**		**18**	**1**							**2**			
17:15	**2**	**3**	**1**	**1**	**7**	**2**	**12**	**0**	**0**	**14**	**1**	**3**	**0**	**0**	**4**	**0**	**7**	**0**	**0**	**7**	**32**
Total Volume	9	10	5	1	25	11	41	1	1	54	2	12	2	0	16	0	26	3	0	29	124
% App. Total	36	40	20	4		20.4	75.9	1.9	1.9		12.5	75	12.5	0		0	89.7	10.3	0		
PHF	.563	.833	.625	.250	.694	.688	.788	.250	.250	.750	.500	.750	.500	.000	.800	.000	.813	.375	.000	.806	.795



Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Missouri St
E-W Direction: Coast Hwy

File Name : H2211013
Site Code : 00000000
Start Date : 11/16/2022
Page No : 1

Groups Printed- Turning Movement Count

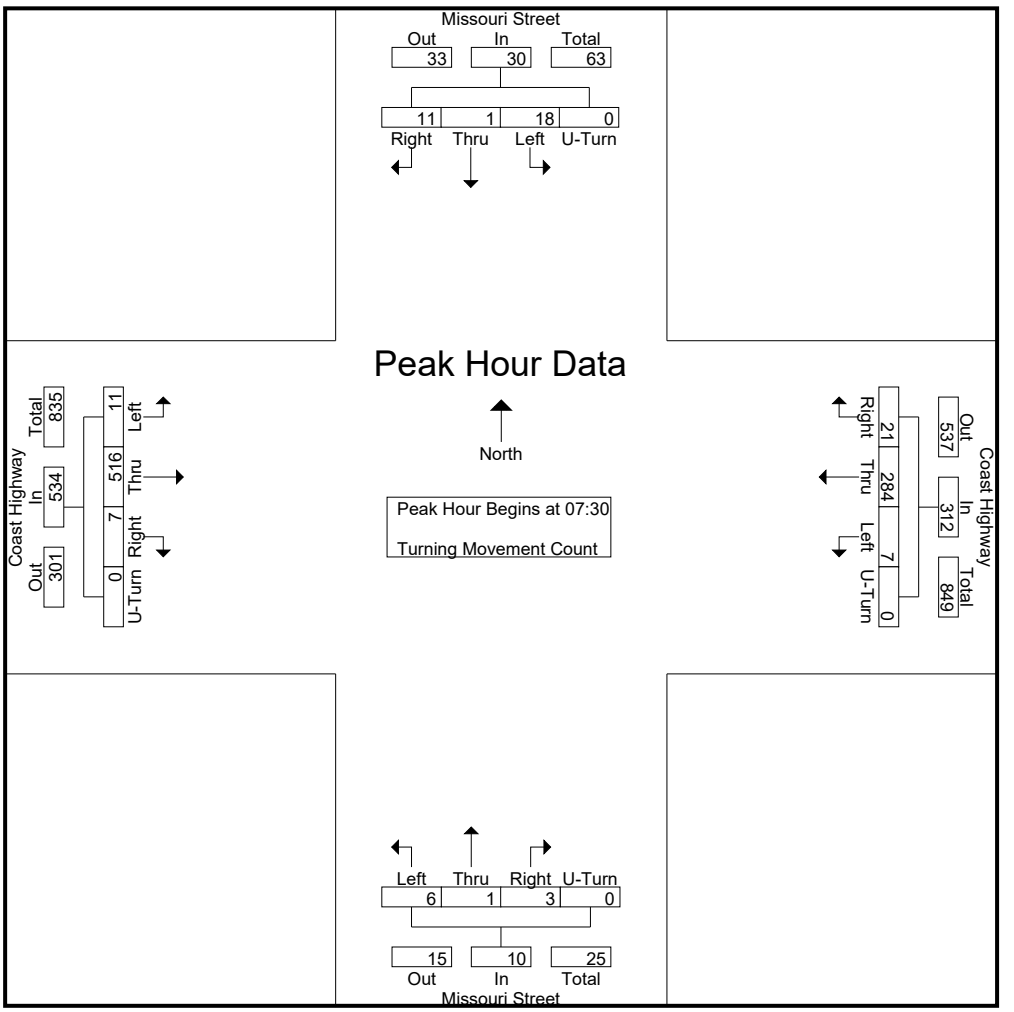
	Missouri Street Southbound				Coast Highway Westbound				Missouri Street Northbound				Coast Highway Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00	2	0	1	0	1	53	1	0	1	0	1	0	1	55	0	0	116
07:15	2	0	2	0	1	58	3	0	1	0	1	0	0	68	0	0	136
07:30	1	0	3	0	2	50	2	0	0	0	0	0	0	116	1	0	175
07:45	4	0	4	0	4	77	1	0	1	0	2	0	1	147	6	0	247
Total	9	0	10	0	8	238	7	0	3	0	4	0	2	386	7	0	674
08:00	4	1	7	0	5	69	3	0	1	0	2	0	4	136	3	0	235
08:15	2	0	4	0	10	88	1	0	1	1	2	0	2	117	1	0	229
08:30	3	1	1	0	5	62	1	0	1	0	1	0	6	78	0	0	159
08:45	0	2	3	0	3	80	1	0	2	0	0	0	3	85	2	1	182
Total	9	4	15	0	23	299	6	0	5	1	5	0	15	416	6	1	805
*** BREAK ***																	
16:00	3	0	3	0	4	131	2	0	2	0	1	0	5	127	1	0	279
16:15	2	0	1	0	5	103	2	1	4	1	0	0	2	113	3	0	237
16:30	1	0	1	0	3	135	2	1	4	0	3	0	2	124	0	0	276
16:45	4	1	1	0	8	135	2	0	10	0	1	0	4	133	5	0	304
Total	10	1	6	0	20	504	8	2	20	1	5	0	13	497	9	0	1096
17:00	3	1	3	0	11	160	2	0	4	2	2	0	2	136	2	0	328
17:15	3	0	4	0	5	140	4	0	5	1	0	0	3	135	4	0	304
17:30	9	0	1	0	3	131	1	1	5	1	5	0	2	102	9	1	271
17:45	7	1	3	0	17	120	4	0	10	0	4	0	1	92	4	1	264
Total	22	2	11	0	36	551	11	1	24	4	11	0	8	465	19	2	1167
Grand Total	50	7	42	0	87	1592	32	3	52	6	25	0	38	1764	41	3	3742
Apprch %	50.5	7.1	42.4	0	5.1	92.9	1.9	0.2	62.7	7.2	30.1	0	2.1	95.6	2.2	0.2	
Total %	1.3	0.2	1.1	0	2.3	42.5	0.9	0.1	1.4	0.2	0.7	0	1	47.1	1.1	0.1	

Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Missouri St
E-W Direction: Coast Hwy

File Name : H2211013
Site Code : 00000000
Start Date : 11/16/2022

	Missouri Street Southbound					Coast Highway Westbound					Missouri Street Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	1	0	3	0	4	2	50	2	0	54	0	0	0	0	0	0	116	1	0	117	175
07:45	**4**										**1**		**2**				**147**	**6**		**154**	**247**
08:00	4	**1**	**7**		**12**	5	69	**3**								**4**					
08:15	**2**	**0**	**4**	**0**	**6**	**10**	**88**	1	0	**99**	1	**1**	2	0	**4**	2	117	1	0	120	229
Total Volume	11	1	18	0	30	21	284	7	0	312	3	1	6	0	10	7	516	11	0	534	886
% App. Total	36.7	3.3	60	0		6.7	91	2.2	0		30	10	60	0		1.3	96.6	2.1	0		
PHF	.688	.250	.643	.000	.625	.525	.807	.583	.000	.788	.750	.250	.750	.000	.625	.438	.878	.458	.000	.867	.897

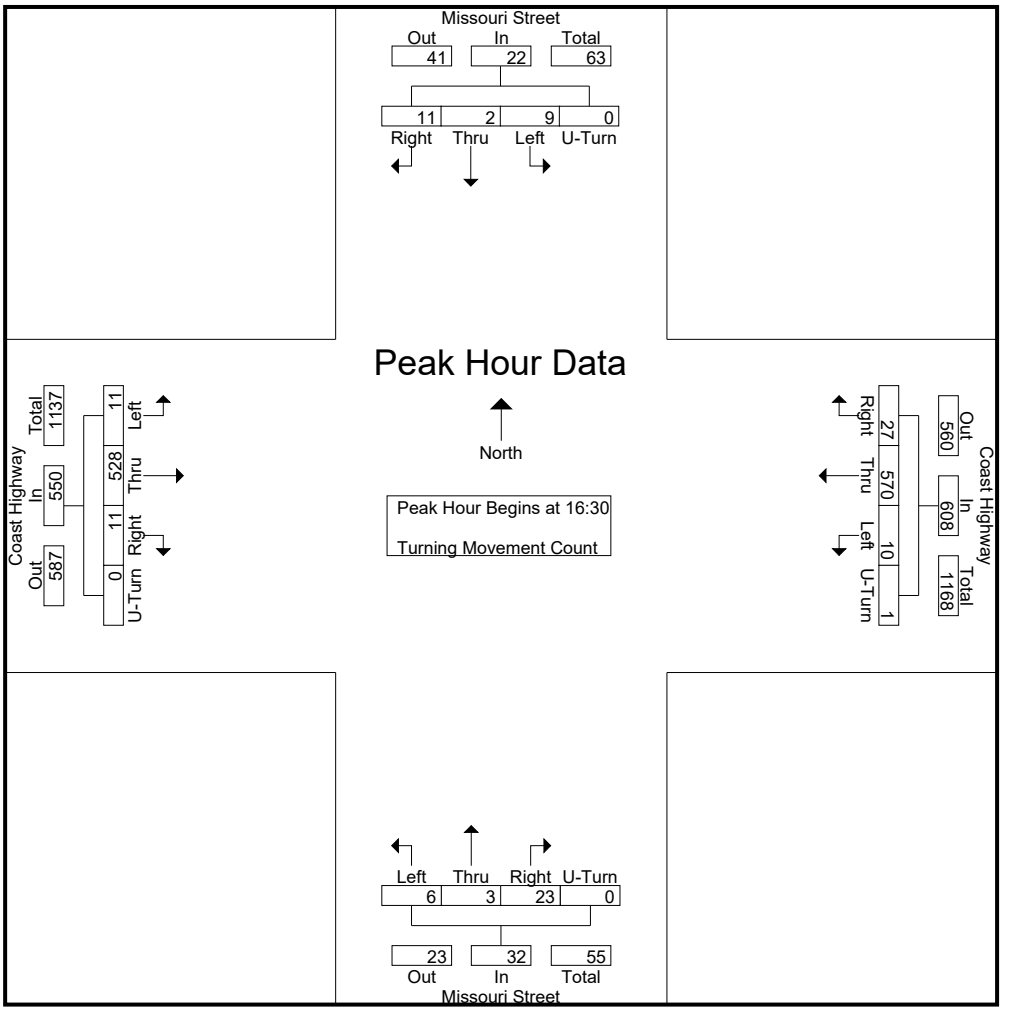


Transportation Studies, Inc
2640 Walnut Avenue, Suite L
Tustin, CA. 92780

City : Oceanside
N-S Direction : Missouri St
E-W Direction: Coast Hwy

File Name : H2211013
Site Code : 00000000
Start Date : 11/16/2022
Page No : 3

	Missouri Street Southbound					Coast Highway Westbound					Missouri Street Northbound					Coast Highway Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	1	0	1	0	2	3	135	2	**1**				**3**								
16:45	**4**	**1**	1	0	6	8	135	2	0	145	**10**	**0**	**1**	**0**	**11**	**4**	**133**	**5**	**0**	**142**	304
17:00	3	1	3	0	**7**	**11**	**160**	2	0	**173**	4	**2**	2	0	8	2	**136**	2	0	140	**328**
17:15	3	0	**4**					**4**													
Total Volume	11	2	9	0	22	27	570	10	1	608	23	3	6	0	32	11	528	11	0	550	1212
% App. Total	50	9.1	40.9	0		4.4	93.8	1.6	0.2		71.9	9.4	18.8	0		2	96	2	0		
PHF	.688	.500	.563	.000	.786	.614	.891	.625	.250	.879	.575	.375	.500	.000	.727	.688	.971	.550	.000	.968	.924



INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 2, 23

LOCATION: Oceanside
NORTH & SOUTH: Coast Hwy
EAST & WEST: SR-76

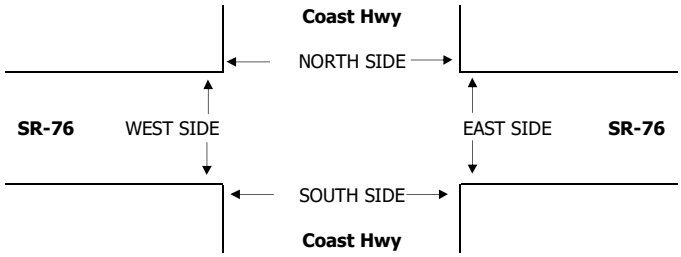
PROJECT #: SC3990
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

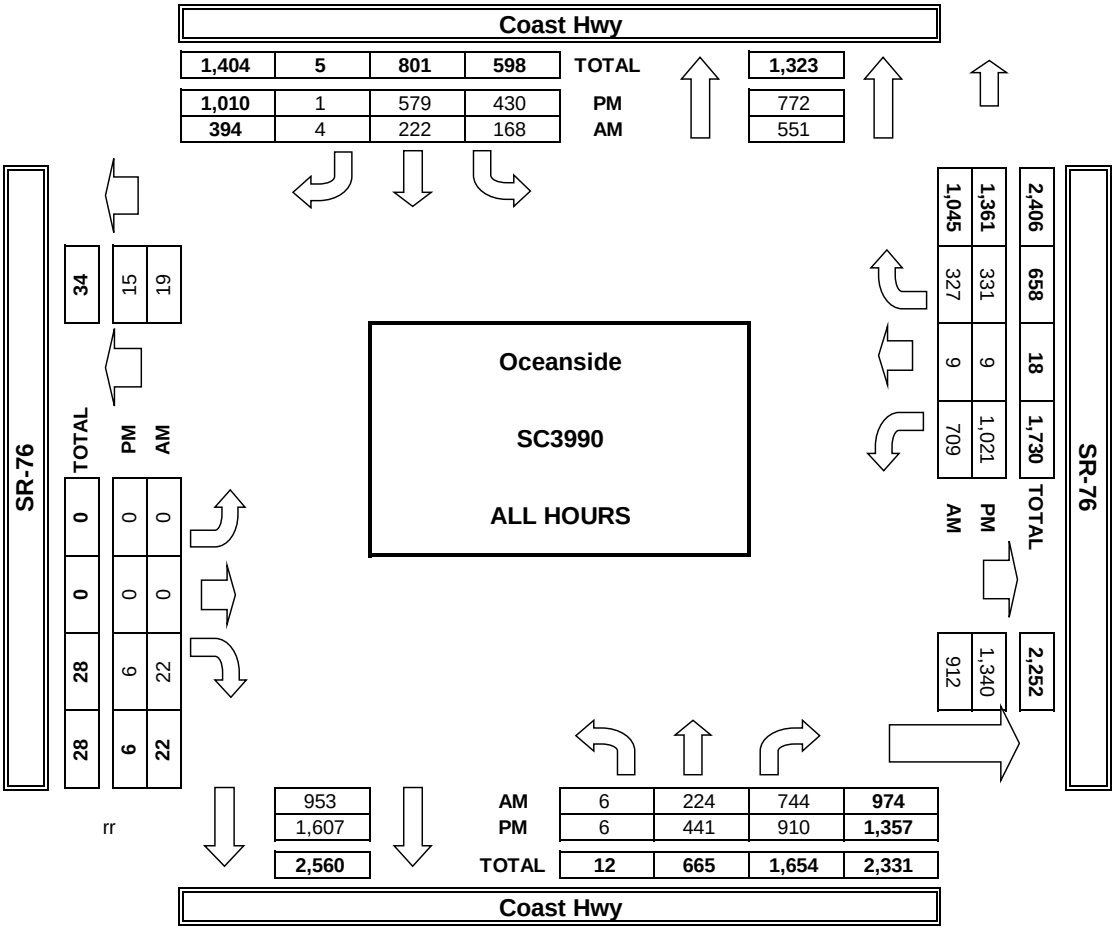
☑ Add U-Turns to Left Turns

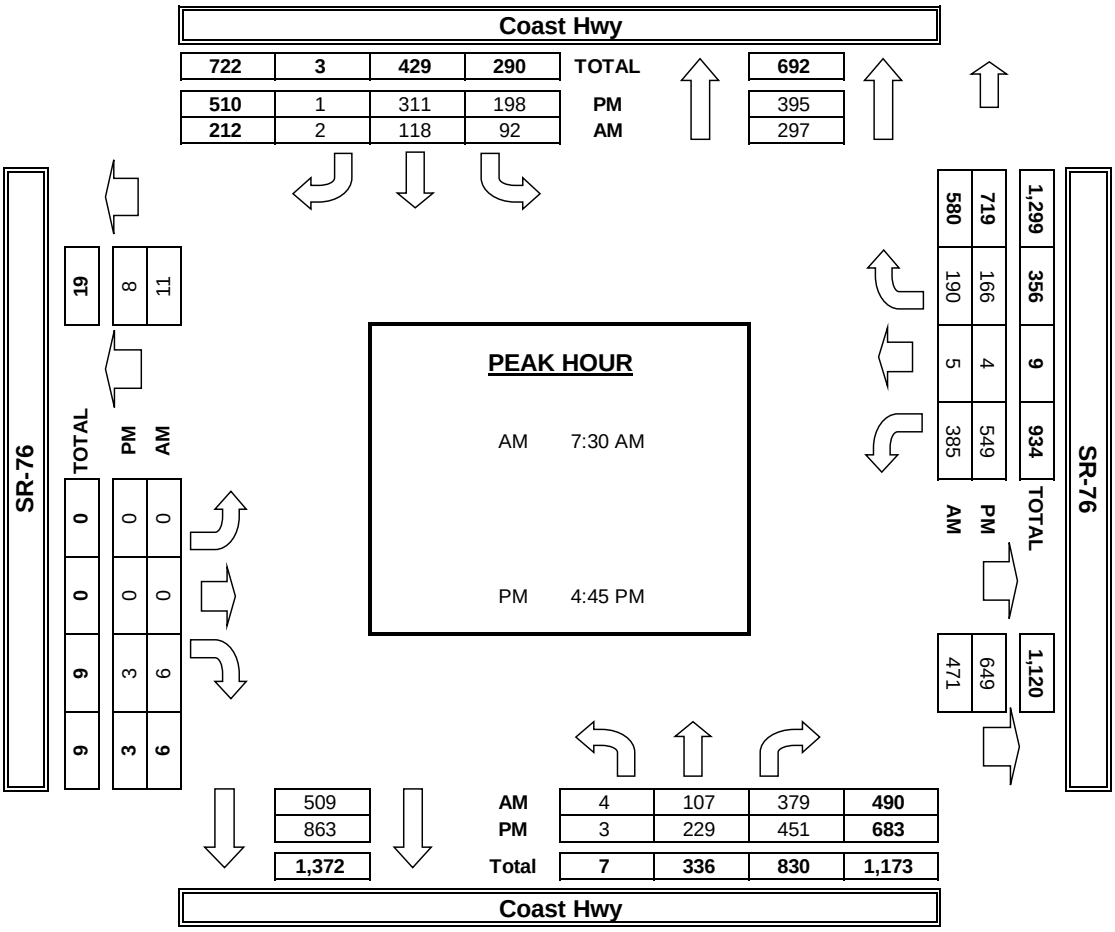
		NORTHBOUND Coast Hwy			SOUTHBOUND Coast Hwy			EASTBOUND SR-76			WESTBOUND SR-76				U-TURNS				
	LANES:	NL 0	NT 2	NR 0	SL 0	ST 2	SR 0	EL X	ET X	ER 0	WL 2	WT 0	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	22	94	15	13	0	0	0	1	74	1	46	266	0	0	0	0	0
	7:15 AM	0	41	85	22	24	0	0	0	2	68	0	42	284	0	0	0	0	0
	7:30 AM	1	29	108	21	23	0	0	0	2	75	0	54	313	0	0	0	0	0
	7:45 AM	0	34	73	22	30	1	0	0	1	121	0	50	332	0	0	0	0	0
	8:00 AM	1	21	97	23	45	1	0	0	2	76	5	43	314	0	0	0	0	0
	8:15 AM	2	23	101	26	20	0	0	0	1	113	0	43	329	0	0	0	0	0
	8:30 AM	1	28	101	17	33	1	0	0	5	86	1	24	297	0	0	0	0	0
	8:45 AM	1	26	85	22	34	1	0	0	8	96	2	25	300	0	0	0	0	0
	VOLUMES	6	224	744	168	222	4	0	0	22	709	9	327	2,435	0	0	0	0	0
	APPROACH %	1%	23%	76%	43%	56%	1%	0%	0%	100%	68%	1%	31%						
	APP/DEPART	974	/	551	394	/	953	22	/	912	1,045	/	19	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	4	107	379	92	118	2	0	0	6	385	5	190	1,288					
	APPROACH %	1%	22%	77%	43%	56%	1%	0%	0%	100%	66%	1%	33%						
	PEAK HR FACTOR		0.888			0.768			0.750			0.848		0.970					
	APP/DEPART	490	/	297	212	/	509	6	/	471	580	/	11	0					
PM	4:00 PM	2	44	112	63	63	0	0	0	1	96	0	43	424	1	0	0	0	1
	4:15 PM	0	61	120	55	55	0	0	0	1	136	2	39	469	0	0	0	0	0
	4:30 PM	0	39	114	72	85	0	0	0	0	112	1	37	460	0	0	0	0	0
	4:45 PM	0	54	100	60	83	0	0	0	0	149	1	46	493	0	0	0	0	0
	5:00 PM	2	65	127	50	68	0	0	0	0	123	1	42	478	0	0	0	0	0
	5:15 PM	1	48	104	44	81	1	0	0	0	140	2	43	464	0	0	0	0	0
	5:30 PM	0	62	120	44	79	0	0	0	3	137	0	35	480	0	0	0	0	0
	5:45 PM	1	68	113	42	65	0	0	0	1	128	2	46	466	0	0	0	0	0
	VOLUMES	6	441	910	430	579	1	0	0	6	1,021	9	331	3,734	1	0	0	0	1
	APPROACH %	0%	32%	67%	43%	57%	0%	0%	0%	100%	75%	1%	24%						
	APP/DEPART	1,357	/	772	1,010	/	1,607	6	/	1,340	1,361	/	15	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	3	229	451	198	311	1	0	0	3	549	4	166	1,915					
	APPROACH %	0%	34%	66%	39%	61%	0%	0%	0%	100%	76%	1%	23%						
	PEAK HR FACTOR		0.880			0.892			0.250			0.917		0.971					
	APP/DEPART	683	/	395	510	/	863	3	/	649	719	/	8	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 2, 23

LOCATION: Oceanside
NORTH & SOUTH: I-5 SB ON Ramp
EAST & WEST: Mission

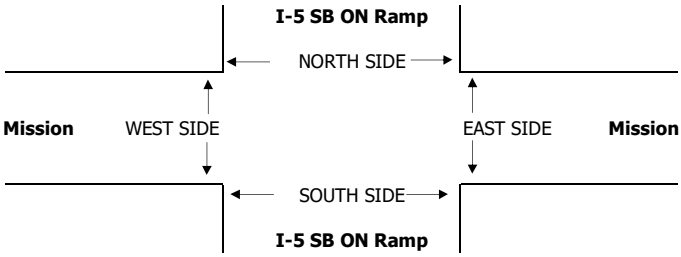
PROJECT #: SC3990
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

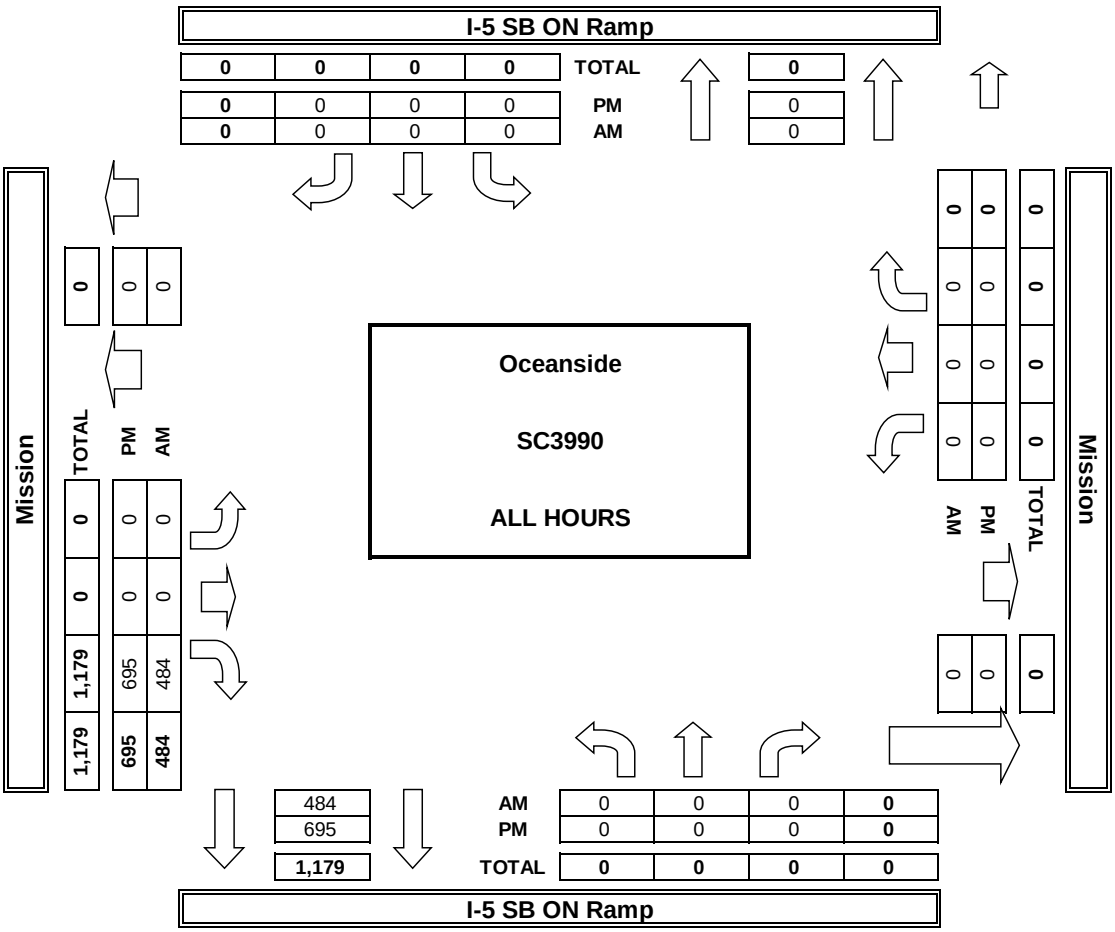
☑ Add U-Turns to Left Turns

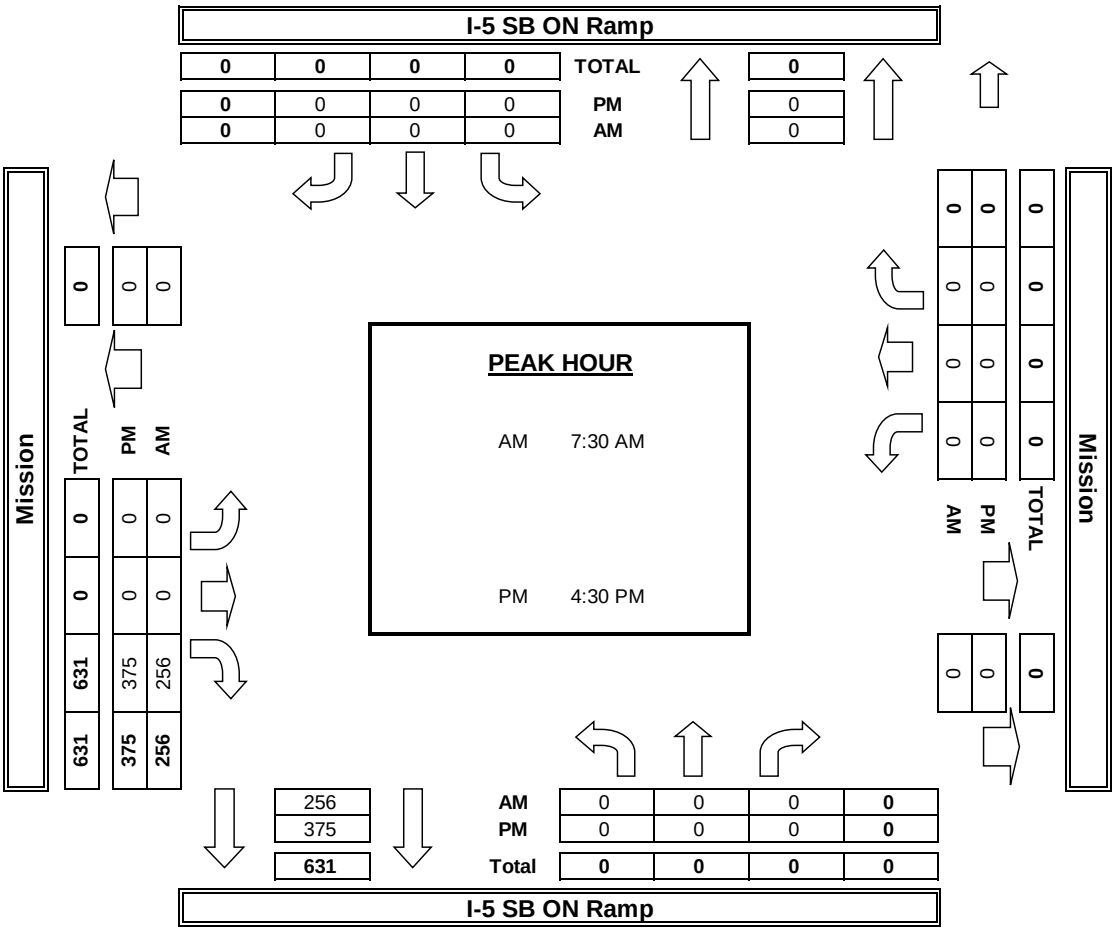
		NORTHBOUND I-5 SB ON Ramp			SOUTHBOUND I-5 SB ON Ramp			EASTBOUND Mission			WESTBOUND Mission				U-TURNS				
	LANES:	NL X	NT X	NR X	SL X	ST X	SR X	EL X	ET 2	ER 0	WL X	WT 2	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	0	0	0	0	0	54	0	0	0	54	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	64	0	0	0	64	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	77	0	0	0	77	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	41	0	0	0	41	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	58	0	0	0	58	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	80	0	0	0	80	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	57	0	0	0	57	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	53	0	0	0	53	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	484	0	0	0	484	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	484	484	/	0	0	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	0	0	0	0	0	256	0	0	0	256					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.800			0.000		0.800					
	APP/DEPART	0	/	0	0	/	256	256	/	0	0	/	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	101	0	0	0	101	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	69	0	0	0	69	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	82	0	0	0	82	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	94	0	0	0	94	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	96	0	0	0	96	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	103	0	0	0	103	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	73	0	0	0	73	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	77	0	0	0	77	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	0	0	695	0	0	0	695	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	695	695	/	0	0	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	0	0	0	0	0	0	0	375	0	0	0	375					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.910			0.000		0.910					
	APP/DEPART	0	/	0	0	/	375	375	/	0	0	/	0	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 2, 23

LOCATION: Oceanside
NORTH & SOUTH: I-5 SB Ramps
EAST & WEST: Mission

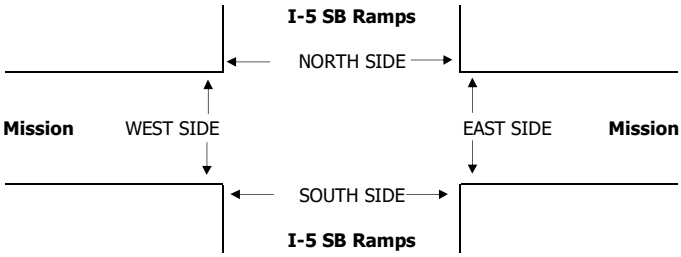
PROJECT #: SC3990
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

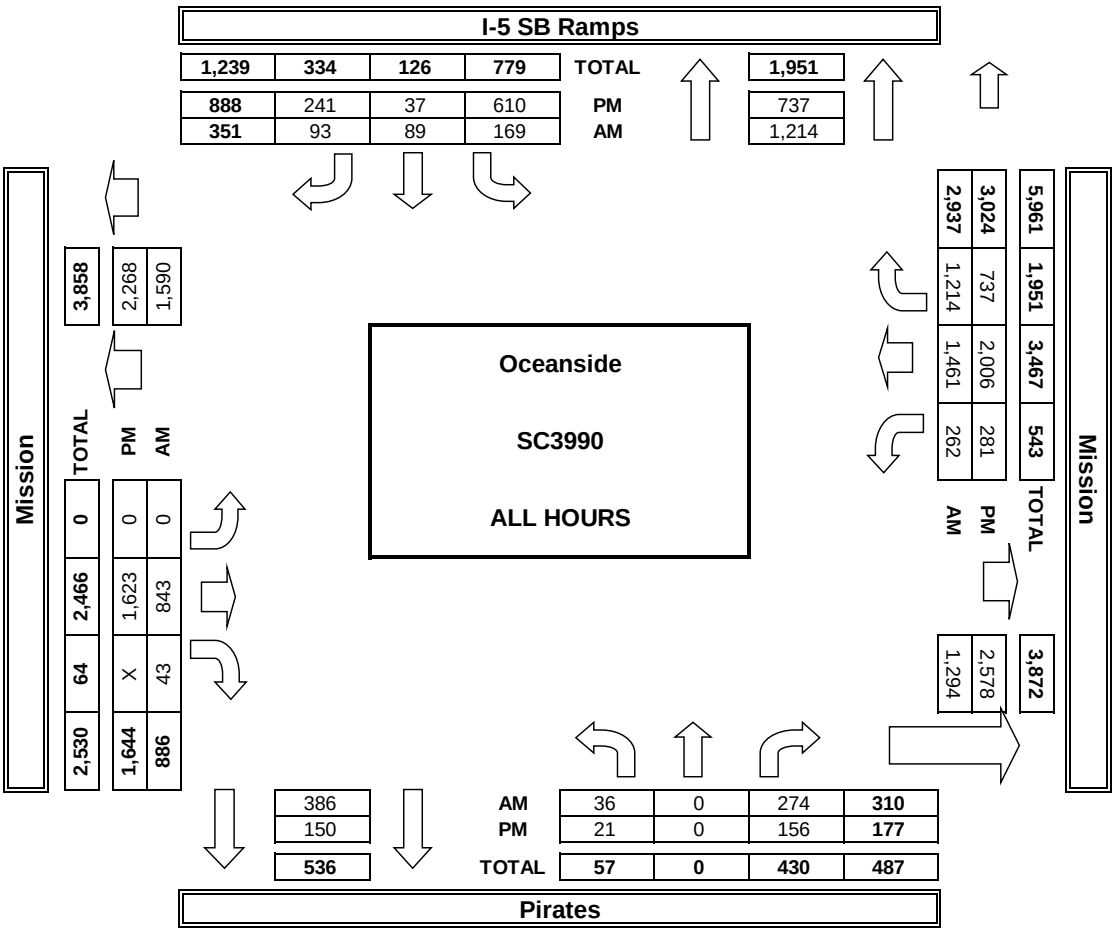
☑ Add U-Turns to Left Turns

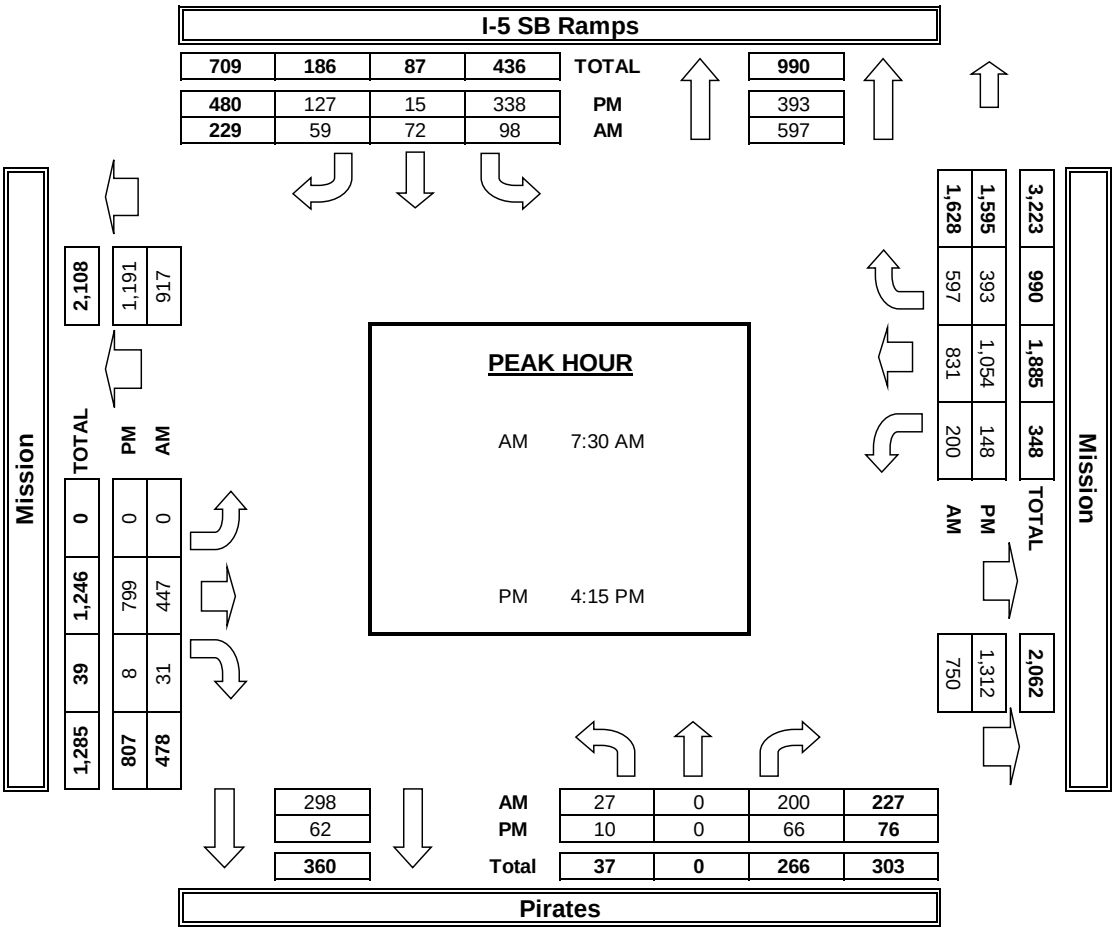
		NORTHBOUND (Pirates)			SOUTHBOUND (I-5 SB Ramps)			EASTBOUND (Mission)			WESTBOUND (Mission)				U-TURNS				
	LANES:	NL 0	NT X	NR 0	SL 1.5	ST 0.5	SR 1	EL X	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	4	9	2	7	0	70	3	7	111	194	407	0	0	0	1	1
	7:15 AM	1	0	17	18	4	9	0	97	2	26	128	190	492	0	0	0	1	1
	7:30 AM	4	0	25	10	7	11	0	110	3	31	159	178	538	0	0	0	3	3
	7:45 AM	5	0	30	35	8	13	0	94	5	53	227	149	619	0	0	0	1	1
	8:00 AM	7	0	69	27	23	18	0	92	5	68	200	137	646	0	0	0	1	1
	8:15 AM	11	0	76	26	34	17	0	151	18	48	245	133	759	0	0	0	0	0
	8:30 AM	7	0	40	23	11	5	0	121	5	23	175	107	517	0	0	0	1	1
	8:45 AM	1	0	13	21	0	13	0	108	2	6	216	126	506	0	0	0	0	0
	VOLUMES	36	0	274	169	89	93	0	843	43	262	1,461	1,214	4,484	0	0	0	8	8
	APPROACH %	12%	0%	88%	48%	25%	26%	0%	95%	5%	9%	50%	41%						
	APP/DEPART	310	/	1,214	351	/	386	886	/	1,294	2,937	/	1,590	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	27	0	200	98	72	59	0	447	31	200	831	597	2,562					
	APPROACH %	12%	0%	88%	43%	31%	26%	0%	94%	6%	12%	51%	37%						
	PEAK HR FACTOR		0.652			0.744			0.707			0.949		0.844					
	APP/DEPART	227	/	597	229	/	298	478	/	750	1,628	/	917	0					
PM	4:00 PM	2	0	34	90	2	22	0	205	3	28	235	85	706	0	0	0	19	19
	4:15 PM	1	0	19	77	1	30	0	168	2	35	258	98	689	0	0	0	30	30
	4:30 PM	4	0	16	93	3	25	0	190	2	29	255	97	714	0	0	0	22	22
	4:45 PM	0	0	14	98	4	40	0	211	2	54	254	85	762	0	0	0	34	34
	5:00 PM	5	0	17	70	7	32	0	230	2	30	287	113	793	0	0	0	23	23
	5:15 PM	2	0	7	60	4	23	0	216	2	31	248	93	686	0	0	0	27	27
	5:30 PM	3	0	18	58	9	39	0	212	3	32	263	79	716	0	0	0	21	21
	5:45 PM	4	0	31	64	7	30	0	191	5	42	206	87	667	0	0	0	13	13
	VOLUMES	21	0	156	610	37	241	0	1,623	21	281	2,006	737	5,733	0	0	0	189	189
	APPROACH %	12%	0%	88%	69%	4%	27%	0%	99%	1%	9%	66%	24%						
	APP/DEPART	177	/	737	888	/	150	1,644	/	2,578	3,024	/	2,268	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	10	0	66	338	15	127	0	799	8	148	1,054	393	2,958					
	APPROACH %	13%	0%	87%	70%	3%	26%	0%	99%	1%	9%	66%	25%						
	PEAK HR FACTOR		0.864			0.845			0.870			0.927		0.933					
	APP/DEPART	76	/	393	480	/	62	807	/	1,312	1,595	/	1,191	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Oceanside	PROJECT #:	SC3990
Tue, May 2, 23	NORTH & SOUTH:	I-5 NB Ramps	LOCATION #:	3
	EAST & WEST:	Mission	CONTROL:	SIGNAL

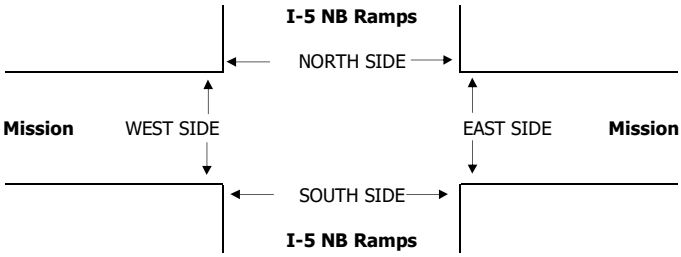
NOTES:

Queue EB PM

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

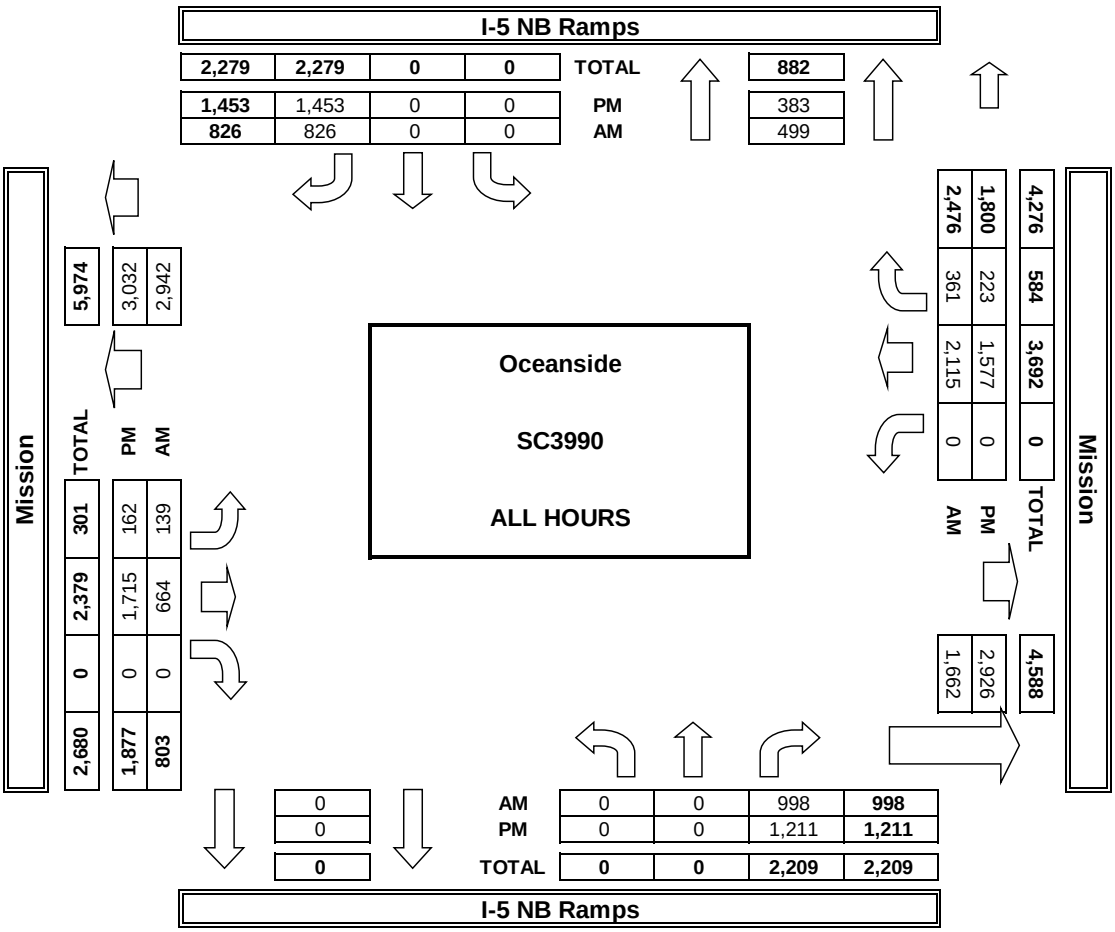
☑ Add U-Turns to Left Turns

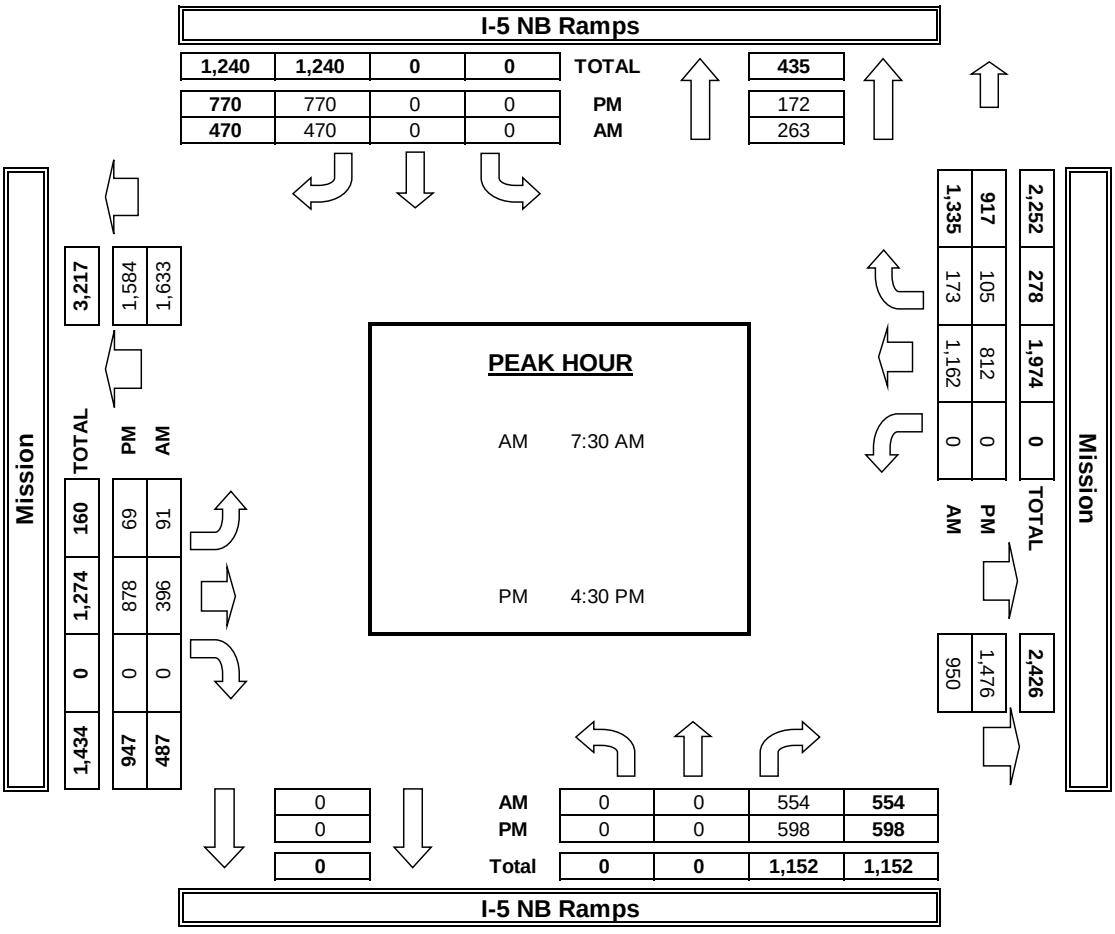
		NORTHBOUND (I-5 NB Ramps)			SOUTHBOUND (I-5 NB Ramps)			EASTBOUND (Mission)			WESTBOUND (Mission)				U-TURNS				
	LANES:	NL X	NT X	NR 1	SL X	ST X	SR 1	EL 1	ET 2	ER X	WL X	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	77	0	0	56	8	22	0	0	256	51	470	0	0	0	0	0
	7:15 AM	0	0	96	0	0	80	12	57	0	0	264	58	567	0	0	0	0	0
	7:30 AM	0	0	127	0	0	81	13	58	0	0	287	56	622	0	0	0	0	0
	7:45 AM	0	0	143	0	0	144	12	100	0	0	290	40	729	0	0	0	0	0
	8:00 AM	0	0	158	0	0	120	27	104	0	0	284	38	731	0	0	1	0	1
	8:15 AM	0	0	126	0	0	125	39	134	0	0	301	39	764	0	0	0	0	0
	8:30 AM	0	0	133	0	0	98	17	111	0	0	207	36	602	0	0	0	0	0
	8:45 AM	0	0	138	0	0	122	11	78	0	0	226	43	618	0	0	0	0	0
	VOLUMES	0	0	998	0	0	826	139	664	0	0	2,115	361	5,103	0	0	1	0	1
	APPROACH %	0%	0%	100%	0%	0%	100%	17%	83%	0%	0%	85%	15%						
	APP/DEPART	998	/	499	826	/	0	803	/	1,662	2,476	/	2,942	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	554	0	0	470	91	396	0	0	1,162	173	2,846					
	APPROACH %	0%	0%	100%	0%	0%	100%	19%	81%	0%	0%	87%	13%						
	PEAK HR FACTOR		0.877			0.816			0.704			0.973		0.931					
	APP/DEPART	554	/	263	470	/	0	487	/	950	1,335	/	1,633	0					
PM	4:00 PM	0	0	170	0	0	178	22	225	0	0	170	31	796	0	0	0	0	0
	4:15 PM	0	0	122	0	0	185	21	204	0	0	206	31	769	0	0	0	0	0
	4:30 PM	0	0	188	0	0	181	15	224	0	0	200	30	838	0	0	0	0	0
	4:45 PM	0	0	125	0	0	196	17	246	0	0	205	22	811	0	0	0	0	0
	5:00 PM	0	0	112	0	0	206	18	220	0	0	223	23	802	0	0	1	0	1
	5:15 PM	0	0	173	0	0	187	19	188	0	0	184	30	781	0	0	1	0	1
	5:30 PM	0	0	163	0	0	156	21	215	0	0	218	30	803	0	0	0	0	0
	5:45 PM	0	0	158	0	0	164	29	193	0	0	171	26	741	0	0	0	0	0
	VOLUMES	0	0	1,211	0	0	1,453	162	1,715	0	0	1,577	223	6,341	0	0	2	0	2
	APPROACH %	0%	0%	100%	0%	0%	100%	9%	91%	0%	0%	88%	12%						
	APP/DEPART	1,211	/	383	1,453	/	0	1,877	/	2,926	1,800	/	3,032	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	0	598	0	0	770	69	878	0	0	812	105	3,232					
	APPROACH %	0%	0%	100%	0%	0%	100%	7%	93%	0%	0%	89%	11%						
	PEAK HR FACTOR		0.795			0.934			0.900			0.932		0.964					
	APP/DEPART	598	/	172	770	/	0	947	/	1,476	917	/	1,584	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 2, 23

LOCATION: Oceanside
NORTH & SOUTH: Tremont
EAST & WEST: Wisconsin

PROJECT #: SC3990
LOCATION #: 4
CONTROL: STOP N/S

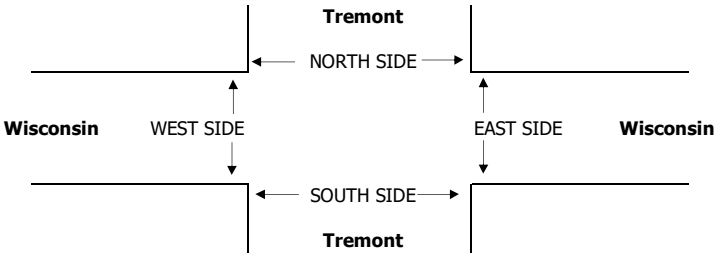
NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

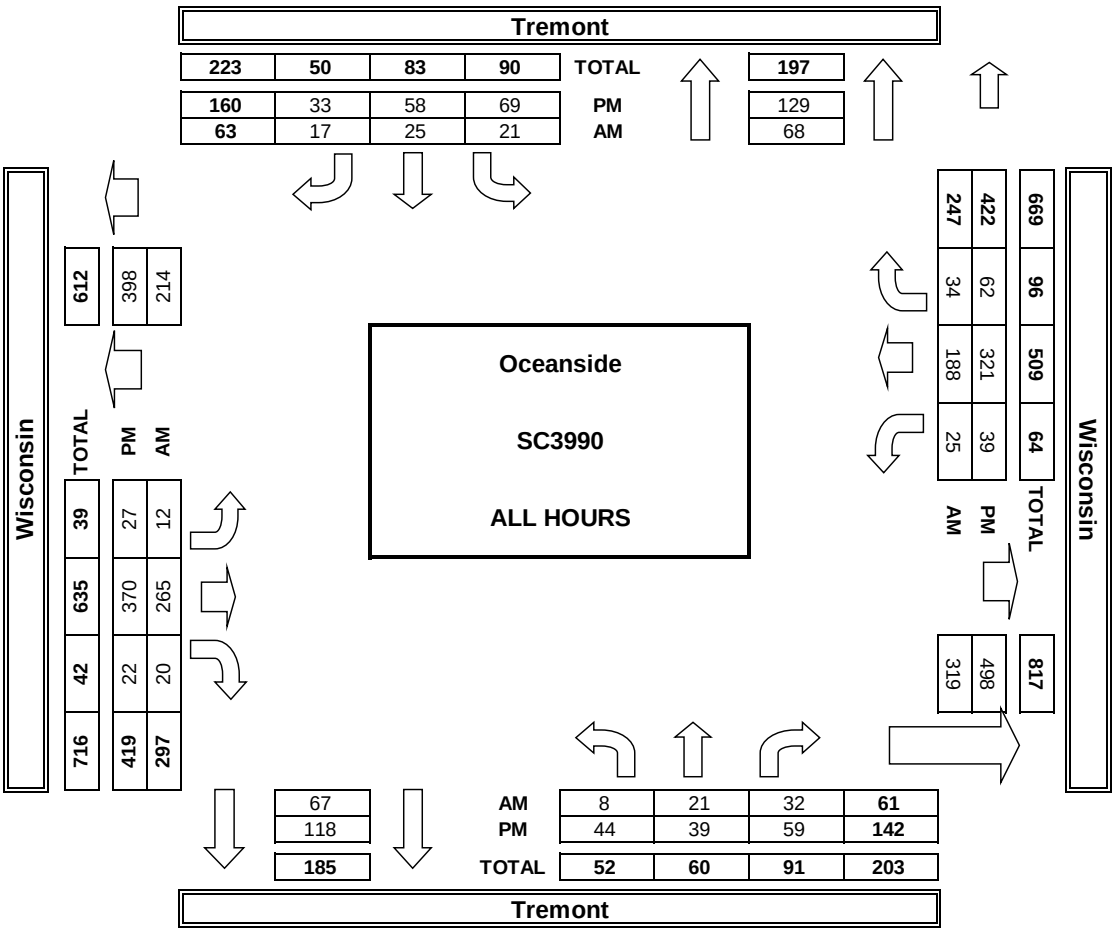
☑ Add U-Turns to Left Turns

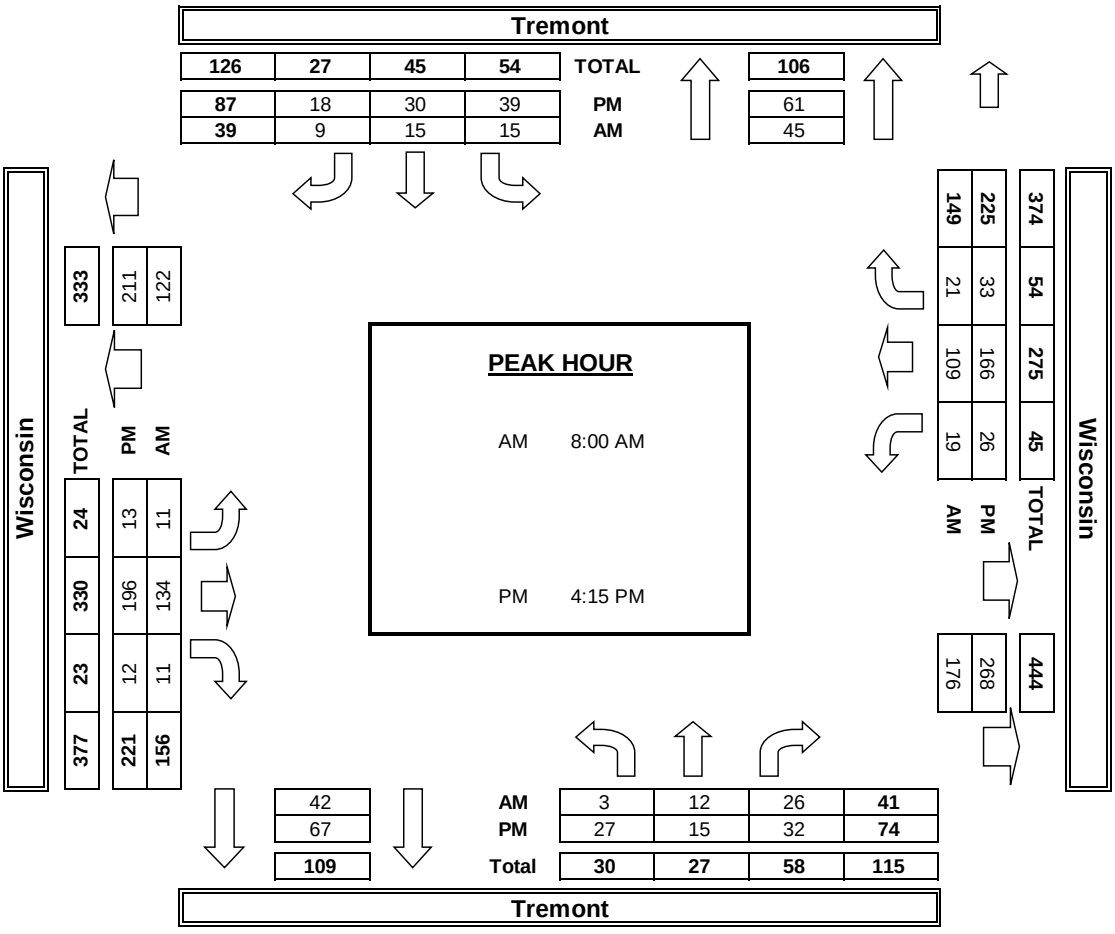
		NORTHBOUND Tremont			SOUTHBOUND Tremont			EASTBOUND Wisconsin			WESTBOUND Wisconsin				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	2	1	1	0	0	1	0	26	1	1	15	3	51	0	0	0	0	0
	7:15 AM	0	3	1	0	3	2	0	34	2	1	19	3	68	0	0	0	0	0
	7:30 AM	2	3	2	5	4	3	0	30	1	1	25	5	81	0	0	0	0	0
	7:45 AM	1	2	2	1	3	2	1	41	5	3	20	2	83	0	0	0	0	0
	8:00 AM	3	1	9	5	4	2	3	30	3	2	22	4	88	0	0	1	0	1
	8:15 AM	0	4	6	0	3	2	2	38	2	4	34	5	100	0	0	0	0	0
	8:30 AM	0	3	6	7	4	1	2	35	3	4	31	5	101	0	1	0	0	1
	8:45 AM	0	4	5	3	4	4	4	31	3	9	22	7	96	0	1	0	3	4
	VOLUMES	8	21	32	21	25	17	12	265	20	25	188	34	668	0	2	1	3	6
	APPROACH %	13%	34%	52%	33%	40%	27%	4%	89%	7%	10%	76%	14%						
	APP/DEPART	61	/	68	63	/	67	297	/	319	247	/	214	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	3	12	26	15	15	9	11	134	11	19	109	21	385					
	APPROACH %	7%	29%	63%	38%	38%	23%	7%	86%	7%	13%	73%	14%						
	PEAK HR FACTOR		0.788			0.813			0.929			0.866		0.953					
	APP/DEPART	41	/	45	39	/	42	156	/	176	149	/	122	0					
PM	4:00 PM	2	6	6	7	6	4	4	47	1	1	34	11	129	0	1	0	0	1
	4:15 PM	11	1	7	9	6	4	4	45	3	3	52	10	155	0	0	0	0	0
	4:30 PM	4	2	2	9	12	6	4	50	2	5	37	6	139	0	0	0	0	0
	4:45 PM	3	7	6	12	7	2	2	49	1	11	32	9	141	0	0	0	0	0
	5:00 PM	9	5	17	9	5	6	3	52	6	7	45	8	172	0	0	0	1	1
	5:15 PM	4	6	6	7	7	4	5	39	2	6	48	4	138	0	0	0	0	0
	5:30 PM	7	6	6	9	12	4	5	52	3	2	38	5	149	0	0	0	0	0
	5:45 PM	4	6	9	7	3	3	0	36	4	4	35	9	120	0	0	0	0	0
	VOLUMES	44	39	59	69	58	33	27	370	22	39	321	62	1,143	0	1	0	1	2
	APPROACH %	31%	27%	42%	43%	36%	21%	6%	88%	5%	9%	76%	15%						
	APP/DEPART	142	/	129	160	/	118	419	/	498	422	/	398	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	27	15	32	39	30	18	13	196	12	26	166	33	607					
	APPROACH %	36%	20%	43%	45%	34%	21%	6%	89%	5%	12%	74%	15%						
	PEAK HR FACTOR		0.597			0.806			0.906			0.865		0.882					
	APP/DEPART	74	/	61	87	/	67	221	/	268	225	/	211	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

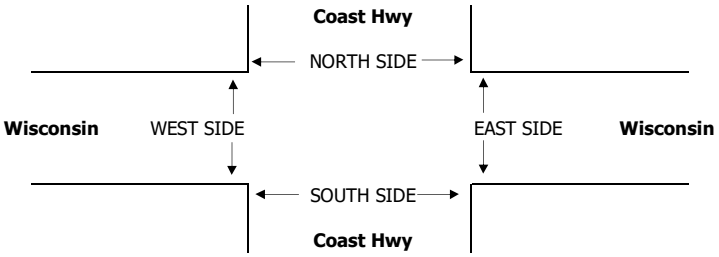
DATE:					
Thu, May 4, 23	LOCATION:	Oceanside	PROJECT #:	SC3990
	NORTH & SOUTH:	Coast Hwy	LOCATION #:	5
	EAST & WEST:	Wisconsin	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

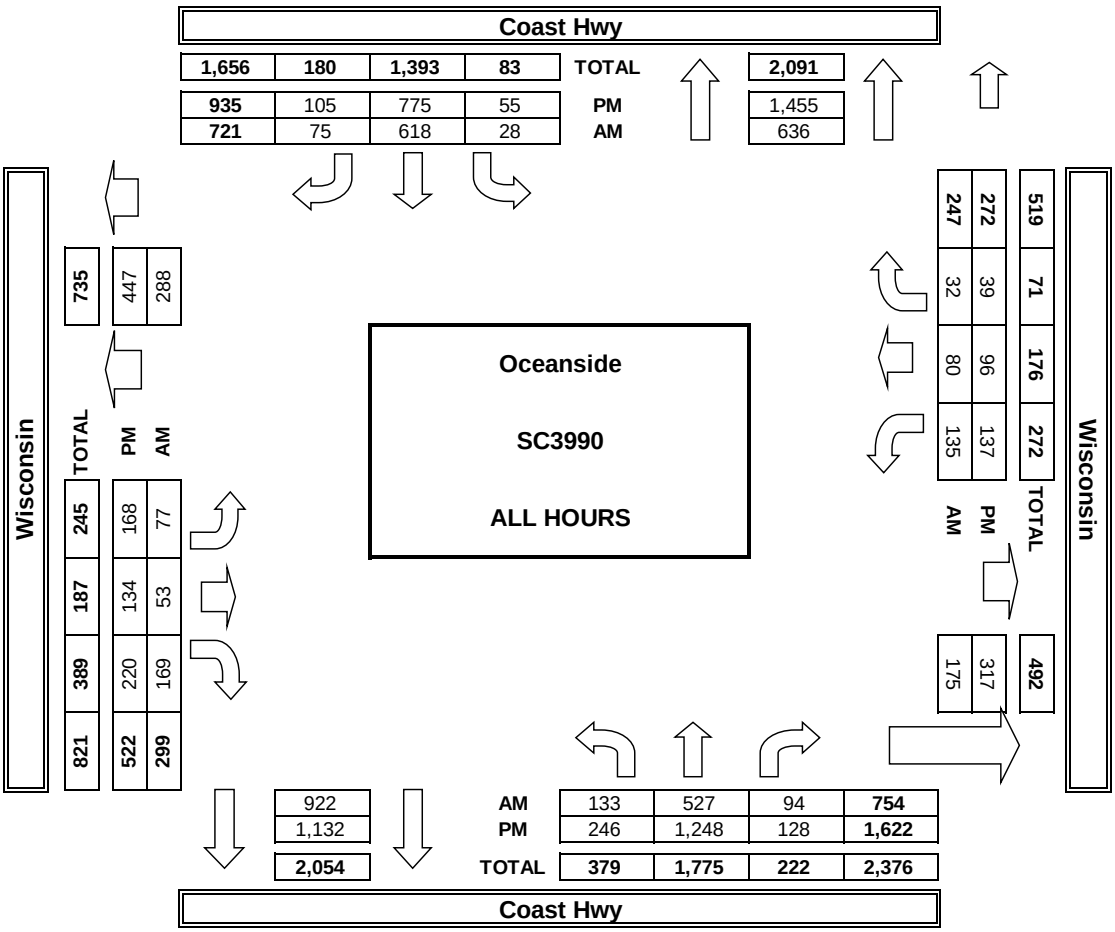
☑ Add U-Turns to Left Turns

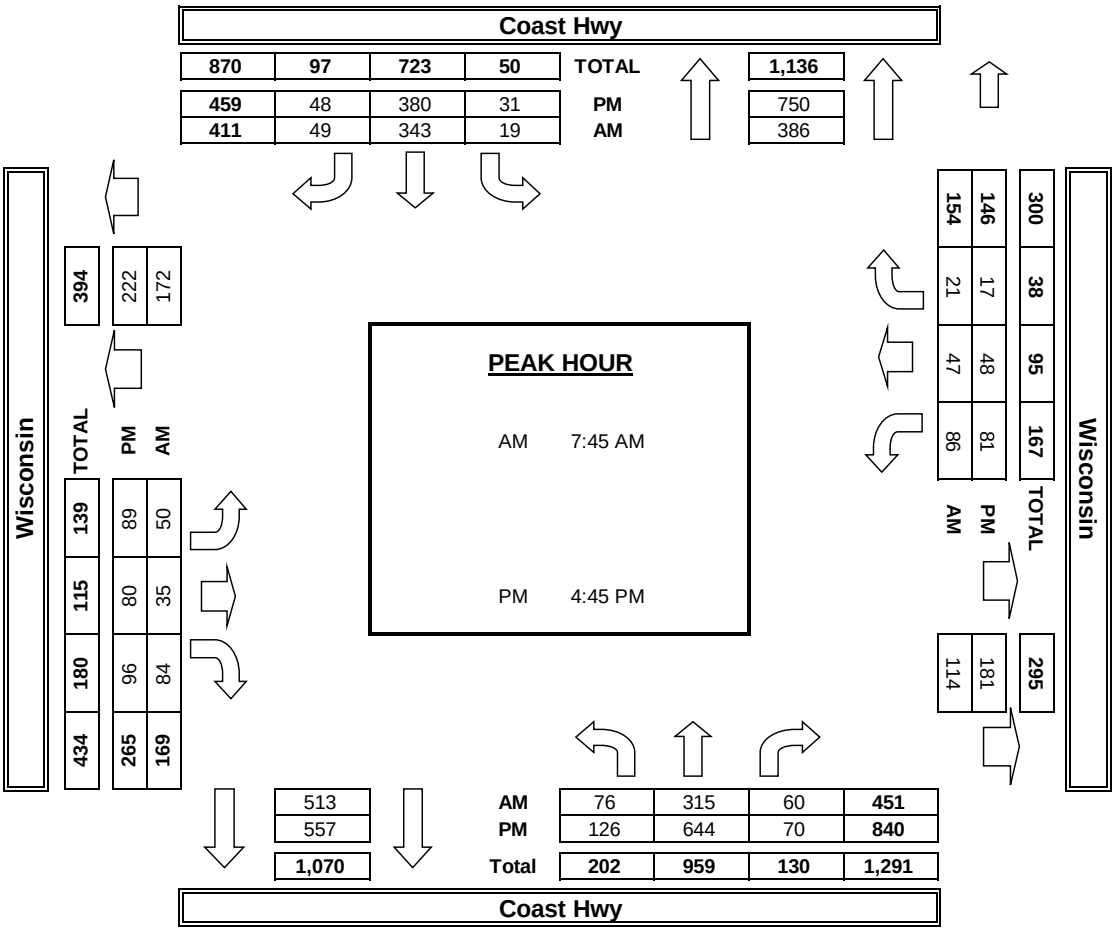
		NORTHBOUND Coast Hwy			SOUTHBOUND Coast Hwy			EASTBOUND Wisconsin			WESTBOUND Wisconsin				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	12	38	7	2	54	9	3	5	13	12	7	2	164	0	0	0	0	0
	7:15 AM	13	50	5	1	57	5	8	4	28	10	7	1	189	0	0	0	0	0
	7:30 AM	13	51	9	5	86	4	7	4	14	15	10	4	222	0	0	0	0	0
	7:45 AM	17	77	13	5	102	12	9	6	21	31	10	3	306	0	0	0	0	0
	8:00 AM	17	80	22	4	92	10	15	7	14	27	17	8	313	0	0	0	0	0
	8:15 AM	23	86	17	5	74	13	17	13	27	13	11	7	306	0	0	0	0	0
	8:30 AM	19	72	8	5	75	14	9	9	22	15	9	3	260	0	0	0	0	0
	8:45 AM	19	73	13	1	78	8	9	5	30	12	9	4	261	0	0	0	0	0
	VOLUMES	133	527	94	28	618	75	77	53	169	135	80	32	2,021	0	0	0	0	0
	APPROACH %	18%	70%	12%	4%	86%	10%	26%	18%	57%	55%	32%	13%						
	APP/DEPART	754	/	636	721	/	922	299	/	175	247	/	288	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	76	315	60	19	343	49	50	35	84	86	47	21	1,185					
	APPROACH %	17%	70%	13%	5%	83%	12%	30%	21%	50%	56%	31%	14%						
	PEAK HR FACTOR		0.895			0.863			0.741			0.740		0.946					
	APP/DEPART	451	/	386	411	/	513	169	/	114	154	/	172	0					
PM	4:00 PM	25	151	12	5	105	13	17	15	27	16	13	2	401	0	0	0	0	0
	4:15 PM	27	131	15	7	102	16	18	9	36	13	16	13	403	0	0	0	0	0
	4:30 PM	39	144	19	8	90	12	25	16	38	16	9	5	421	0	0	0	0	0
	4:45 PM	29	142	16	4	106	13	25	18	35	21	11	7	427	0	0	0	0	0
	5:00 PM	22	152	20	9	85	8	21	20	23	19	13	5	397	0	0	0	0	0
	5:15 PM	33	201	16	8	81	10	18	16	20	22	12	2	439	0	0	0	0	0
	5:30 PM	42	149	18	10	108	17	25	26	18	19	12	3	447	0	0	0	0	0
	5:45 PM	29	178	12	4	98	16	19	14	23	11	10	2	416	0	0	0	0	0
	VOLUMES	246	1,248	128	55	775	105	168	134	220	137	96	39	3,351	0	0	0	0	0
	APPROACH %	15%	77%	8%	6%	83%	11%	32%	26%	42%	50%	35%	14%						
	APP/DEPART	1,622	/	1,455	935	/	1,132	522	/	317	272	/	447	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	126	644	70	31	380	48	89	80	96	81	48	17	1,710					
	APPROACH %	15%	77%	8%	7%	83%	10%	34%	30%	36%	55%	33%	12%						
	PEAK HR FACTOR		0.840			0.850			0.849			0.936		0.956					
	APP/DEPART	840	/	750	459	/	557	265	/	181	146	/	222	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

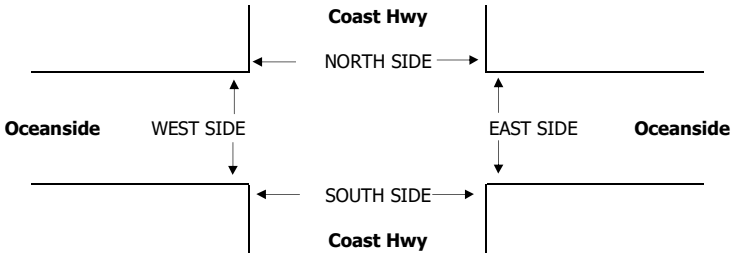
DATE:	LOCATION:	Oceanside	PROJECT #:	SC3990
Tue, May 2, 23	NORTH & SOUTH:	Coast Hwy	LOCATION #:	6
	EAST & WEST:	Oceanside	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

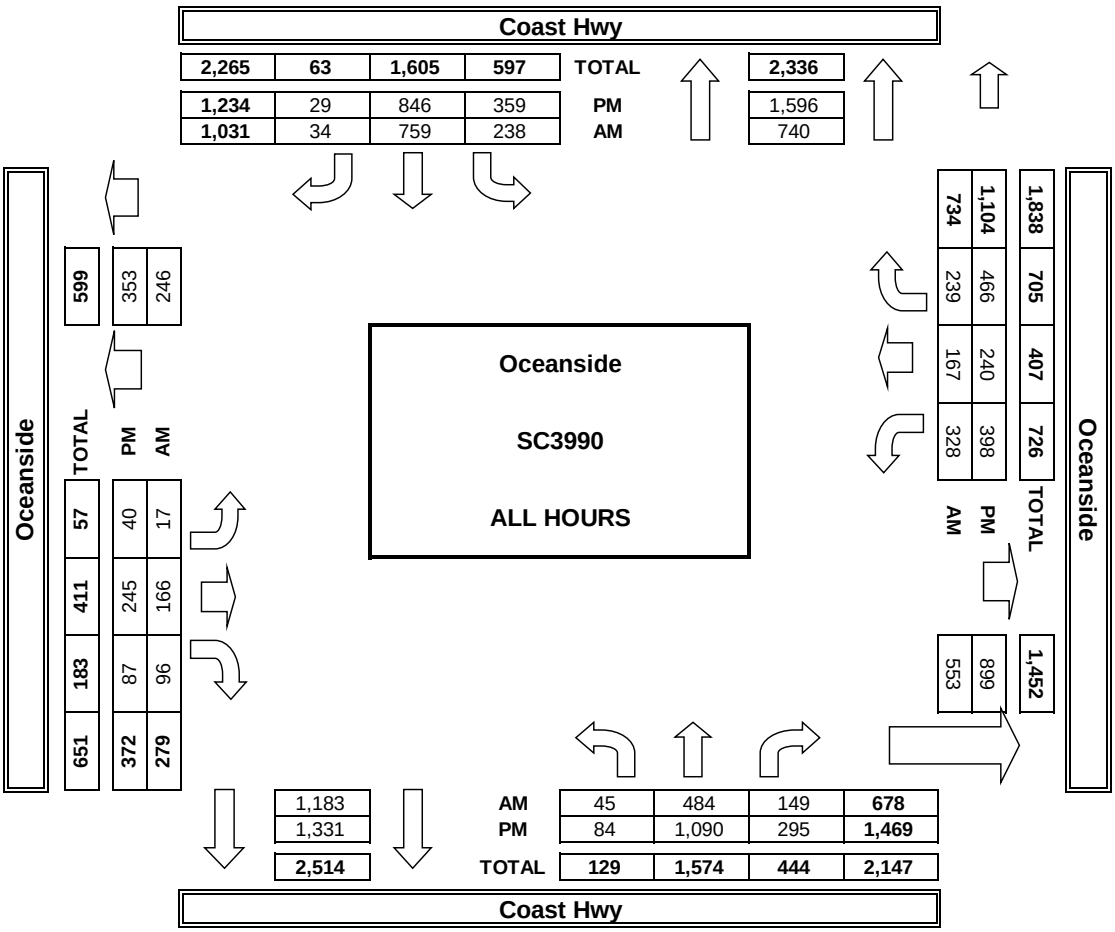
☑ Add U-Turns to Left Turns

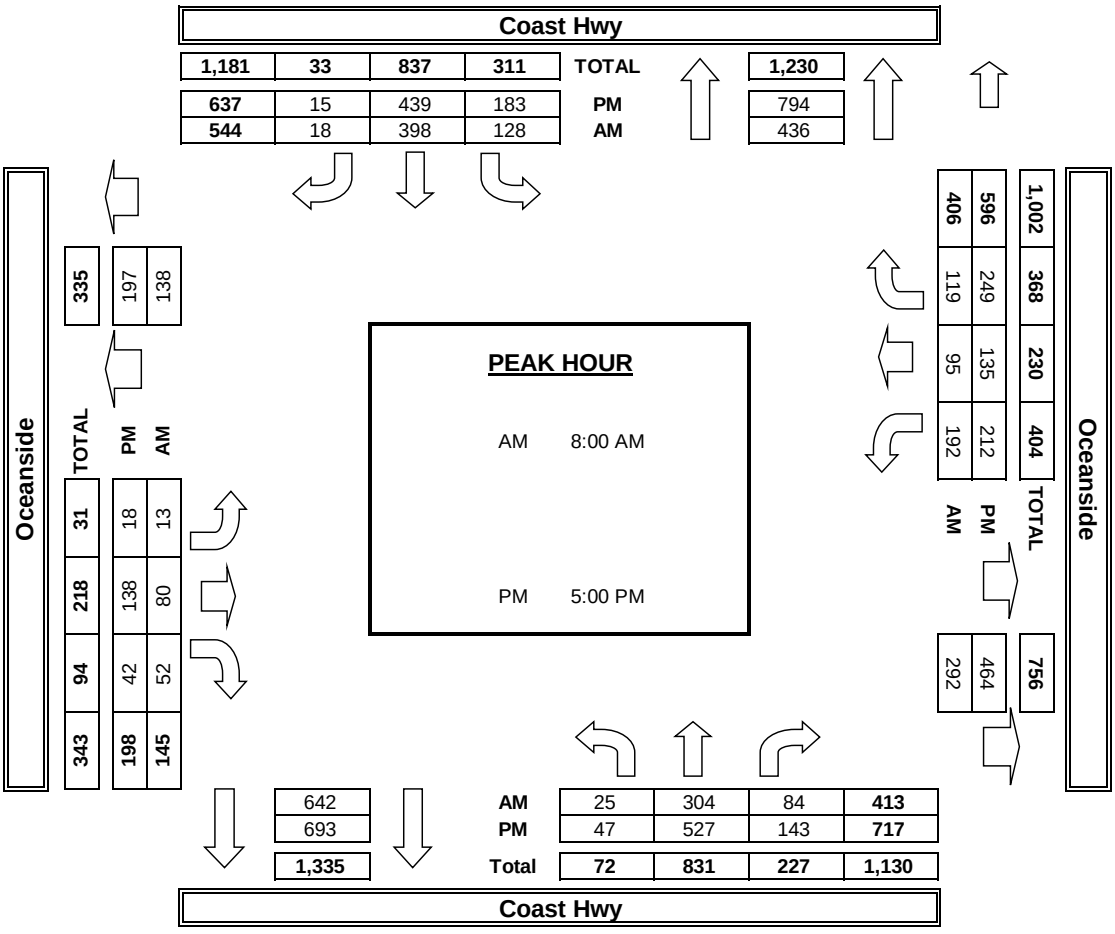
		NORTHBOUND (Coast Hwy)			SOUTHBOUND (Coast Hwy)			EASTBOUND (Oceanside)			WESTBOUND (Oceanside)				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 0	ET 1	ER 1	WL 1.5	WT 0.5	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	4	35	17	21	83	6	1	15	10	22	14	25	253	0	0	0	0	0
	7:15 AM	5	39	14	19	81	6	0	22	11	26	15	29	267	0	0	0	0	0
	7:30 AM	2	37	14	44	84	3	2	27	8	41	23	24	309	0	0	0	0	0
	7:45 AM	9	69	20	26	113	1	1	22	15	47	20	42	385	0	0	0	0	0
	8:00 AM	3	84	24	34	116	3	2	21	15	60	23	0	385	0	0	0	0	0
	8:15 AM	9	85	17	22	74	4	4	32	7	52	26	39	371	0	0	0	0	0
	8:30 AM	9	73	24	41	109	4	5	13	11	27	21	27	364	0	0	0	0	0
	8:45 AM	4	62	19	31	99	7	2	14	19	53	25	53	388	0	0	0	0	0
	VOLUMES	45	484	149	238	759	34	17	166	96	328	167	239	2,722	0	0	0	0	0
	APPROACH %	7%	71%	22%	23%	74%	3%	6%	59%	34%	45%	23%	33%						
	APP/DEPART	678	/	740	1,031	/	1,183	279	/	553	734	/	246	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	25	304	84	128	398	18	13	80	52	192	95	119	1,508					
	APPROACH %	6%	74%	20%	24%	73%	3%	9%	55%	36%	47%	23%	29%						
	PEAK HR FACTOR		0.930			0.883			0.843			0.775		0.972					
	APP/DEPART	413	/	436	544	/	642	145	/	292	406	/	138	0					
PM	4:00 PM	9	145	38	40	93	5	5	27	10	50	30	57	509	0	0	0	0	0
	4:15 PM	7	132	41	38	95	4	9	20	10	42	23	62	483	0	0	0	0	0
	4:30 PM	13	126	34	58	118	5	5	25	17	45	26	58	530	0	0	0	0	0
	4:45 PM	8	160	39	40	101	0	3	35	8	49	26	40	509	0	0	0	0	0
	5:00 PM	10	112	34	53	114	2	5	35	8	50	42	67	532	0	0	0	0	0
	5:15 PM	10	141	39	44	110	2	3	35	13	58	34	67	556	0	0	0	0	0
	5:30 PM	10	142	37	43	111	5	7	35	8	47	31	55	531	0	0	0	0	0
	5:45 PM	17	132	33	43	104	6	3	33	13	57	28	60	529	0	0	0	0	0
	VOLUMES	84	1,090	295	359	846	29	40	245	87	398	240	466	4,179	0	0	0	0	0
	APPROACH %	6%	74%	20%	29%	69%	2%	11%	66%	23%	36%	22%	42%						
	APP/DEPART	1,469	/	1,596	1,234	/	1,331	372	/	899	1,104	/	353	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	47	527	143	183	439	15	18	138	42	212	135	249	2,148					
	APPROACH %	7%	74%	20%	29%	69%	2%	9%	70%	21%	36%	23%	42%						
	PEAK HR FACTOR		0.943			0.942			0.971			0.937		0.966					
	APP/DEPART	717	/	794	637	/	693	198	/	464	596	/	197	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 2, 23

LOCATION: Oceanside
NORTH & SOUTH: I-5 SB Ramps
EAST & WEST: Oceanside

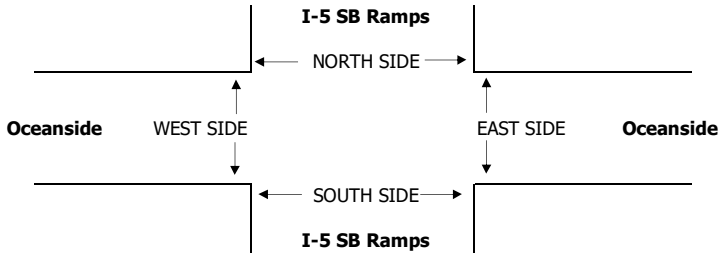
PROJECT #: SC3990
LOCATION #: 7
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

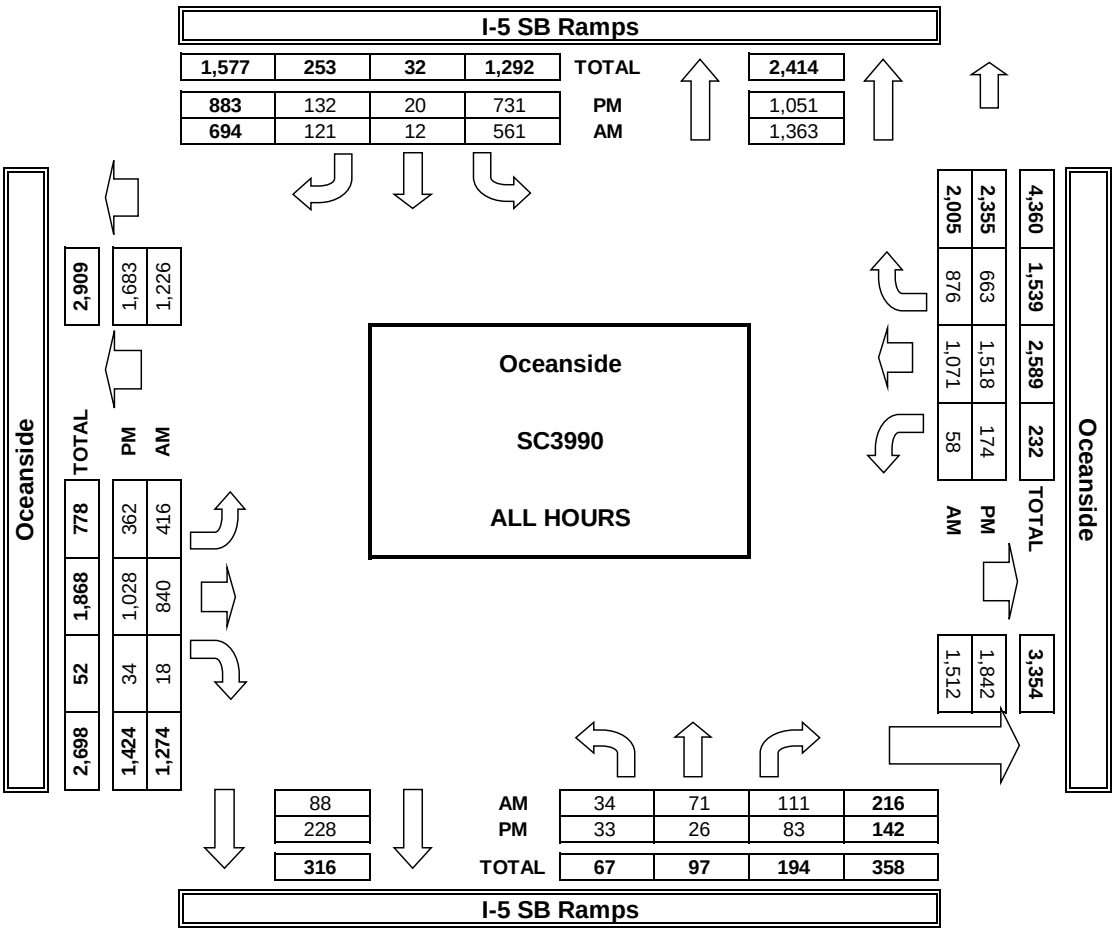
☑ Add U-Turns to Left Turns

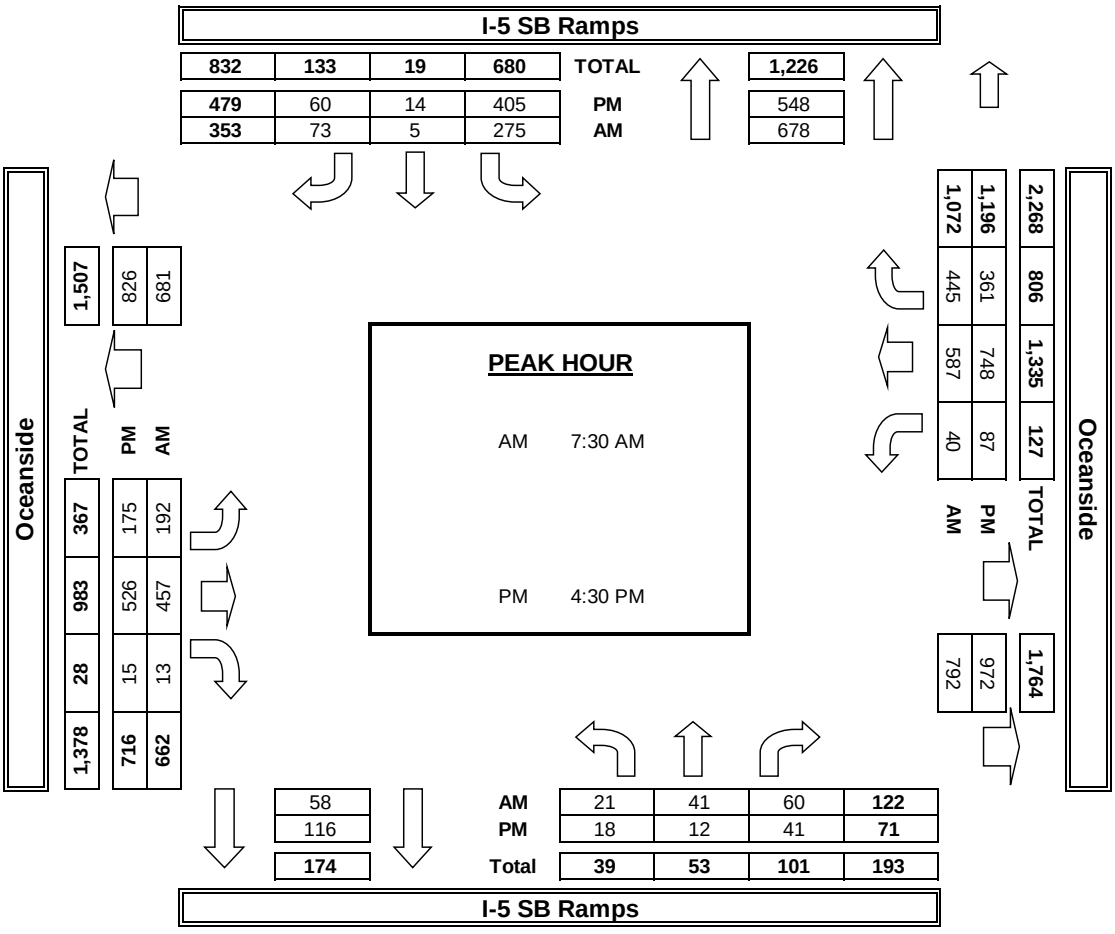
		NORTHBOUND I-5 SB Ramps			SOUTHBOUND I-5 SB Ramps			EASTBOUND Oceanside			WESTBOUND Oceanside				U-TURNS				
	LANES:	NL 0.5	NT 0.5	NR 1	SL 1.3	ST 0.3	SR 0.3	EL 1	ET 2	ER 0	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	4	8	12	63	0	12	67	78	0	3	103	101	451	0	0	0	0	0
	7:15 AM	2	8	17	61	3	4	60	97	0	2	98	120	472	0	0	0	0	0
	7:30 AM	3	16	18	75	1	16	46	120	0	5	123	117	540	0	0	0	0	0
	7:45 AM	8	12	13	63	0	20	51	123	4	13	135	101	543	0	0	0	0	0
	8:00 AM	6	7	19	70	3	16	54	101	3	8	160	120	567	0	0	0	0	0
	8:15 AM	4	6	10	67	1	21	41	113	6	14	169	107	559	0	0	0	0	0
	8:30 AM	4	6	15	83	0	14	53	118	4	5	103	117	522	0	0	0	0	0
	8:45 AM	3	8	7	79	4	18	44	90	1	8	180	93	535	0	0	0	0	0
	VOLUMES	34	71	111	561	12	121	416	840	18	58	1,071	876	4,189	0	0	0	0	0
	APPROACH %	16%	33%	51%	81%	2%	17%	33%	66%	1%	3%	53%	44%						
	APP/DEPART	216	/	1,363	694	/	88	1,274	/	1,512	2,005	/	1,226	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	21	41	60	275	5	73	192	457	13	40	587	445	2,209					
	APPROACH %	17%	34%	49%	78%	1%	21%	29%	69%	2%	4%	55%	42%						
	PEAK HR FACTOR		0.824			0.959			0.930			0.924		0.974					
	APP/DEPART	122	/	678	353	/	58	662	/	792	1,072	/	681	0					
PM	4:00 PM	4	3	8	83	2	21	45	118	7	28	181	80	580	0	0	0	0	0
	4:15 PM	3	4	15	88	0	15	50	130	8	19	197	73	602	0	0	0	0	0
	4:30 PM	4	2	7	109	5	15	49	128	2	24	170	99	614	0	0	0	0	0
	4:45 PM	3	5	9	98	2	16	31	140	5	26	162	68	565	0	0	0	0	0
	5:00 PM	4	2	14	112	3	12	47	139	6	17	214	102	672	0	0	0	0	0
	5:15 PM	7	3	11	86	4	17	48	119	2	20	202	92	611	0	0	0	0	0
	5:30 PM	6	3	9	85	1	16	54	126	2	15	179	80	576	0	0	0	0	0
	5:45 PM	2	4	10	70	3	20	38	128	2	25	213	69	584	0	0	0	0	0
	VOLUMES	33	26	83	731	20	132	362	1,028	34	174	1,518	663	4,804	0	0	0	0	0
	APPROACH %	23%	18%	58%	83%	2%	15%	25%	72%	2%	7%	64%	28%						
	APP/DEPART	142	/	1,051	883	/	228	1,424	/	1,842	2,355	/	1,683	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	18	12	41	405	14	60	175	526	15	87	748	361	2,462					
	APPROACH %	25%	17%	58%	85%	3%	13%	24%	73%	2%	7%	63%	30%						
	PEAK HR FACTOR		0.845			0.928			0.932			0.898		0.916					
	APP/DEPART	71	/	548	479	/	116	716	/	972	1,196	/	826	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T218

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

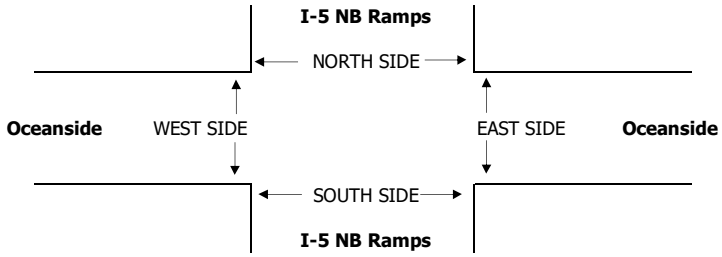
DATE:	LOCATION:	Oceanside	PROJECT #:	SC3990
Tue, May 2, 23	NORTH & SOUTH:	I-5 NB Ramps	LOCATION #:	8
	EAST & WEST:	Oceanside	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

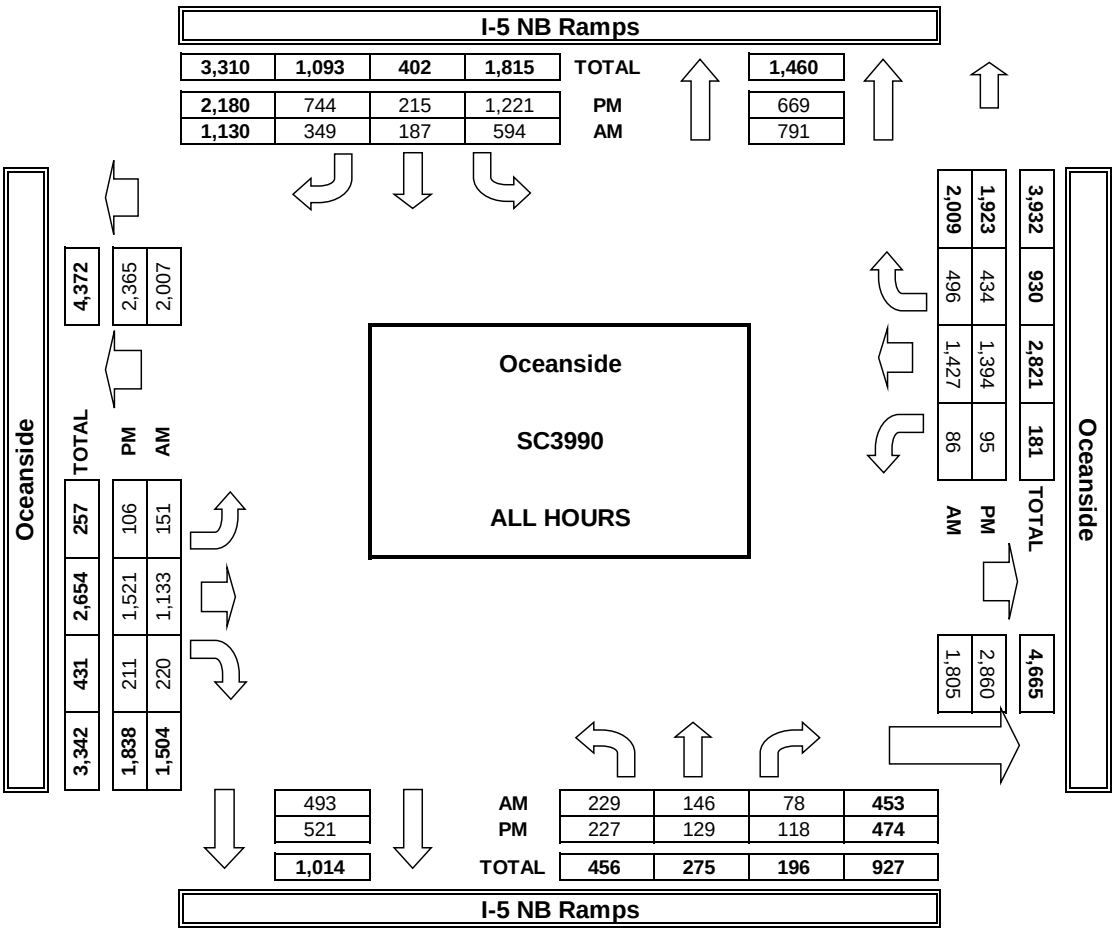
☑ Add U-Turns to Left Turns

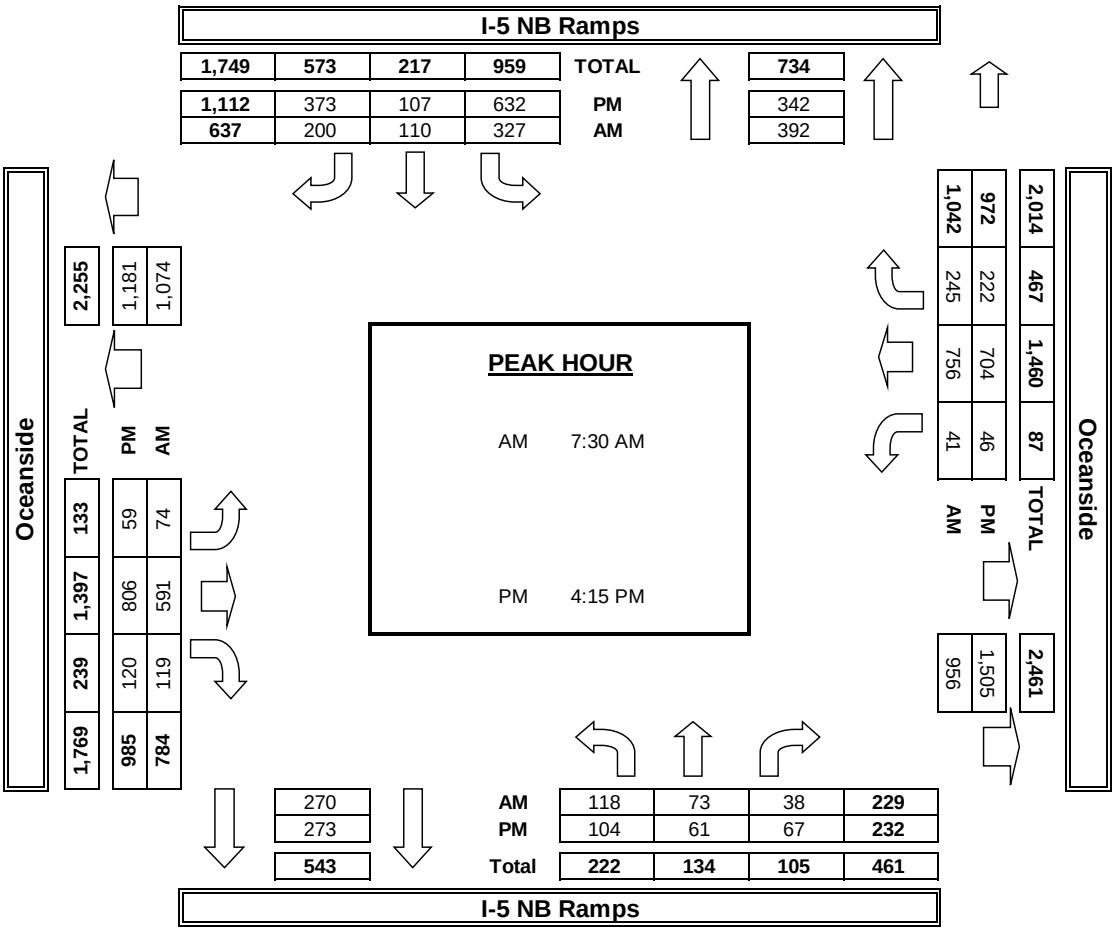
		NORTHBOUND I-5 NB Ramps			SOUTHBOUND I-5 NB Ramps			EASTBOUND Oceanside			WESTBOUND Oceanside				U-TURNS				
	LANES:	NL 1.5	NT 0.5	NR 1	SL 1.5	ST 0.5	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	27	17	1	44	15	32	16	117	20	11	148	76	524	0	0	0	0	0
	7:15 AM	30	15	9	73	22	23	24	129	22	8	167	74	596	0	0	0	0	0
	7:30 AM	23	15	9	70	24	47	21	169	23	5	175	65	646	0	0	0	0	0
	7:45 AM	23	20	7	89	29	48	18	155	26	17	180	58	670	0	0	0	0	0
	8:00 AM	41	17	6	92	32	53	16	137	37	16	194	63	704	0	0	0	0	0
	8:15 AM	31	21	16	76	25	52	19	130	33	3	207	59	672	0	0	0	0	0
	8:30 AM	27	24	14	80	20	35	20	165	31	15	163	51	645	0	0	0	0	0
	8:45 AM	27	17	16	70	20	59	17	131	28	11	193	50	639	0	0	2	0	2
	VOLUMES	229	146	78	594	187	349	151	1,133	220	86	1,427	496	5,096	0	0	2	0	2
	APPROACH %	51%	32%	17%	53%	17%	31%	10%	75%	15%	4%	71%	25%						
	APP/DEPART	453	/	791	1,130	/	493	1,504	/	1,805	2,009	/	2,007	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	118	73	38	327	110	200	74	591	119	41	756	245	2,692					
	APPROACH %	52%	32%	17%	51%	17%	31%	9%	75%	15%	4%	73%	24%						
	PEAK HR FACTOR		0.842			0.900			0.920			0.954		0.956					
	APP/DEPART	229	/	392	637	/	270	784	/	956	1,042	/	1,074	0					
PM	4:00 PM	21	15	16	138	25	86	11	179	19	8	182	54	754	0	0	0	0	0
	4:15 PM	22	15	18	189	27	108	15	190	28	12	159	55	838	0	0	0	0	0
	4:30 PM	22	24	16	130	22	92	11	203	30	8	179	78	815	0	0	0	0	0
	4:45 PM	27	11	21	165	32	73	20	193	34	15	166	41	798	0	0	0	0	0
	5:00 PM	33	11	12	148	26	100	13	220	28	11	200	48	850	0	0	0	0	0
	5:15 PM	42	14	11	147	30	96	15	177	24	10	176	53	795	0	0	0	0	0
	5:30 PM	27	18	13	167	26	91	9	185	26	16	156	66	800	0	0	0	0	0
	5:45 PM	33	21	11	137	27	98	12	174	22	15	176	39	765	0	0	0	0	0
	VOLUMES	227	129	118	1,221	215	744	106	1,521	211	95	1,394	434	6,415	0	0	0	0	0
	APPROACH %	48%	27%	25%	56%	10%	34%	6%	83%	11%	5%	72%	23%						
	APP/DEPART	474	/	669	2,180	/	521	1,838	/	2,860	1,923	/	2,365	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	104	61	67	632	107	373	59	806	120	46	704	222	3,301					
	APPROACH %	45%	26%	29%	57%	10%	34%	6%	82%	12%	5%	72%	23%						
	PEAK HR FACTOR		0.935			0.858			0.943			0.917		0.971					
	APP/DEPART	232	/	342	1,112	/	273	985	/	1,505	972	/	1,181	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 2, 23

LOCATION: Oceanside
NORTH & SOUTH: Coast Hwy
EAST & WEST: Vista

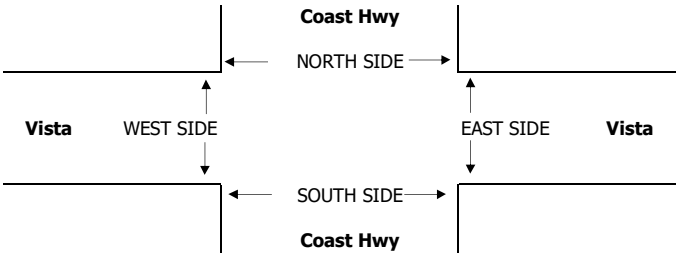
PROJECT #: SC3990
LOCATION #: 9
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

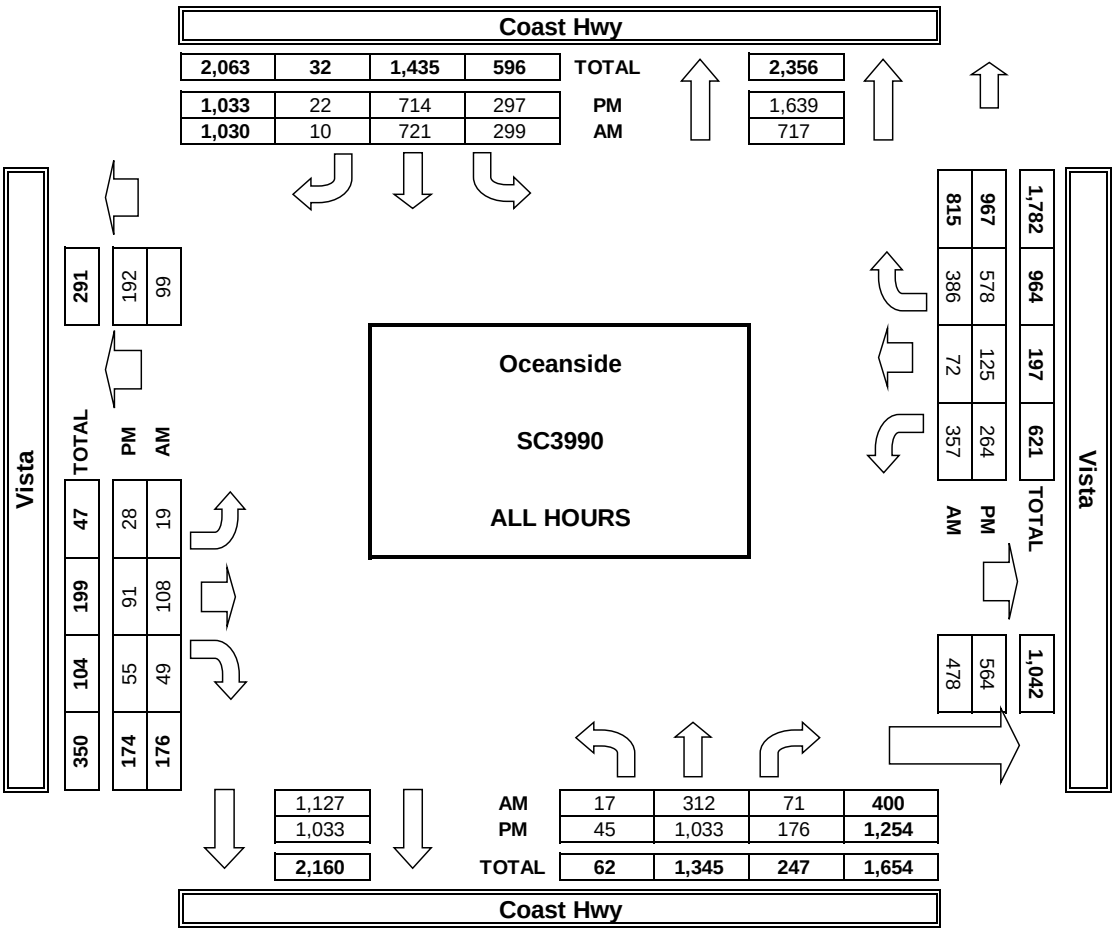
☑ Add U-Turns to Left Turns

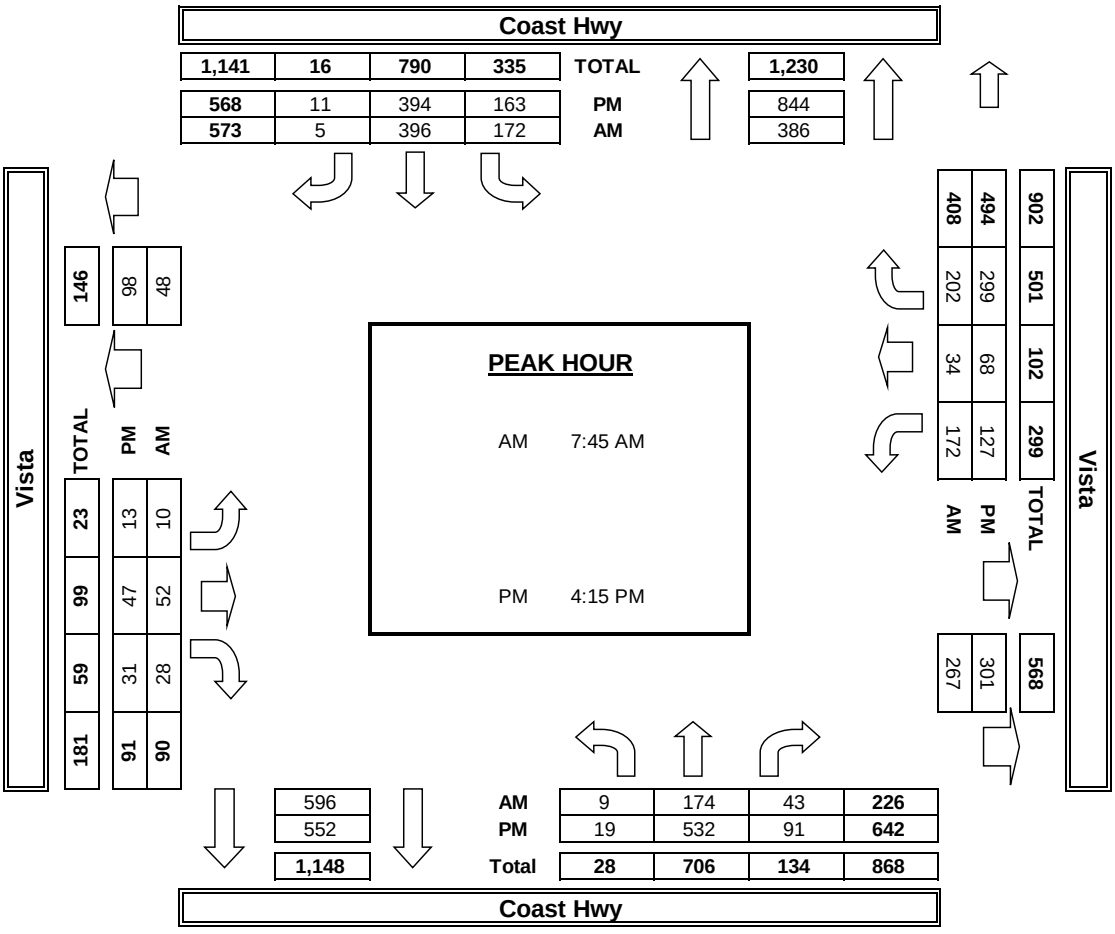
		NORTHBOUND Coast Hwy			SOUTHBOUND Coast Hwy			EASTBOUND Vista			WESTBOUND Vista				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 1	WL 0	WT 1	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	4	26	2	33	70	1	0	14	5	41	8	50	254	0	0	0	0	0
	7:15 AM	2	32	10	36	69	1	2	14	4	57	9	32	268	0	0	0	0	0
	7:30 AM	1	35	9	27	81	1	1	16	6	49	12	48	286	0	0	0	0	0
	7:45 AM	1	38	7	38	113	0	4	20	9	50	13	52	345	0	0	0	0	0
	8:00 AM	4	42	11	47	109	4	3	8	10	39	7	45	329	0	0	0	0	0
	8:15 AM	3	44	14	41	89	1	2	13	5	45	10	46	313	0	0	0	0	0
	8:30 AM	1	50	11	46	85	0	1	11	4	38	4	59	310	0	0	0	0	0
	8:45 AM	1	45	7	31	105	2	6	12	6	38	9	54	316	0	0	0	0	0
	VOLUMES	17	312	71	299	721	10	19	108	49	357	72	386	2,421	0	0	0	0	0
	APPROACH %	4%	78%	18%	29%	70%	1%	11%	61%	28%	44%	9%	47%						
	APP/DEPART	400	/	717	1,030	/	1,127	176	/	478	815	/	99	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	9	174	43	172	396	5	10	52	28	172	34	202	1,297					
	APPROACH %	4%	77%	19%	30%	69%	1%	11%	58%	31%	42%	8%	50%						
	PEAK HR FACTOR		0.911			0.895			0.682			0.887		0.940					
	APP/DEPART	226	/	386	573	/	596	90	/	267	408	/	48	0					
PM	4:00 PM	7	132	28	29	85	1	5	15	3	32	18	60	415	0	0	0	0	0
	4:15 PM	6	149	23	48	93	1	3	14	5	38	10	80	470	0	0	0	0	0
	4:30 PM	2	129	17	43	93	3	6	9	9	31	17	75	434	0	0	0	0	0
	4:45 PM	6	121	22	36	96	4	1	14	11	27	24	82	444	0	0	0	0	0
	5:00 PM	5	133	29	36	112	3	3	10	6	31	17	62	447	0	0	0	0	0
	5:15 PM	12	156	25	41	75	4	4	10	8	34	15	73	457	0	0	0	0	0
	5:30 PM	4	115	23	28	86	3	3	10	7	30	11	72	392	0	0	0	0	0
	5:45 PM	3	98	9	36	74	3	3	9	6	41	13	74	369	0	0	0	0	0
	VOLUMES	45	1,033	176	297	714	22	28	91	55	264	125	578	3,428	0	0	0	0	0
	APPROACH %	4%	82%	14%	29%	69%	2%	16%	52%	32%	27%	13%	60%						
	APP/DEPART	1,254	/	1,639	1,033	/	1,033	174	/	564	967	/	192	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	19	532	91	163	394	11	13	47	31	127	68	299	1,795					
	APPROACH %	3%	83%	14%	29%	69%	2%	14%	52%	34%	26%	14%	61%						
	PEAK HR FACTOR		0.902			0.940			0.875			0.929		0.955					
	APP/DEPART	642	/	844	568	/	552	91	/	301	494	/	98	0					



AimTD LLC

TURNING MOVEMENT COUNTS





Appendix C – NCTD Headquarters Driveway Traffic Count Worksheets

Tuesday, November 14, 2023 | CITY: Oceanside | PROJECT: SC4302

ADT1 NCTD SW DWY east of N Nevada St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	1		2		
0:15	1		0			12:15	2		0		
0:30	1		0			12:30	0		1		
0:45	0	2	0	0	2	12:45	1	4	0	3	7
1:00	0		0			13:00	6		0		
1:15	0		0			13:15	10		2		
1:30	0		0			13:30	3		0		
1:45	0	0	0	0		13:45	0	19	0	2	21
2:00	0		0			14:00	0		0		
2:15	0		0			14:15	2		0		
2:30	0		0			14:30	0		0		
2:45	0	0	0	0		14:45	1	3	0	0	3
3:00	0		0			15:00	1		1		
3:15	0		0			15:15	0		0		
3:30	0		0			15:30	2		1		
3:45	0	0	0	0		15:45	4	7	1	3	10
4:00	0		0			16:00	0		1		
4:15	1		0			16:15	0		0		
4:30	0		0			16:30	0		0		
4:45	0	1	0	0	1	16:45	2	2	0	1	3
5:00	1		0			17:00	0		2		
5:15	1		0			17:15	1		0		
5:30	0		0			17:30	0		2		
5:45	0	2	0	0	2	17:45	0	1	0	4	5
6:00	0		0			18:00	0		0		
6:15	0		0			18:15	0		0		
6:30	0		1			18:30	0		0		
6:45	0	0	0	1	1	18:45	0	0	0	0	
7:00	0		1			19:00	0		0		
7:15	1		0			19:15	0		0		
7:30	2		1			19:30	0		0		
7:45	2	5	0	2	7	19:45	0	0	2	2	2
8:00	2		0			20:00	0		0		
8:15	1		0			20:15	0		0		
8:30	1		1			20:30	0		0		
8:45	1	5	1	2	7	20:45	0	0	0	0	
9:00	1		1			21:00	0		0		
9:15	1		1			21:15	0		0		
9:30	1		0			21:30	0		0		
9:45	3	6	0	2	8	21:45	0	0	0	0	
10:00	1		0			22:00	0		0		
10:15	0		0			22:15	0		0		
10:30	1		0			22:30	0		0		
10:45	3	5	0	0	5	22:45	0	0	0	0	
11:00	0		0			23:00	0		0		
11:15	2		0			23:15	0		1		
11:30	2		1			23:30	0		1		
11:45	0	4	0	1	5	23:45	0	0	0	2	2
Total Vol.		30		8	**38**			36		17	**53**

Daily Totals

IN	OUT	Combined
66	25	**91**

	AM			PM		
Split %	78.9%	21.1%	**41.8%**	67.9%	32.1%	**58.2%**
Peak Hour	7:15	8:30	**7:15**	12:45	16:45	**12:45**
Volume	7	4	**8**	20	4	**22**
P.H.F.	0.88	1.00	**0.67**	0.68	0.50	**0.46**

cs@aimtd.com Tell. 714 253 7888

Wednesday, November 15, 2023 | CITY: Oceanside | PROJECT: SC4302

ADT1 NCTD SW DWY east of N Nevada St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	0		1		
0:15	0		0			12:15	0		0		
0:30	0		0			12:30	2		1		
0:45	0	0	0	0		12:45	0	2	0	2	4
1:00	0		1			13:00	0		0		
1:15	0		0			13:15	4		1		
1:30	0		0			13:30	3		0		
1:45	0	0	0	1	1	13:45	0	7	0	1	8
2:00	0		1			14:00	1		0		
2:15	0		0			14:15	0		0		
2:30	0		0			14:30	1		0		
2:45	0	0	0	1	1	14:45	1	3	0	0	3
3:00	0		0			15:00	1		0		
3:15	0		0			15:15	0		0		
3:30	0		0			15:30	1		0		
3:45	0	0	0	0		15:45	2	4	3	3	7
4:00	0		0			16:00	2		1		
4:15	0		1			16:15	0		0		
4:30	0		0			16:30	0		0		
4:45	0	0	0	1	1	16:45	0	2	2	3	5
5:00	0		1			17:00	2		1		
5:15	0		0			17:15	0		0		
5:30	0		0			17:30	0		0		
5:45	1	1	0	1	2	17:45	0	2	0	1	3
6:00	0		0			18:00	1		0		
6:15	0		0			18:15	0		0		
6:30	0		0			18:30	1		0		
6:45	1	1	0	0	1	18:45	0	2	0	0	2
7:00	0		1			19:00	0		0		
7:15	2		0			19:15	1		0		
7:30	3		0			19:30	0		0		
7:45	2	7	0	1	8	19:45	0	1	0	0	1
8:00	2		0			20:00	1		0		
8:15	0		0			20:15	1		0		
8:30	0		0			20:30	1		0		
8:45	4	6	0	0	6	20:45	0	3	0	0	3
9:00	0		1			21:00	0		0		
9:15	2		2			21:15	0		0		
9:30	0		1			21:30	0		0		
9:45	1	3	0	4	7	21:45	0	0	0	0	
10:00	0		0			22:00	0		0		
10:15	1		2			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	2	3	0	2	5	22:45	0	0	0	0	
11:00	1		1			23:00	0		1		
11:15	1		1			23:15	0		0		
11:30	0		0			23:30	0		0		
11:45	2	4	2	4	8	23:45	0	0	1	2	2
Total Vol.		25		15	**40**			26		12	**38**

Daily Totals

IN	OUT	Combined
51	27	**78**

	AM			PM		
Split %	62.5%	37.5%	**51.3%**	68.4%	31.6%	**48.7%**
Peak Hour	7:15	8:45	**8:45**	13:15	15:15	**13:15**
Volume	9	4	**10**	8	4	**9**
P.H.F.	0.75	0.50	**0.63**	0.44	0.33	**0.45**

cs@aimtd.com Tell. 714 253 7888

Tuesday, November 14, 2023 CITY: Oceanside PROJECT: SC4302

ADT2 NCTD Middle DWY east of N Nevada St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	0		2		
0:15	0		0			12:15	0		0		
0:30	0		0			12:30	0		0		
0:45	0	0	0	0		12:45	0	0	0	2	2
1:00	0		0			13:00	0		1		
1:15	0		0			13:15	0		0		
1:30	0		0			13:30	0		2		
1:45	0	0	0	0		13:45	0	0	2	5	5
2:00	0		0			14:00	0		1		
2:15	0		0			14:15	0		1		
2:30	0		0			14:30	0		0		
2:45	0	0	0	0		14:45	0	0	0	2	2
3:00	0		0			15:00	0		0		
3:15	0		0			15:15	0		0		
3:30	0		0			15:30	0		0		
3:45	0	0	0	0		15:45	0	0	1	1	1
4:00	0		0			16:00	0		2		
4:15	0		0			16:15	0		1		
4:30	0		0			16:30	0		2		
4:45	0	0	0	0		16:45	0	0	1	6	6
5:00	0		0			17:00	0		8		
5:15	0		1			17:15	0		3		
5:30	0		0			17:30	0		1		
5:45	0	0	0	1	1	17:45	1	1	4	16	17
6:00	0		0			18:00	1		0		
6:15	0		0			18:15	1		0		
6:30	0		0			18:30	0		1		
6:45	0	0	0	0		18:45	0	2	0	1	3
7:00	0		0			19:00	0		0		
7:15	0		0			19:15	1		0		
7:30	0		0			19:30	0		0		
7:45	0	0	0	0		19:45	0	1	0	0	1
8:00	0		0			20:00	0		0		
8:15	0		0			20:15	0		0		
8:30	0		1			20:30	0		0		
8:45	0	0	1	2	2	20:45	0	0	0	0	
9:00	0		0			21:00	0		0		
9:15	0		0			21:15	0		0		
9:30	1		1			21:30	0		0		
9:45	0	1	1	2	3	21:45	0	0	0	0	
10:00	0		0			22:00	0		1		
10:15	0		0			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	0	0	1	1	1	22:45	0	0	0	1	1
11:00	0		1			23:00	0		0		
11:15	0		0			23:15	0		0		
11:30	0		2			23:30	0		0		
11:45	0	0	1	4	4	23:45	0	0	0	0	
Total Vol.		1		10	**11**			4		34	**38**

Daily Totals

IN	OUT	**Combined**
5	44	**49**

	AM			**PM**		
Split %	9.1%	90.9%	**22.4%**	10.5%	89.5%	**77.6%**
Peak Hour	8:45	11:15	**11:15**	17:30	17:00	**17:00**
Volume	1	5	**5**	3	16	**17**
P.H.F.	0.25	0.63	**0.63**	0.75	0.50	**0.53**

cs@aimtd.com Tell. 714 253 7888

Wednesday, November 15, 2023 | CITY: Oceanside | PROJECT: SC4302

ADT2 NCTD Middle DWY east of N Nevada St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	0		2		
0:15	0		0			12:15	0		2		
0:30	0		0			12:30	0		1		
0:45	0	0	0	0		12:45	0	0	1	6	6
1:00	0		0			13:00	0		0		
1:15	0		0			13:15	0		0		
1:30	0		0			13:30	0		2		
1:45	0	0	0	0		13:45	0	0	0	2	2
2:00	0		0			14:00	0		0		
2:15	0		0			14:15	0		1		
2:30	0		0			14:30	0		0		
2:45	0	0	0	0		14:45	0	0	0	1	1
3:00	0		0			15:00	0		0		
3:15	0		0			15:15	0		1		
3:30	0		0			15:30	0		1		
3:45	0	0	0	0		15:45	1	1	5	7	8
4:00	0		0			16:00	0		2		
4:15	0		0			16:15	0		2		
4:30	0		0			16:30	0		5		
4:45	0	0	0	0		16:45	0	0	2	11	11
5:00	0		0			17:00	0		5		
5:15	0		0			17:15	1		3		
5:30	0		0			17:30	1		2		
5:45	0	0	1	1	1	17:45	0	2	0	10	12
6:00	0		0			18:00	0		1		
6:15	0		0			18:15	0		1		
6:30	0		0			18:30	0		0		
6:45	0	0	0	0		18:45	1	1	0	2	3
7:00	0		0			19:00	0		0		
7:15	0		0			19:15	0		0		
7:30	0		0			19:30	0		0		
7:45	0	0	0	0		19:45	0	0	0	0	
8:00	0		1			20:00	0		1		
8:15	0		0			20:15	0		0		
8:30	0		0			20:30	0		0		
8:45	0	0	0	1	1	20:45	0	0	0	1	1
9:00	0		0			21:00	0		0		
9:15	0		0			21:15	0		0		
9:30	0		2			21:30	0		0		
9:45	0	0	0	2	2	21:45	0	0	0	0	
10:00	0		2			22:00	0		0		
10:15	0		0			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	0	0	1	3	3	22:45	0	0	0	0	
11:00	1		1			23:00	1		0		
11:15	0		0			23:15	0		0		
11:30	0		0			23:30	0		0		
11:45	0	1	2	3	4	23:45	0	1	0	0	1
Total Vol.		1		10	**11**			5		40	**45**

Daily Totals

IN	OUT	Combined
6	50	**56**

	AM			PM		
Split %	9.1%	90.9%	**19.6%**	11.1%	88.9%	**80.4%**
Peak Hour	10:15	11:45	**11:45**	16:45	16:30	**16:30**
Volume	1	7	**7**	2	15	**16**
P.H.F.	0.25	0.88	**0.88**	0.50	0.75	**0.80**

cs@aimtd.com Tell. 714 253 7888

Tuesday, November 14, 2023 | CITY: Oceanside | PROJECT: SC4302

ADT3 NCTD NW DWY east of N Nevada St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	0		2		
0:15	0		0			12:15	0		1		
0:30	0		0			12:30	0		2		
0:45	0	0	0	0		12:45	0	0	0	5	5
1:00	0		0			13:00	0		1		
1:15	0		0			13:15	0		1		
1:30	0		0			13:30	0		3		
1:45	0	0	0	0		13:45	0	0	3	8	8
2:00	0		0			14:00	0		0		
2:15	0		0			14:15	0		0		
2:30	0		0			14:30	0		0		
2:45	0	0	0	0		14:45	0	0	1	1	1
3:00	0		0			15:00	0		0		
3:15	0		0			15:15	0		0		
3:30	0		0			15:30	0		1		
3:45	0	0	0	0		15:45	0	0	2	3	3
4:00	0		0			16:00	0		4		
4:15	0		0			16:15	0		3		
4:30	0		0			16:30	0		2		
4:45	0	0	0	0		16:45	0	0	4	13	13
5:00	0		0			17:00	0		4		
5:15	0		0			17:15	0		1		
5:30	0		0			17:30	1		2		
5:45	0	0	0	0		17:45	2	3	3	10	13
6:00	0		0			18:00	0		0		
6:15	0		0			18:15	0		0		
6:30	0		0			18:30	1		1		
6:45	0	0	0	0		18:45	0	1	0	1	2
7:00	0		1			19:00	0		0		
7:15	0		0			19:15	0		3		
7:30	1		0			19:30	0		0		
7:45	0	1	0	1	2	19:45	0	0	2	5	5
8:00	0		0			20:00	0		0		
8:15	0		4			20:15	0		0		
8:30	0		0			20:30	0		0		
8:45	1	1	0	4	5	20:45	0	0	0	0	
9:00	0		0			21:00	0		0		
9:15	1		0			21:15	0		0		
9:30	0		0			21:30	0		1		
9:45	0	1	0	0	1	21:45	0	0	0	1	1
10:00	0		1			22:00	2		0		
10:15	0		0			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	0	0	0	1	1	22:45	0	2	0	0	2
11:00	0		0			23:00	0		0		
11:15	1		1			23:15	0		0		
11:30	0		1			23:30	0		0		
11:45	0	1	2	4	5	23:45	0	0	0	0	
Total Vol.		4		10	**14**			6		47	**53**

Daily Totals

IN	OUT	Combined
10	57	**67**

	AM			PM		
Split %	28.6%	71.4%	**20.9%**	11.3%	88.7%	**79.1%**
Peak Hour	8:30	11:45	**11:15**	17:00	16:00	**16:00**
Volume	2	7	**7**	3	13	**13**
P.H.F.	0.50	0.88	**0.88**	0.50	0.81	**0.81**

cs@aimtd.com Tell. 714 253 7888

Wednesday, November 15, 2023 CITY: Oceanside PROJECT: SC4302

ADT3 NCTD NW DWY east of N Nevada St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	0		3		
0:15	0		0			12:15	0		0		
0:30	0		0			12:30	0		2		
0:45	0	0	0	0		12:45	0	0	1	6	6
1:00	0		0			13:00	0		1		
1:15	0		0			13:15	0		2		
1:30	0		0			13:30	0		0		
1:45	0	0	0	0		13:45	0	0	0	3	3
2:00	0		0			14:00	0		2		
2:15	0		0			14:15	0		1		
2:30	0		0			14:30	0		1		
2:45	0	0	0	0		14:45	0	0	1	5	5
3:00	0		0			15:00	0		0		
3:15	0		0			15:15	0		4		
3:30	0		0			15:30	0		1		
3:45	0	0	0	0		15:45	0	0	1	6	6
4:00	0		0			16:00	0		2		
4:15	0		0			16:15	0		3		
4:30	0		0			16:30	0		1		
4:45	0	0	0	0		16:45	0	0	3	9	9
5:00	0		0			17:00	0		7		
5:15	0		0			17:15	0		1		
5:30	0		0			17:30	0		1		
5:45	0	0	0	0		17:45	0	0	0	9	9
6:00	0		0			18:00	0		1		
6:15	0		0			18:15	0		0		
6:30	0		0			18:30	0		2		
6:45	0	0	0	0		18:45	0	0	2	5	5
7:00	0		0			19:00	0		1		
7:15	0		0			19:15	0		1		
7:30	0		0			19:30	0		0		
7:45	0	0	0	0		19:45	0	0	0	2	2
8:00	0		0			20:00	0		0		
8:15	0		0			20:15	0		1		
8:30	0		1			20:30	0		0		
8:45	0	0	1	2	2	20:45	0	0	0	1	1
9:00	0		0			21:00	0		0		
9:15	0		3			21:15	0		0		
9:30	0		2			21:30	0		0		
9:45	0	0	0	5	5	21:45	0	0	0	0	
10:00	1		2			22:00	0		0		
10:15	0		0			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	0	1	0	2	3	22:45	0	0	0	0	
11:00	0		1			23:00	0		1		
11:15	0		0			23:15	0		0		
11:30	0		0			23:30	0		0		
11:45	0	0	7	8	8	23:45	0	0	0	1	1
Total Vol.		1		17	**18**					47	**47**

Daily Totals

IN	OUT	Combined
1	64	**65**

	AM			PM	
Split %	5.6%	94.4%	**27.7%**	100.0%	**72.3%**
Peak Hour	9:15	11:45	**11:45**	16:15	**16:15**
Volume	1	12	**12**	14	**14**
P.H.F.	0.25	0.43	**0.43**	0.50	**0.50**

cs@aimtd.com Tell. 714 253 7888

Tuesday, November 14, 2023 | CITY: Oceanside | PROJECT: SC4302

ADT4 NCTD DWY west of N Clementine St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		1			12:00	1		2		
0:15	0		1			12:15	3		2		
0:30	0		0			12:30	2		3		
0:45	0	0	1	3	3	12:45	6	12	0	7	19
1:00	0		0			13:00	8		1		
1:15	0		0			13:15	3		4		
1:30	0		0			13:30	1		2		
1:45	0	0	0	0		13:45	1	13	1	8	21
2:00	0		0			14:00	3		1		
2:15	0		0			14:15	0		0		
2:30	0		0			14:30	0		1		
2:45	0	0	0	0		14:45	0	3	1	3	6
3:00	0		0			15:00	0		0		
3:15	0		0			15:15	0		0		
3:30	0		0			15:30	0		1		
3:45	0	0	0	0		15:45	1	1	3	4	5
4:00	0		0			16:00	1		1		
4:15	0		0			16:15	0		1		
4:30	0		1			16:30	0		0		
4:45	0	0	0	1	1	16:45	0	1	3	5	6
5:00	0		1			17:00	0		1		
5:15	0		0			17:15	0		0		
5:30	0		0			17:30	1		2		
5:45	0	0	0	1	1	17:45	0	1	0	3	4
6:00	0		0			18:00	0		0		
6:15	0		0			18:15	0		1		
6:30	2		0			18:30	2		0		
6:45	2	4	0	0	4	18:45	0	2	0	1	3
7:00	3		0			19:00	0		0		
7:15	3		0			19:15	0		0		
7:30	4		2			19:30	0		0		
7:45	13	23	0	2	25	19:45	2	2	0	0	2
8:00	10		1			20:00	0		0		
8:15	4		0			20:15	0		0		
8:30	1		0			20:30	0		0		
8:45	5	20	0	1	21	20:45	0	0	0	0	
9:00	2		2			21:00	0		0		
9:15	2		1			21:15	0		1		
9:30	2		1			21:30	0		0		
9:45	4	10	4	8	18	21:45	0	0	0	1	1
10:00	0		0			22:00	0		0		
10:15	2		0			22:15	0		0		
10:30	1		1			22:30	0		0		
10:45	0	3	1	2	5	22:45	0	0	0	0	
11:00	0		2			23:00	1		0		
11:15	1		0			23:15	0		0		
11:30	0		0			23:30	1		0		
11:45	0	1	0	2	3	23:45	0	2	0	0	2
Total Vol.		61		20	**81**			37		32	**69**

Daily Totals

IN	OUT	Combined
98	52	**150**

	AM			PM		
Split %	75.3%	24.7%	**54.0%**	53.6%	46.4%	**46.0%**
Peak Hour	7:30	9:00	**7:30**	12:15	12:30	**12:30**
Volume	31	8	**34**	19	8	**27**
P.H.F.	0.60	0.50	**0.65**	0.71	0.50	**0.75**

cs@aimtd.com Tell. 714 253 7888

Wednesday, November 15, 2023 | CITY: Oceanside | PROJECT: SC4302

ADT4 NCTD DWY west of N Clementine St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	3		0		
0:15	0		0			12:15	9		2		
0:30	0		0			12:30	3		0		
0:45	0	0	0	0		12:45	4	19	0	2	21
1:00	1		0			13:00	4		0		
1:15	0		0			13:15	1		0		
1:30	0		0			13:30	1		2		
1:45	0	1	0	0	1	13:45	2	8	1	3	11
2:00	1		0			14:00	2		0		
2:15	0		0			14:15	3		0		
2:30	0		0			14:30	1		3		
2:45	0	1	0	0	1	14:45	2	8	0	3	11
3:00	0		0			15:00	1		1		
3:15	0		0			15:15	1		1		
3:30	0		0			15:30	0		2		
3:45	0	0	0	0		15:45	1	3	0	4	7
4:00	0		0			16:00	1		3		
4:15	1		0			16:15	0		2		
4:30	0		0			16:30	0		0		
4:45	0	1	0	0	1	16:45	1	2	3	8	10
5:00	1		0			17:00	0		5		
5:15	0		0			17:15	0		3		
5:30	0		0			17:30	0		2		
5:45	0	1	0	0	1	17:45	0	0	0	10	10
6:00	0		0			18:00	0		0		
6:15	1		0			18:15	0		1		
6:30	1		0			18:30	0		1		
6:45	5	7	1	1	8	18:45	0	0	0	2	2
7:00	4		0			19:00	0		0		
7:15	6		1			19:15	0		1		
7:30	11		2			19:30	0		0		
7:45	16	37	0	3	40	19:45	0	0	0	1	1
8:00	12		0			20:00	0		0		
8:15	8		0			20:15	0		1		
8:30	3		1			20:30	0		0		
8:45	3	26	1	2	28	20:45	0	0	0	1	1
9:00	2		0			21:00	1		0		
9:15	4		1			21:15	0		1		
9:30	2		0			21:30	0		0		
9:45	0	8	0	1	9	21:45	1	2	0	1	3
10:00	3		1			22:00	0		1		
10:15	2		1			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	1	6	1	3	9	22:45	0	0	0	1	1
11:00	2		2			23:00	1		0		
11:15	0		1			23:15	1		0		
11:30	0		0			23:30	1		0		
11:45	1	3	1	4	7	23:45	1	4	1	1	5
Total Vol.		91		14	**105**			46		37	**83**

Daily Totals

IN	OUT	Combined
137	51	**188**

	AM			PM		
Split %	86.7%	13.3%	**55.9%**	55.4%	44.6%	**44.1%**
Peak Hour	7:30	6:45	**7:30**	12:15	16:45	**12:15**
Volume	47	4	**49**	20	13	**22**
P.H.F.	0.73	0.50	**0.77**	0.56	0.65	**0.50**

cs@aimtd.com Tell. 714 253 7888

Tuesday, November 14, 2023 CITY: Oceanside PROJECT: SC4302

ADT5 NCTD Parking Lot west of N Nevada St **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	0		1		
0:15	0		0			12:15	0		0		
0:30	0		0			12:30	1		0		
0:45	0	0	0	0		12:45	0	1	0	1	2
1:00	0		0			13:00	0		0		
1:15	0		0			13:15	0		0		
1:30	0		0			13:30	0		0		
1:45	0	0	0	0		13:45	0	0	0	0	
2:00	0		0			14:00	0		0		
2:15	0		0			14:15	0		0		
2:30	0		0			14:30	0		0		
2:45	0	0	0	0		14:45	0	0	0	0	
3:00	0		0			15:00	0		0		
3:15	0		0			15:15	0		1		
3:30	0		0			15:30	1		0		
3:45	0	0	0	0		15:45	0	1	2	3	4
4:00	0		0			16:00	0		0		
4:15	0		0			16:15	1		2		
4:30	0		0			16:30	0		0		
4:45	0	0	0	0		16:45	0	1	0	2	3
5:00	0		0			17:00	0		0		
5:15	0		0			17:15	0		0		
5:30	0		0			17:30	0		0		
5:45	0	0	0	0		17:45	0	0	0	0	
6:00	0		0			18:00	0		0		
6:15	0		0			18:15	0		0		
6:30	1		0			18:30	0		0		
6:45	0	1	0	0	1	18:45	0	0	0	0	
7:00	0		0			19:00	0		0		
7:15	0		0			19:15	0		0		
7:30	1		0			19:30	0		0		
7:45	0	1	1	1	2	19:45	0	0	0	0	
8:00	1		0			20:00	0		0		
8:15	0		0			20:15	0		0		
8:30	0		0			20:30	0		0		
8:45	0	1	0	0	1	20:45	0	0	0	0	
9:00	0		0			21:00	0		0		
9:15	0		0			21:15	0		0		
9:30	0		0			21:30	0		0		
9:45	0	0	0	0		21:45	0	0	0	0	
10:00	0		0			22:00	0		0		
10:15	0		0			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	0	0	0	0		22:45	0	0	0	0	
11:00	2		0			23:00	0		0		
11:15	0		0			23:15	0		0		
11:30	0		1			23:30	0		0		
11:45	0	2	0	1	3	23:45	0	0	0	0	
Total Vol.		5		2	**7**			3		6	**9**

Daily Totals

IN	OUT	Combined
8	8	**16**

	AM			PM		
Split %	71.4%	28.6%	**43.8%**	33.3%	66.7%	**56.3%**
Peak Hour	7:15	11:15	**7:15**	15:30	15:30	**15:30**
Volume	2	2	**3**	2	4	**6**
P.H.F.	0.50	0.50	**0.75**	0.25	0.50	**0.50**

cs@aimtd.com Tell. 714 253 7888

Wednesday, November 15, 2023 | CITY: Oceanside | PROJECT: SC4302

ADT5 NCTD Parking Lot west of N Nevada St

Prepared by AimTD LLC tel. 714 253 7888

AM Period	IN		OUT			PM Period	IN		OUT		
0:00	0		0			12:00	0		0		
0:15	0		0			12:15	1		0		
0:30	0		0			12:30	0		0		
0:45	0	0	0	0		12:45	0	1	0	0	1
1:00	0		0			13:00	0		1		
1:15	0		0			13:15	0		0		
1:30	0		0			13:30	0		0		
1:45	0	0	0	0		13:45	0	0	0	1	1
2:00	0		0			14:00	0		0		
2:15	0		0			14:15	0		0		
2:30	0		0			14:30	0		0		
2:45	0	0	0	0		14:45	0	0	0	0	
3:00	0		0			15:00	0		0		
3:15	0		0			15:15	0		0		
3:30	0		0			15:30	0		0		
3:45	0	0	0	0		15:45	1	1	0	0	1
4:00	0		0			16:00	0		0		
4:15	0		0			16:15	0		0		
4:30	0		0			16:30	0		1		
4:45	0	0	0	0		16:45	0	0	0	1	1
5:00	0		0			17:00	0		0		
5:15	0		0			17:15	0		0		
5:30	0		0			17:30	0		0		
5:45	0	0	0	0		17:45	0	0	0	0	
6:00	0		0			18:00	0		0		
6:15	0		0			18:15	0		0		
6:30	0		0			18:30	0		0		
6:45	1	1	0	0	1	18:45	0	0	0	0	
7:00	0		0			19:00	0		0		
7:15	0		0			19:15	0		0		
7:30	0		0			19:30	0		0		
7:45	1	1	1	1	2	19:45	0	0	0	0	
8:00	0		0			20:00	0		0		
8:15	0		0			20:15	0		0		
8:30	0		0			20:30	0		0		
8:45	0	0	0	0		20:45	0	0	0	0	
9:00	0		0			21:00	0		0		
9:15	0		0			21:15	0		0		
9:30	0		0			21:30	0		0		
9:45	0	0	0	0		21:45	0	0	0	0	
10:00	0		1			22:00	0		0		
10:15	0		0			22:15	0		0		
10:30	0		0			22:30	0		0		
10:45	0	0	0	1	1	22:45	0	0	0	0	
11:00	0		0			23:00	0		0		
11:15	0		0			23:15	0		0		
11:30	0		0			23:30	0		0		
11:45	0	0	0	0		23:45	0	0	0	0	
Total Vol.		2		2	**4**			2		2	**4**

Daily Totals

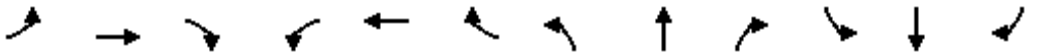
IN	OUT	Combined
4	4	**8**

	AM			PM		
Split %	50.0%	50.0%	**50.0%**	50.0%	50.0%	**50.0%**
Peak Hour	6:00	7:00	**7:00**	12:00	12:15	**12:15**
Volume	1	1	**2**	1	1	**2**
P.H.F.	0.25	0.25	**0.25**	0.25	0.25	**0.50**

cs@aimtd.com Tell. 714 253 7888

Appendix D – LOS Worksheets

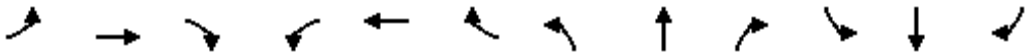
EXISTING CONDITIONS
AM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	7	6	18	10	18	5	273	22	52	350	9
Future Volume (veh/h)	9	7	6	18	10	18	5	273	22	52	350	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	7	6	19	11	19	5	290	23	55	372	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	421	89	77	436	59	102	167	1590	124	298	1519	40
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1380	930	797	1401	616	1063	14	3248	254	214	3101	81
Grp Volume(v), veh/h	10	0	13	19	0	30	168	0	150	228	0	209
Grp Sat Flow(s),veh/h/ln	1380	0	1727	1401	0	1679	1859	0	1656	1709	0	1687
Q Serve(g_s), s	0.2	0.0	0.2	0.3	0.0	0.4	0.0	0.0	1.2	0.0	0.0	1.7
Cycle Q Clear(g_c), s	0.5	0.0	0.2	0.4	0.0	0.4	1.2	0.0	1.2	1.6	0.0	1.7
Prop In Lane	1.00		0.46	1.00		0.63	0.03		0.15	0.24		0.05
Lane Grp Cap(c), veh/h	421	0	166	436	0	161	1070	0	811	1030	0	826
V/C Ratio(X)	0.02	0.00	0.08	0.04	0.00	0.19	0.16	0.00	0.19	0.22	0.00	0.25
Avail Cap(c_a), veh/h	2074	0	2236	2115	0	2174	3325	0	2859	2987	0	2913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.9	0.0	9.5	9.7	0.0	9.6	3.3	0.0	3.3	3.4	0.0	3.4
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.0	0.6	0.2	0.0	0.4	0.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.2	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	0.0	9.7	9.8	0.0	10.2	3.6	0.0	3.7	3.8	0.0	4.0
LnGrp LOS	A	A	A	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		23			49			318			437	
Approach Delay, s/veh		9.8			10.0			3.6			3.9	
Approach LOS		A			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.3		6.8		16.3		6.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		3.2		2.5		3.7		2.4				
Green Ext Time (p_c), s		5.3		0.1		7.7		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			4.3									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	9	9	10	14	15	7	282	11	11	354	18
Future Volume (veh/h)	6	9	9	10	14	15	7	282	11	11	354	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	10	10	11	15	16	7	300	12	12	377	19
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	79	79	439	77	82	179	1601	63	187	1575	78
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1378	858	858	1392	828	883	21	3376	133	32	3322	165
Grp Volume(v), veh/h	6	0	20	11	0	31	168	0	151	215	0	193
Grp Sat Flow(s),veh/h/ln	1378	0	1716	1392	0	1711	1852	0	1678	1846	0	1672
Q Serve(g_s), s	0.1	0.0	0.2	0.2	0.0	0.4	0.0	0.0	1.2	0.0	0.0	1.5
Cycle Q Clear(g_c), s	0.5	0.0	0.2	0.4	0.0	0.4	1.1	0.0	1.2	1.5	0.0	1.5
Prop In Lane	1.00		0.50	1.00		0.52	0.04		0.08	0.06		0.10
Lane Grp Cap(c), veh/h	430	0	159	439	0	158	1047	0	796	1047	0	793
V/C Ratio(X)	0.01	0.00	0.13	0.03	0.00	0.20	0.16	0.00	0.19	0.21	0.00	0.24
Avail Cap(c_a), veh/h	2168	0	2323	2195	0	2317	3447	0	3029	3436	0	3019
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	0.0	9.2	9.4	0.0	9.3	3.4	0.0	3.4	3.5	0.0	3.5
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.0	0.0	0.6	0.3	0.0	0.4	0.3	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.0	0.2	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.5	0.0	9.6	9.4	0.0	9.9	3.6	0.0	3.8	3.8	0.0	4.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		26			42			319			408	
Approach Delay, s/veh		9.6			9.8			3.7			3.9	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.5		6.7		15.5		6.7				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		3.2		2.5		3.5		2.4				
Green Ext Time (p_c), s		5.3		0.1		7.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			4.3									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	243	3	0	0	0	0	14	10	13	15	0
Future Vol, veh/h	17	243	3	0	0	0	0	14	10	13	15	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	259	3	0	0	0	0	15	11	14	16	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.5	7.5	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	12%	0%	46%
Vol Thru, %	58%	88%	98%	54%
Vol Right, %	42%	0%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	139	125	28
LT Vol	0	17	0	13
Through Vol	14	122	122	15
RT Vol	10	0	3	0
Lane Flow Rate	26	147	132	30
Geometry Grp	2	5	5	2
Degree of Util (X)	0.031	0.192	0.17	0.039
Departure Headway (Hd)	4.361	4.691	4.613	4.698
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	825	763	776	766
Service Time	2.363	2.432	2.354	2.699
HCM Lane V/C Ratio	0.032	0.193	0.17	0.039
HCM Control Delay	7.5	8.6	8.3	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.6	0.1

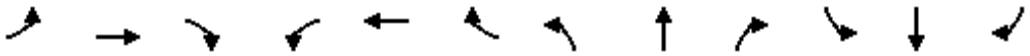
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	142	122	1	4	0	3	0	17	9	0	0	0
Future Vol, veh/h	142	122	1	4	0	3	0	17	9	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	130	1	4	0	3	0	18	10	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	433	131
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	516	919
Stage 1	-	-	-	0	582	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	919
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	919	-	-	-
HCM Lane V/C Ratio	0.03	-	-	-
HCM Control Delay (s)	9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



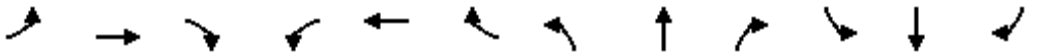
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	70	18	33	167	26	15	14	8	6	19	22
Future Volume (veh/h)	15	70	18	33	167	26	15	14	8	6	19	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	80	20	38	190	30	17	16	9	7	22	25
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	680	908	219	778	1128	175	278	196	287	149	145	142
Arrive On Green	0.04	0.32	0.32	0.09	0.37	0.37	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	2838	686	1781	3082	479	573	1081	1585	105	803	784
Grp Volume(v), veh/h	17	49	51	38	108	112	33	0	9	54	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1747	1781	1777	1784	1654	0	1585	1692	0	0
Q Serve(g_s), s	0.2	0.6	0.6	0.4	1.3	1.3	0.0	0.0	0.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.6	0.6	0.4	1.3	1.3	0.5	0.0	0.1	0.8	0.0	0.0
Prop In Lane	1.00		0.39	1.00		0.27	0.52		1.00	0.13		0.46
Lane Grp Cap(c), veh/h	680	568	559	778	650	653	474	0	287	436	0	0
V/C Ratio(X)	0.03	0.09	0.09	0.05	0.17	0.17	0.07	0.00	0.03	0.12	0.00	0.00
Avail Cap(c_a), veh/h	1171	1705	1676	1188	1705	1712	1493	0	1318	1673	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	7.4	7.4	5.6	6.7	6.7	10.7	0.0	10.5	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.1	0.3	0.3	0.2	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	7.5	7.5	5.6	6.7	6.8	10.8	0.0	10.6	11.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		117			258			42			54	
Approach Delay, s/veh		7.3			6.6			10.7			11.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	14.6		9.9	5.4	16.0		9.9				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.4	2.6		2.8	2.2	3.3		2.5				
Green Ext Time (p_c), s	0.0	0.3		0.3	0.0	0.8		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Notes

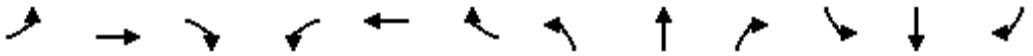
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	0	56	149	178	60	27	219	0	0	336	39
Future Volume (veh/h)	38	0	56	149	178	60	27	219	0	0	336	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	42	0	62	164	196	66	30	241	0	0	369	43
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	171	0	152	402	594	194	62	1249	0	0	695	81
Arrive On Green	0.10	0.00	0.10	0.23	0.23	0.23	0.03	0.35	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	0	1585	1781	2632	860	1781	3647	0	0	3302	371
Grp Volume(v), veh/h	42	0	62	164	130	132	30	241	0	0	203	209
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1716	1781	1777	0	0	1777	1803
Q Serve(g_s), s	1.0	0.0	1.7	3.6	2.8	3.0	0.8	2.2	0.0	0.0	4.6	4.7
Cycle Q Clear(g_c), s	1.0	0.0	1.7	3.6	2.8	3.0	0.8	2.2	0.0	0.0	4.6	4.7
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h	171	0	152	402	401	387	62	1249	0	0	385	391
V/C Ratio(X)	0.25	0.00	0.41	0.41	0.33	0.34	0.49	0.19	0.00	0.00	0.53	0.53
Avail Cap(c_a), veh/h	893	0	794	970	968	934	582	2322	0	0	890	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	0.0	19.5	15.2	14.9	14.9	21.8	10.4	0.0	0.0	15.9	15.9
Incr Delay (d2), s/veh	0.7	0.0	1.7	2.4	1.7	1.9	5.8	0.2	0.0	0.0	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.6	1.5	1.2	1.2	0.4	0.8	0.0	0.0	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	21.3	17.6	16.5	16.8	27.6	10.5	0.0	0.0	17.0	17.1
LnGrp LOS	B	A	C	B	B	B	C	B	A	A	B	B
Approach Vol, veh/h		104			426			271			412	
Approach Delay, s/veh		20.7			17.0			12.4			17.0	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		21.1		9.4	6.2	14.9		15.4				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	23.0		25.0				
Max Q Clear Time (g_c+I1), s		4.2		3.7	2.8	6.7		5.6				
Green Ext Time (p_c), s		2.9		0.4	0.0	2.3		4.8				

Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	24	370	31	7	17	0	0	14	24
Future Volume (veh/h)	0	0	0	24	370	31	7	17	0	0	14	24
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				26	394	33	7	18	0	0	15	26
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				102	1610	141	225	81	0	0	55	95
Arrive On Green				0.50	0.50	0.50	0.09	0.09	0.00	0.00	0.09	0.09
Sat Flow, veh/h				202	3197	281	353	908	0	0	614	1065
Grp Volume(v), veh/h				239	0	214	25	0	0	0	0	41
Grp Sat Flow(s),veh/h/ln				1860	0	1820	1261	0	0	0	0	1679
Q Serve(g_s), s				1.7	0.0	1.6	0.3	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s				1.7	0.0	1.6	0.9	0.0	0.0	0.0	0.0	0.5
Prop In Lane				0.11		0.15	0.28		0.00	0.00		0.63
Lane Grp Cap(c), veh/h				937	0	917	306	0	0	0	0	150
V/C Ratio(X)				0.26	0.00	0.23	0.08	0.00	0.00	0.00	0.00	0.27
Avail Cap(c_a), veh/h				3123	0	3056	1436	0	0	0	0	1268
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				3.4	0.0	3.3	10.5	0.0	0.0	0.0	0.0	10.1
Incr Delay (d2), s/veh				0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				3.5	0.0	3.5	10.7	0.0	0.0	0.0	0.0	11.1
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					453			25			41	
Approach Delay, s/veh					3.5			10.7			11.1	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				6.7		17.1		6.7				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.5		3.7		2.9				
Green Ext Time (p_c), s				0.1		2.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		4.4
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	71	423	6	12	7	0	0	20	5
Future Vol, veh/h	0	0	0	71	423	6	12	7	0	0	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	85	504	7	14	8	0	0	24	6

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	434	681	-	-	678	256
Stage 1	-	-	-	0	0	-	-	678	-
Stage 2	-	-	-	434	681	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	506	371	0	0	373	743
Stage 1	-	-	-	-	-	0	0	450	-
Stage 2	-	-	-	570	448	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	478	371	-	-	373	743
Mov Cap-2 Maneuver	-	-	-	478	371	-	-	373	-
Stage 1	-	-	-	-	-	-	-	450	-
Stage 2	-	-	-	536	448	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		13.8	14.4
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	432	-	-	-	414
HCM Lane V/C Ratio	0.052	-	-	-	0.072
HCM Control Delay (s)	13.8	-	-	-	14.4
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	492	35	0	0	148	0	0	5
Future Vol, veh/h	0	0	0	0	492	35	0	0	148	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	607	43	0	0	183	0	0	6

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	325
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	671
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	671
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	10.4
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	671
HCM Lane V/C Ratio	-	-	0.009
HCM Control Delay (s)	-	-	10.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	120	2	188	504	212	16	50	243	209	61	10
Future Volume (veh/h)	23	120	2	188	504	212	16	50	243	209	61	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	148	2	232	622	262	20	62	300	172	195	12
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	958	13	266	1084	720	102	315	357	266	260	16
Arrive On Green	0.11	0.27	0.27	0.15	0.31	0.31	0.23	0.23	0.23	0.15	0.15	0.15
Sat Flow, veh/h	1781	3590	48	1781	3554	1585	451	1397	1585	1781	1744	107
Grp Volume(v), veh/h	28	73	77	232	622	262	82	0	300	172	0	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1585	1848	0	1585	1781	0	1851
Q Serve(g_s), s	1.3	2.9	2.9	11.7	13.6	10.0	3.3	0.0	16.7	8.4	0.0	9.9
Cycle Q Clear(g_c), s	1.3	2.9	2.9	11.7	13.6	10.0	3.3	0.0	16.7	8.4	0.0	9.9
Prop In Lane	1.00		0.03	1.00		1.00	0.24		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	198	474	497	266	1084	720	416	0	357	266	0	276
V/C Ratio(X)	0.14	0.15	0.15	0.87	0.57	0.36	0.20	0.00	0.84	0.65	0.00	0.75
Avail Cap(c_a), veh/h	579	771	807	290	1541	924	701	0	602	444	0	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.0	25.9	25.9	38.4	27.0	16.4	29.0	0.0	34.1	36.9	0.0	37.6
Incr Delay (d2), s/veh	0.2	0.7	0.7	22.1	1.7	1.1	0.3	0.0	7.4	3.7	0.0	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	1.4	6.7	5.9	4.9	1.5	0.0	7.1	3.9	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	26.6	26.5	60.5	28.7	17.6	29.3	0.0	41.5	40.7	0.0	43.3
LnGrp LOS	D	C	C	E	C	B	C	A	D	D	A	D
Approach Vol, veh/h		178			1116			382			379	
Approach Delay, s/veh		28.2			32.7			38.9			42.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.5	30.0		18.4	14.9	33.5		25.4				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	13.7	4.9		11.9	3.3	15.6		18.7				
Green Ext Time (p_c), s	0.1	3.2		1.9	0.0	12.5		2.1				

Intersection Summary			
HCM 6th Ctrl Delay		35.2	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	23	0	6	20	29	0	0	12	48	0	19
Future Vol, veh/h	4	23	0	6	20	29	0	0	12	48	0	19
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	24	0	6	21	31	0	0	13	51	0	20
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	7.7	7.8	6.9	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%	11%	72%
Vol Thru, %	100%	0%	0%	100%	36%	0%
Vol Right, %	0%	100%	0%	0%	53%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	12	4	23	55	67
LT Vol	0	0	4	0	6	48
Through Vol	0	0	0	23	20	0
RT Vol	0	12	0	0	29	19
Lane Flow Rate	0	13	4	24	59	71
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0	0.014	0.006	0.032	0.072	0.092
Departure Headway (Hd)	4.722	4.021	5.211	4.71	4.408	4.667
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	878	681	753	805	762
Service Time	2.503	1.801	2.988	2.486	2.481	2.731
HCM Lane V/C Ratio	0	0.015	0.006	0.032	0.073	0.093
HCM Control Delay	7.5	6.9	8	7.6	7.8	8.2
HCM Lane LOS	N	A	A	A	A	A
HCM 95th-tile Q	0	0	0	0.1	0.2	0.3

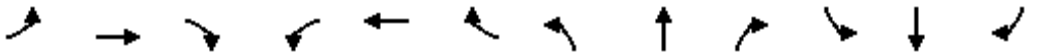
Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	18	18	73	16	23
Future Vol, veh/h	67	18	18	73	16	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	21	21	84	18	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	98	0	214	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	126	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1495	-	774	970
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	900	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1495	-	762	970
Mov Cap-2 Maneuver	-	-	-	-	762	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	887	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	872	-	-	1495	-
HCM Lane V/C Ratio	0.051	-	-	0.014	-
HCM Control Delay (s)	9.4	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	44	46	0	0	0	25	223	78	62	425	75
Future Volume (veh/h)	17	44	46	0	0	0	25	223	78	62	425	75
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	46	48				26	235	82	65	447	79
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	219	103	108				58	898	305	125	1155	203
Arrive On Green	0.12	0.12	0.12				0.03	0.34	0.34	0.07	0.38	0.38
Sat Flow, veh/h	1781	838	875				1781	2604	884	1781	3021	531
Grp Volume(v), veh/h	18	0	94				26	158	159	65	262	264
Grp Sat Flow(s),veh/h/ln	1781	0	1713				1781	1777	1711	1781	1777	1775
Q Serve(g_s), s	0.3	0.0	1.5				0.4	1.9	1.9	1.0	3.1	3.1
Cycle Q Clear(g_c), s	0.3	0.0	1.5				0.4	1.9	1.9	1.0	3.1	3.1
Prop In Lane	1.00		0.51				1.00		0.52	1.00		0.30
Lane Grp Cap(c), veh/h	219	0	211				58	613	590	125	680	679
V/C Ratio(X)	0.08	0.00	0.45				0.45	0.26	0.27	0.52	0.39	0.39
Avail Cap(c_a), veh/h	1658	0	1595				356	1476	1422	442	1562	1560
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	11.8				13.8	6.8	6.9	13.0	6.5	6.5
Incr Delay (d2), s/veh	0.2	0.0	1.5				5.3	0.5	0.5	3.3	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.5				0.2	0.5	0.5	0.4	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	0.0	13.3				19.1	7.3	7.4	16.3	7.3	7.3
LnGrp LOS	B	A	B				B	A	A	B	A	A
Approach Vol, veh/h		112						343			591	
Approach Delay, s/veh		13.0						8.2			8.3	
Approach LOS		B						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	6.2	15.0		7.8	5.1	16.1
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	3.0	3.9		3.5	2.4	5.1
Green Ext Time (p_c), s	0.0	3.4		0.5	0.0	5.9

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	14	308	11	9	461
Future Vol, veh/h	11	14	308	11	9	461
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	14	314	11	9	470

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	573	163	0	0	325	0
Stage 1	320	-	-	-	-	-
Stage 2	253	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	450	853	-	-	1231	-
Stage 1	709	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	446	853	-	-	1231	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	758	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	609	1231	-
HCM Lane V/C Ratio	-	-	0.042	0.007	-
HCM Control Delay (s)	-	-	11.2	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1	0	6	0	2	0	20	7	2	32	0
Future Vol, veh/h	6	1	0	6	0	2	0	20	7	2	32	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1	0	7	0	2	0	22	8	2	36	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	67	70	36	67	66	26	-	0	0	30	0	0
Stage 1	40	40	-	26	26	-	-	-	-	-	-	-
Stage 2	27	30	-	41	40	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	926	821	1037	926	825	1050	0	-	-	1583	-	0
Stage 1	975	862	-	992	874	-	0	-	-	-	-	0
Stage 2	990	870	-	974	862	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	923	820	1037	924	824	1050	-	-	-	1583	-	-
Mov Cap-2 Maneuver	923	820	-	924	824	-	-	-	-	-	-	-
Stage 1	975	861	-	992	874	-	-	-	-	-	-	-
Stage 2	988	870	-	972	861	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.8	0	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	923	820	953	1583	-
HCM Lane V/C Ratio	-	-	0.007	0.001	0.009	0.001	-
HCM Control Delay (s)	-	-	8.9	9.4	8.8	7.3	0
HCM Lane LOS	-	-	A	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	9	6	301	458	19
Future Vol, veh/h	2	9	6	301	458	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	10	6	320	487	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	669	254	507	0	-	0
Stage 1	497	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	391	745	1054	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	388	745	1054	-	-	-
Mov Cap-2 Maneuver	388	-	-	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.2	0
HCM LOS	B		

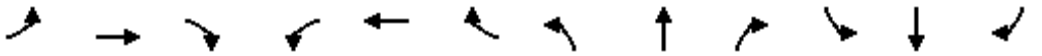
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1054	-	638	-	-
HCM Lane V/C Ratio	0.006	-	0.018	-	-
HCM Control Delay (s)	8.4	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	36	0	5	18	8	1	15	9	10	6	4
Future Vol, veh/h	4	36	0	5	18	8	1	15	9	10	6	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	40	0	5	20	9	1	16	10	11	7	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.1	7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	10%	16%	50%
Vol Thru, %	60%	90%	58%	30%
Vol Right, %	36%	0%	26%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	40	31	20
LT Vol	1	4	5	10
Through Vol	15	36	18	6
RT Vol	9	0	8	4
Lane Flow Rate	27	44	34	22
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.05	0.037	0.025
Departure Headway (Hd)	3.877	4.066	3.93	4.069
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	920	880	909	876
Service Time	1.917	2.093	1.961	2.109
HCM Lane V/C Ratio	0.029	0.05	0.037	0.025
HCM Control Delay	7	7.3	7.1	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	8	12	40	4	3	5	282	11	11	472	15
Future Volume (veh/h)	22	8	12	40	4	3	5	282	11	11	472	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	9	14	45	5	3	6	320	12	12	536	17
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	31	186	250	9	186	144	1803	67	148	1812	57
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	0	267	1585	0	79	1585	14	3394	126	21	3409	107
Grp Volume(v), veh/h	34	0	14	50	0	3	178	0	160	297	0	268
Grp Sat Flow(s),veh/h/ln	267	0	1585	79	0	1585	1854	0	1679	1854	0	1683
Q Serve(g_s), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	2.4
Cycle Q Clear(g_c), s	3.2	0.0	0.2	3.2	0.0	0.0	1.3	0.0	1.4	2.4	0.0	2.4
Prop In Lane	0.74		1.00	0.90		1.00	0.03		0.07	0.04		0.06
Lane Grp Cap(c), veh/h	260	0	186	259	0	186	1121	0	892	1122	0	894
V/C Ratio(X)	0.13	0.00	0.08	0.19	0.00	0.02	0.16	0.00	0.18	0.26	0.00	0.30
Avail Cap(c_a), veh/h	1184	0	1159	1134	0	1159	2796	0	2457	2811	0	2462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	10.7	13.1	0.0	10.7	3.3	0.0	3.3	3.6	0.0	3.6
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.4	0.0	0.0	0.2	0.0	0.3	0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.3	0.0	0.0	0.3	0.0	0.2	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.0	10.9	13.4	0.0	10.7	3.6	0.0	3.7	4.0	0.0	4.2
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		48			53			338			565	
Approach Delay, s/veh		11.1			13.3			3.6			4.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.5		7.8		19.5		7.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		3.4		5.2		4.4		5.2				
Green Ext Time (p_c), s		5.6		0.1		10.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			4.8									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	0	11	1	3	7
Future Vol, veh/h	3	0	11	1	3	7
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	16	1	4	10
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7	7.2	6.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	30%	0%	92%
Vol Thru, %	0%	100%	8%
Vol Right, %	70%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	10	3	12
LT Vol	3	0	11
Through Vol	0	3	1
RT Vol	7	0	0
Lane Flow Rate	14	4	17
Geometry Grp	1	1	1
Degree of Util (X)	0.015	0.005	0.02
Departure Headway (Hd)	3.611	3.972	4.146
Convergence, Y/N	Yes	Yes	Yes
Cap	994	905	867
Service Time	1.623	1.98	2.151
HCM Lane V/C Ratio	0.014	0.004	0.02
HCM Control Delay	6.7	7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0.1

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	6	2	5	9	4	3	17	5	3	14	2
Future Vol, veh/h	2	6	2	5	9	4	3	17	5	3	14	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	2	6	11	5	4	21	6	4	17	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	16	0	0	9	0	0	47	40	8	52	39	14
Stage 1	-	-	-	-	-	-	12	12	-	26	26	-
Stage 2	-	-	-	-	-	-	35	28	-	26	13	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1602	-	-	1611	-	-	954	852	1074	947	853	1066
Stage 1	-	-	-	-	-	-	1009	886	-	992	874	-
Stage 2	-	-	-	-	-	-	981	872	-	992	885	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1602	-	-	1611	-	-	934	848	1074	920	849	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	934	848	-	920	849	-
Stage 1	-	-	-	-	-	-	1008	885	-	991	871	-
Stage 2	-	-	-	-	-	-	956	869	-	962	884	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	2	9.2	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	896	1602	-	-	1611	-	-	879
HCM Lane V/C Ratio	0.034	0.002	-	-	0.004	-	-	0.026
HCM Control Delay (s)	9.2	7.3	0	-	7.2	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

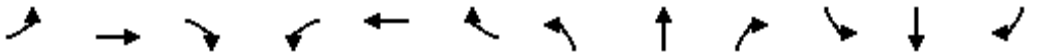
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	6	1	3	18	1	11	7	284	21	11	516	7
Future Vol, veh/h	6	1	3	18	1	11	7	284	21	11	516	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1	3	20	1	12	8	316	23	12	573	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	776	956	291	655	949	170	581	0	0	339	0	0
Stage 1	601	601	-	344	344	-	-	-	-	-	-	-
Stage 2	175	355	-	311	605	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	287	257	706	351	259	844	989	-	-	1217	-	-
Stage 1	454	488	-	645	635	-	-	-	-	-	-	-
Stage 2	810	628	-	674	486	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	277	251	706	342	253	844	989	-	-	1217	-	-
Mov Cap-2 Maneuver	277	251	-	342	253	-	-	-	-	-	-	-
Stage 1	449	481	-	639	629	-	-	-	-	-	-	-
Stage 2	789	622	-	659	479	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	14.1	0.2	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	989	-	-	335	431	1217	-	-
HCM Lane V/C Ratio	0.008	-	-	0.033	0.077	0.01	-	-
HCM Control Delay (s)	8.7	0	-	16.1	14.1	8	0.1	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	6	385	5	190	4	107	379	92	118	2
Future Volume (veh/h)	0	0	6	385	5	190	4	107	379	92	118	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	401	0	0	4	110	0	95	122	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	378		1208	0		21	598		254	361	6
Arrive On Green	0.00	0.00	0.00	0.20	0.00	0.00	0.17	0.17	0.00	0.17	0.17	0.17
Sat Flow, veh/h	0	1870	0	3563	0	1585	122	3519	1585	1498	2126	35
Grp Volume(v), veh/h	0	0	0	401	0	0	61	53	0	114	0	105
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1864	1777	1585	1795	0	1864
Q Serve(g_s), s	0.0	0.0	0.0	3.0	0.0	0.0	0.8	0.7	0.0	1.7	0.0	1.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.0	0.0	0.0	0.8	0.7	0.0	1.7	0.0	1.5
Prop In Lane	0.00		0.00	1.00		1.00	0.07		1.00	0.83		0.02
Lane Grp Cap(c), veh/h	0	378		1208	0		317	302		305	0	317
V/C Ratio(X)	0.00	0.00		0.33	0.00		0.19	0.18		0.37	0.00	0.33
Avail Cap(c_a), veh/h	0	1588		3514	0		1804	1720		1098	0	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	10.6	0.0	0.0	10.5	10.5	0.0	10.8	0.0	10.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.3	0.0	0.8	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.3	0.2	0.0	0.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	10.7	0.0	0.0	10.8	10.7	0.0	11.6	0.0	11.4
LnGrp LOS	A	A		B	A		B	B		B	A	B
Approach Vol, veh/h		0			401			114			219	
Approach Delay, s/veh		0.0			10.7			10.8			11.5	
Approach LOS					B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		10.4		9.5		10.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		2.8		0.0		3.7		5.0				
Green Ext Time (p_c), s		0.6		0.0		1.0		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			11.0									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	447	31	200	831	597	27	0	200	98	72	59
Future Volume (veh/h)	0	447	31	200	831	597	27	0	200	98	72	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	532	37	238	989	0	32	0	238	102	108	70
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	765	53	296	1686		307	0	273	193	203	172
Arrive On Green	0.00	0.23	0.23	0.17	0.47	0.00	0.17	0.00	0.17	0.11	0.11	0.11
Sat Flow, veh/h	0	3465	234	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	280	289	238	989	0	32	0	238	102	108	70
Grp Sat Flow(s),veh/h/ln	0	1777	1828	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	8.0	8.0	7.1	11.2	0.0	0.8	0.0	8.1	3.0	3.0	2.3
Cycle Q Clear(g_c), s	0.0	8.0	8.0	7.1	11.2	0.0	0.8	0.0	8.1	3.0	3.0	2.3
Prop In Lane	0.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	403	415	296	1686		307	0	273	193	203	172
V/C Ratio(X)	0.00	0.69	0.70	0.80	0.59		0.10	0.00	0.87	0.53	0.53	0.41
Avail Cap(c_a), veh/h	0	676	696	468	2577		307	0	273	872	915	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.6	19.6	22.1	10.6	0.0	19.2	0.0	22.2	23.2	23.3	22.9
Incr Delay (d2), s/veh	0.0	2.2	2.1	5.4	0.3	0.0	0.1	0.0	25.0	2.2	2.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	3.2	3.1	3.5	0.0	0.3	0.0	4.6	1.3	1.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.7	21.7	27.5	10.9	0.0	19.4	0.0	47.2	25.5	25.4	24.5
LnGrp LOS	A	C	C	C	B		B	A	D	C	C	C
Approach Vol, veh/h		569			1227			270			280	
Approach Delay, s/veh		21.7			14.1			43.9			25.2	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	14.0	13.7	17.0	10.5	30.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	14.5	21.0	27.0	40.0
Max Q Clear Time (g_c+I1), s	10.1	9.1	10.0	5.0	13.2
Green Ext Time (p_c), s	0.0	0.3	2.5	1.1	7.7

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

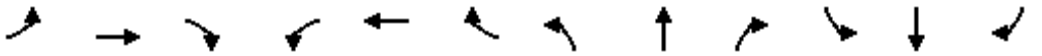
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	11	134	11	19	109	21	3	12	26	15	15	9
Future Vol, veh/h	11	134	11	19	109	21	3	12	26	15	15	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	141	12	20	115	22	3	13	27	16	16	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	153	0	0	350	348	147	357	343	126
Stage 1	-	-	-	-	-	-	171	171	-	166	166	-
Stage 2	-	-	-	-	-	-	179	177	-	191	177	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1447	-	-	1428	-	-	605	576	900	598	579	924
Stage 1	-	-	-	-	-	-	831	757	-	836	761	-
Stage 2	-	-	-	-	-	-	823	753	-	811	753	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1447	-	-	1428	-	-	575	562	900	560	565	924
Mov Cap-2 Maneuver	-	-	-	-	-	-	575	562	-	560	565	-
Stage 1	-	-	-	-	-	-	824	750	-	828	750	-
Stage 2	-	-	-	-	-	-	785	742	-	766	746	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1	10.2	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	739	1447	-	-	1428	-	-	618
HCM Lane V/C Ratio	0.058	0.008	-	-	0.014	-	-	0.066
HCM Control Delay (s)	10.2	7.5	0	-	7.6	0	-	11.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	35	84	86	47	21	76	315	60	19	343	49
Future Volume (veh/h)	50	35	84	86	47	21	76	315	60	19	343	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	37	88	91	49	22	80	332	63	20	361	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	493	88	210	262	85	28	140	1067	200	45	949	136
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.08	0.36	0.36	0.03	0.30	0.30
Sat Flow, veh/h	1329	491	1169	510	473	155	1781	2986	560	1781	3121	446
Grp Volume(v), veh/h	53	0	125	162	0	0	80	196	199	20	204	209
Grp Sat Flow(s),veh/h/ln	1329	0	1660	1138	0	0	1781	1777	1770	1781	1777	1790
Q Serve(g_s), s	0.0	0.0	2.2	2.6	0.0	0.0	1.4	2.6	2.7	0.4	3.0	3.0
Cycle Q Clear(g_c), s	0.9	0.0	2.2	4.8	0.0	0.0	1.4	2.6	2.7	0.4	3.0	3.0
Prop In Lane	1.00		0.70	0.56		0.14	1.00		0.32	1.00		0.25
Lane Grp Cap(c), veh/h	493	0	298	375	0	0	140	635	633	45	540	544
V/C Ratio(X)	0.11	0.00	0.42	0.43	0.00	0.00	0.57	0.31	0.31	0.44	0.38	0.38
Avail Cap(c_a), veh/h	1265	0	1262	1215	0	0	1083	2161	2152	1083	2161	2177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	0.0	12.0	13.3	0.0	0.0	14.6	7.6	7.7	15.8	9.0	9.0
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.8	0.0	0.0	3.6	0.3	0.3	6.6	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.7	1.0	0.0	0.0	0.6	0.8	0.8	0.2	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	0.0	12.9	14.1	0.0	0.0	18.2	7.9	7.9	22.4	9.4	9.5
LnGrp LOS	B	A	B	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		178			162			475			433	
Approach Delay, s/veh		12.5			14.1			9.7			10.1	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	16.9		10.5	7.3	15.1		10.5				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.4	4.7		4.2	3.4	5.0		6.8				
Green Ext Time (p_c), s	0.0	2.7		0.8	0.1	2.8		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		10.8	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

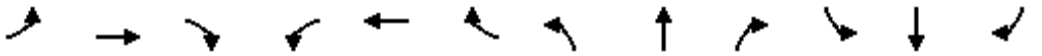
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	80	52	192	95	119	25	304	84	128	398	18
Future Volume (veh/h)	13	80	52	192	95	119	25	304	84	128	398	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	82	54	148	168	123	26	313	87	132	410	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	144	142	280	294	405	54	726	198	176	1146	53
Arrive On Green	0.09	0.09	0.09	0.16	0.16	0.16	0.03	0.26	0.26	0.10	0.33	0.33
Sat Flow, veh/h	254	1603	1585	1781	1870	1585	1781	2757	754	1781	3459	160
Grp Volume(v), veh/h	95	0	54	148	168	123	26	200	200	132	210	219
Grp Sat Flow(s),veh/h/ln	1858	0	1585	1781	1870	1585	1781	1777	1735	1781	1777	1842
Q Serve(g_s), s	2.4	0.0	1.6	3.7	4.0	3.0	0.7	4.5	4.6	3.5	4.3	4.4
Cycle Q Clear(g_c), s	2.4	0.0	1.6	3.7	4.0	3.0	0.7	4.5	4.6	3.5	4.3	4.4
Prop In Lane	0.14		1.00	1.00		1.00	1.00		0.43	1.00		0.09
Lane Grp Cap(c), veh/h	166	0	142	280	294	405	54	468	457	176	589	610
V/C Ratio(X)	0.57	0.00	0.38	0.53	0.57	0.30	0.48	0.43	0.44	0.75	0.36	0.36
Avail Cap(c_a), veh/h	770	0	657	922	969	977	738	2208	2156	738	2208	2289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	20.7	18.7	18.8	14.5	23.0	14.8	14.8	21.2	12.2	12.2
Incr Delay (d2), s/veh	3.1	0.0	1.7	1.6	1.8	0.4	6.4	1.3	1.4	6.3	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.6	1.4	1.6	0.9	0.4	1.7	1.7	1.6	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	0.0	22.4	20.3	20.6	14.9	29.4	16.1	16.2	27.5	13.0	13.0
LnGrp LOS	C	A	C	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		149			439			426			561	
Approach Delay, s/veh		23.5			18.9			17.0			16.4	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	17.8		8.9	6.1	21.1		12.2				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		20.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	5.5	6.6		4.4	2.7	6.4		6.0				
Green Ext Time (p_c), s	0.3	5.3		0.5	0.0	5.6		1.6				

Intersection Summary			
HCM 6th Ctrl Delay		17.9	
HCM 6th LOS		B	

Notes

User approved volume balancing among the lanes for turning movement.



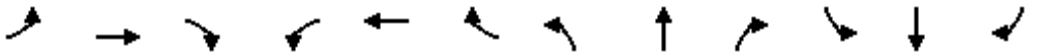
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	457	13	40	587	445	21	41	60	275	5	73
Future Volume (veh/h)	192	457	13	40	587	445	21	41	60	275	5	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	471	13	41	605	459	22	42	62	182	148	75
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	2124	59	57	1798	1044	36	69	91	272	179	91
Arrive On Green	0.13	0.60	0.60	0.03	0.51	0.51	0.06	0.06	0.06	0.15	0.15	0.15
Sat Flow, veh/h	1781	3532	97	1781	3554	1585	632	1207	1585	1781	1170	593
Grp Volume(v), veh/h	198	237	247	41	605	459	64	0	62	182	0	223
Grp Sat Flow(s),veh/h/ln	1781	1777	1853	1781	1777	1585	1839	0	1585	1781	0	1764
Q Serve(g_s), s	12.6	7.0	7.1	2.6	11.7	16.0	3.9	0.0	4.4	11.1	0.0	14.1
Cycle Q Clear(g_c), s	12.6	7.0	7.1	2.6	11.7	16.0	3.9	0.0	4.4	11.1	0.0	14.1
Prop In Lane	1.00		0.05	1.00		1.00	0.34		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	227	1069	1114	57	1798	1044	106	0	91	272	0	269
V/C Ratio(X)	0.87	0.22	0.22	0.73	0.34	0.44	0.60	0.00	0.68	0.67	0.00	0.83
Avail Cap(c_a), veh/h	260	1069	1114	107	1798	1044	288	0	248	434	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	10.5	10.5	55.2	16.9	9.4	52.9	0.0	53.1	46.0	0.0	47.2
Incr Delay (d2), s/veh	24.0	0.5	0.5	14.3	0.4	1.2	5.4	0.0	8.5	2.8	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	2.7	2.8	1.4	4.7	8.4	2.0	0.0	1.9	5.1	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	11.0	11.0	69.5	17.4	10.6	58.4	0.0	61.7	48.8	0.0	54.5
LnGrp LOS	E	B	B	E	B	B	E	A	E	D	A	D
Approach Vol, veh/h		682			1105			126			405	
Approach Delay, s/veh		29.1			16.5			60.0			51.9	
Approach LOS		C			B			E			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.1	8.2	73.7		22.1	19.1	62.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	6.9	44.1		28.0	16.8	34.2				
Max Q Clear Time (g_c+I1), s		6.4	4.6	9.1		16.1	14.6	18.0				
Green Ext Time (p_c), s		0.3	0.0	2.8		1.5	0.1	5.1				

Intersection Summary												
HCM 6th Ctrl Delay			28.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



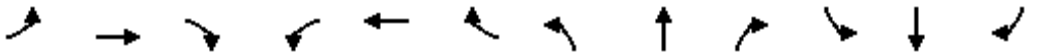
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	591	119	41	756	245	118	73	38	327	110	200
Future Volume (veh/h)	74	591	119	41	756	245	118	73	38	327	110	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	616	124	43	788	255	100	109	40	228	273	208
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1664	334	58	1926	859	147	155	131	292	306	260
Arrive On Green	0.06	0.56	0.56	0.03	0.54	0.54	0.08	0.08	0.08	0.16	0.16	0.16
Sat Flow, veh/h	1781	2948	592	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	77	371	369	43	788	255	100	109	40	228	273	208
Grp Sat Flow(s),veh/h/ln	1781	1777	1764	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.9	13.2	13.3	2.8	15.0	10.1	6.3	6.5	2.7	14.1	16.4	14.5
Cycle Q Clear(g_c), s	4.9	13.2	13.3	2.8	15.0	10.1	6.3	6.5	2.7	14.1	16.4	14.5
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	1003	996	58	1926	859	147	155	131	292	306	260
V/C Ratio(X)	0.79	0.37	0.37	0.74	0.41	0.30	0.68	0.70	0.31	0.78	0.89	0.80
Avail Cap(c_a), veh/h	116	1003	996	108	1926	859	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	13.8	13.8	55.2	15.5	14.4	51.3	51.4	49.6	46.1	47.1	46.3
Incr Delay (d2), s/veh	24.1	1.0	1.0	17.0	0.6	0.9	5.4	5.7	1.3	12.1	25.0	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.2	5.2	1.5	5.9	3.6	3.0	3.3	1.1	7.2	9.7	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.8	14.8	14.8	72.1	16.1	15.3	56.6	57.1	50.9	58.2	72.1	61.7
LnGrp LOS	E	B	B	E	B	B	E	E	D	E	E	E
Approach Vol, veh/h		817			1086			249			709	
Approach Delay, s/veh		20.7			18.2			55.9			64.6	
Approach LOS		C			B			E			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.0	8.2	69.4		23.3	10.8	66.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	7.0	36.5		19.5	7.5	36.0				
Max Q Clear Time (g_c+I1), s		8.5	4.8	15.3		18.4	6.9	17.0				
Green Ext Time (p_c), s		1.0	0.0	4.4		0.4	0.0	5.9				

Intersection Summary												
HCM 6th Ctrl Delay			33.7									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	52	28	172	34	202	9	174	43	172	396	5
Future Volume (veh/h)	10	52	28	172	34	202	9	174	43	172	396	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	55	30	183	36	215	10	185	46	183	421	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	154	130	270	53	498	23	744	181	240	1382	16
Arrive On Green	0.08	0.08	0.08	0.18	0.18	0.18	0.01	0.26	0.26	0.13	0.38	0.38
Sat Flow, veh/h	1781	1870	1585	1500	295	1585	1781	2835	688	1781	3597	43
Grp Volume(v), veh/h	11	55	30	219	0	215	10	114	117	183	208	218
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1795	0	1585	1781	1777	1747	1781	1777	1863
Q Serve(g_s), s	0.3	1.6	1.0	6.5	0.0	6.2	0.3	2.9	3.0	5.7	4.7	4.7
Cycle Q Clear(g_c), s	0.3	1.6	1.0	6.5	0.0	6.2	0.3	2.9	3.0	5.7	4.7	4.7
Prop In Lane	1.00		1.00	0.84		1.00	1.00		0.39	1.00		0.02
Lane Grp Cap(c), veh/h	146	154	130	323	0	498	23	466	458	240	682	715
V/C Ratio(X)	0.08	0.36	0.23	0.68	0.00	0.43	0.44	0.25	0.25	0.76	0.30	0.30
Avail Cap(c_a), veh/h	623	654	555	785	0	906	623	1243	1222	935	1243	1303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	24.8	24.5	21.9	0.0	15.5	28.0	16.6	16.7	23.9	12.3	12.3
Incr Delay (d2), s/veh	0.2	1.4	0.9	2.5	0.0	0.6	12.6	0.3	0.3	5.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.7	0.4	2.7	0.0	2.0	0.2	1.1	1.1	2.5	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	26.2	25.4	24.4	0.0	16.1	40.6	16.9	17.0	28.9	12.5	12.5
LnGrp LOS	C	C	C	C	A	B	D	B	B	C	B	B
Approach Vol, veh/h		96			434			241			609	
Approach Delay, s/veh		25.8			20.3			17.9			17.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	20.1		9.3	5.4	27.1		15.4				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	7.7	5.0		3.6	2.3	6.7		8.5				
Green Ext Time (p_c), s	0.5	1.3		0.3	0.0	2.6		1.8				

Intersection Summary			
HCM 6th Ctrl Delay		19.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	11	31	6	21	43	29	294	13	17	419	64
Future Volume (veh/h)	112	11	31	6	21	43	29	294	13	17	419	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	12	33	6	22	46	31	313	14	18	446	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	31	271	140	96	177	67	1227	55	41	1020	155
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.35	0.35	0.02	0.33	0.33
Sat Flow, veh/h	1283	182	1585	68	560	1032	1781	3465	154	1781	3094	469
Grp Volume(v), veh/h	131	0	33	74	0	0	31	160	167	18	255	259
Grp Sat Flow(s),veh/h/ln	1465	0	1585	1659	0	0	1781	1777	1843	1781	1777	1786
Q Serve(g_s), s	1.1	0.0	0.5	0.0	0.0	0.0	0.5	1.9	2.0	0.3	3.4	3.4
Cycle Q Clear(g_c), s	2.3	0.0	0.5	1.2	0.0	0.0	0.5	1.9	2.0	0.3	3.4	3.4
Prop In Lane	0.91		1.00	0.08		0.62	1.00		0.08	1.00		0.26
Lane Grp Cap(c), veh/h	477	0	271	412	0	0	67	629	653	41	586	589
V/C Ratio(X)	0.27	0.00	0.12	0.18	0.00	0.00	0.46	0.25	0.26	0.44	0.44	0.44
Avail Cap(c_a), veh/h	1055	0	940	1103	0	0	294	1054	1093	311	1054	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	10.6	10.9	0.0	0.0	14.3	7.0	7.0	14.6	8.0	8.0
Incr Delay (d2), s/veh	0.3	0.0	0.2	0.2	0.0	0.0	4.8	0.2	0.2	7.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	0.3	0.0	0.0	0.3	0.5	0.5	0.2	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	0.0	10.8	11.1	0.0	0.0	19.1	7.2	7.2	21.7	8.5	8.5
LnGrp LOS	B	A	B	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		164			74			358			532	
Approach Delay, s/veh		11.4			11.1			8.2			8.9	
Approach LOS		B			B			A			A	

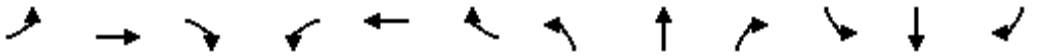
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	15.7		9.7	5.6	15.0		9.7				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.3	4.0		4.3	2.5	5.4		3.2				
Green Ext Time (p_c), s	0.0	1.6		0.6	0.0	2.6		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

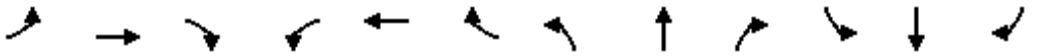
EXISTING CONDITIONS
PM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	29	23	29	34	65	19	548	53	36	601	22
Future Volume (veh/h)	26	29	23	29	34	65	19	548	53	36	601	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	31	24	31	36	69	20	583	56	38	639	23
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	152	118	386	89	171	132	1757	165	162	1820	64
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1289	977	757	1349	573	1099	34	3142	296	77	3255	114
Grp Volume(v), veh/h	28	0	55	31	0	105	347	0	312	361	0	339
Grp Sat Flow(s),veh/h/ln	1289	0	1734	1349	0	1673	1822	0	1649	1765	0	1681
Q Serve(g_s), s	0.7	0.0	0.9	0.7	0.0	1.9	0.0	0.0	3.5	0.0	0.0	3.7
Cycle Q Clear(g_c), s	2.6	0.0	0.9	1.6	0.0	1.9	3.4	0.0	3.5	3.5	0.0	3.7
Prop In Lane	1.00		0.44	1.00		0.66	0.06		0.18	0.11		0.07
Lane Grp Cap(c), veh/h	341	0	269	386	0	260	1132	0	922	1105	0	940
V/C Ratio(X)	0.08	0.00	0.20	0.08	0.00	0.40	0.31	0.00	0.34	0.33	0.00	0.36
Avail Cap(c_a), veh/h	1291	0	1547	1380	0	1492	2222	0	1961	2135	0	2000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	12.4	13.1	0.0	12.8	4.0	0.0	4.0	4.0	0.0	4.1
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.1	0.0	1.0	0.6	0.0	0.8	0.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.2	0.0	0.6	0.8	0.0	0.8	0.8	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	12.8	13.2	0.0	13.8	4.6	0.0	4.8	4.7	0.0	4.9
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		83			136			659			700	
Approach Delay, s/veh		13.2			13.7			4.7			4.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.8		9.8		23.8		9.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		5.5		4.6		5.7		3.9				
Green Ext Time (p_c), s		12.1		0.3		13.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	30	42	18	30	51	32	611	42	23	558	72
Future Volume (veh/h)	38	30	42	18	30	51	32	611	42	23	558	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	32	45	19	32	54	34	650	45	24	594	77
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	108	151	358	96	162	150	1800	122	134	1717	218
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1311	703	989	1322	625	1055	64	3165	214	41	3019	383
Grp Volume(v), veh/h	40	0	77	19	0	86	379	0	350	366	0	329
Grp Sat Flow(s),veh/h/ln	1311	0	1692	1322	0	1680	1779	0	1664	1809	0	1633
Q Serve(g_s), s	1.0	0.0	1.4	0.4	0.0	1.6	0.0	0.0	4.0	0.0	0.0	3.8
Cycle Q Clear(g_c), s	2.5	0.0	1.4	1.8	0.0	1.6	3.8	0.0	4.0	3.6	0.0	3.8
Prop In Lane	1.00		0.58	1.00		0.63	0.09		0.13	0.07		0.23
Lane Grp Cap(c), veh/h	349	0	259	358	0	257	1125	0	946	1140	0	929
V/C Ratio(X)	0.11	0.00	0.30	0.05	0.00	0.33	0.34	0.00	0.37	0.32	0.00	0.35
Avail Cap(c_a), veh/h	1288	0	1471	1304	0	1460	2102	0	1927	2145	0	1892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	13.0	13.8	0.0	13.0	4.0	0.0	4.1	4.0	0.0	4.0
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.1	0.0	0.8	0.6	0.0	0.9	0.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.1	0.0	0.5	0.9	0.0	0.9	0.8	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.0	13.6	13.8	0.0	13.8	4.7	0.0	4.9	4.6	0.0	4.8
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		117			105			729			695	
Approach Delay, s/veh		13.9			13.8			4.8			4.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.6		9.9		24.6		9.9				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		6.0		4.5		5.8		3.8				
Green Ext Time (p_c), s		13.7		0.5		12.9		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	346	16	0	0	0	0	20	34	33	42	0
Future Vol, veh/h	26	346	16	0	0	0	0	20	34	33	42	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	368	17	0	0	0	0	21	36	35	45	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.5	8	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	13%	0%	44%
Vol Thru, %	37%	87%	92%	56%
Vol Right, %	63%	0%	8%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	54	199	189	75
LT Vol	0	26	0	33
Through Vol	20	173	173	42
RT Vol	34	0	16	0
Lane Flow Rate	57	212	201	80
Geometry Grp	2	5	5	2
Degree of Util (X)	0.073	0.291	0.27	0.111
Departure Headway (Hd)	4.583	4.955	4.83	5.014
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	782	730	748	716
Service Time	2.609	2.655	2.53	3.039
HCM Lane V/C Ratio	0.073	0.29	0.269	0.112
HCM Control Delay	8	9.7	9.3	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.2	1.1	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	189	203	19	6	0	4	0	7	7	0	0	0
Future Vol, veh/h	189	203	19	6	0	4	0	7	7	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	201	216	20	6	0	4	0	7	7	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	628	226
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	400	813
Stage 1	-	-	-	0	476	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	813
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.5
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	813	-	-	-
HCM Lane V/C Ratio	0.018	-	-	-
HCM Control Delay (s)	9.5	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

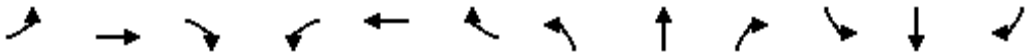
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	170	43	109	203	179	31	43	57	43	51	41
Future Volume (veh/h)	37	170	43	109	203	179	31	43	57	43	51	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	193	49	124	231	203	35	49	65	49	58	47
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	580	707	175	734	631	530	245	285	383	197	196	120
Arrive On Green	0.09	0.25	0.25	0.19	0.34	0.34	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	2822	699	1781	1832	1539	483	1179	1585	322	812	498
Grp Volume(v), veh/h	42	120	122	124	224	210	84	0	65	154	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1744	1781	1777	1593	1662	0	1585	1632	0	0
Q Serve(g_s), s	0.6	2.2	2.3	1.5	3.8	4.0	0.0	0.0	1.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	2.2	2.3	1.5	3.8	4.0	1.4	0.0	1.3	2.9	0.0	0.0
Prop In Lane	1.00		0.40	1.00		0.97	0.42		1.00	0.32		0.31
Lane Grp Cap(c), veh/h	580	445	437	734	612	549	529	0	383	513	0	0
V/C Ratio(X)	0.07	0.27	0.28	0.17	0.37	0.38	0.16	0.00	0.17	0.30	0.00	0.00
Avail Cap(c_a), veh/h	860	1335	1311	847	1335	1197	1174	0	1032	1267	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.8	12.0	12.1	6.0	9.8	9.9	12.0	0.0	12.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.1	0.2	0.2	0.0	0.3	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	0.7	0.4	1.1	1.1	0.5	0.0	0.4	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	12.1	12.2	6.0	10.0	10.0	12.2	0.0	12.3	13.0	0.0	0.0
LnGrp LOS	A	B	B	A	A	B	B	A	B	B	A	A
Approach Vol, veh/h		284			558			149			154	
Approach Delay, s/veh		11.7			9.1			12.2			13.0	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	14.6		13.9	7.7	18.3		13.9				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.5	4.3		4.9	2.6	6.0		3.4				
Green Ext Time (p_c), s	0.0	0.9		1.2	0.0	1.8		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		10.7
HCM 6th LOS		B

Notes

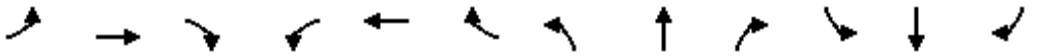
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	0	151	144	242	85	79	505	0	0	449	173
Future Volume (veh/h)	118	0	151	144	242	85	79	505	0	0	449	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	130	0	166	158	266	93	87	555	0	0	493	190
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	230	0	205	284	415	142	112	2033	0	0	1173	449
Arrive On Green	0.13	0.00	0.13	0.16	0.16	0.16	0.06	0.57	0.00	0.00	0.47	0.47
Sat Flow, veh/h	1781	0	1585	1781	2600	888	1781	3647	0	0	2605	962
Grp Volume(v), veh/h	130	0	166	158	180	179	87	555	0	0	348	335
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1711	1781	1777	0	0	1777	1697
Q Serve(g_s), s	7.4	0.0	11.0	8.8	10.2	10.6	5.2	8.6	0.0	0.0	14.0	14.2
Cycle Q Clear(g_c), s	7.4	0.0	11.0	8.8	10.2	10.6	5.2	8.6	0.0	0.0	14.0	14.2
Prop In Lane	1.00		1.00	1.00		0.52	1.00		0.00	0.00		0.57
Lane Grp Cap(c), veh/h	230	0	205	284	284	273	112	2033	0	0	830	792
V/C Ratio(X)	0.56	0.00	0.81	0.56	0.63	0.66	0.78	0.27	0.00	0.00	0.42	0.42
Avail Cap(c_a), veh/h	379	0	338	412	411	396	247	2033	0	0	830	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.00	0.99	0.99	0.99	0.99	0.94	0.94	0.00	0.00	0.97	0.97
Uniform Delay (d), s/veh	44.2	0.0	45.7	41.8	42.4	42.6	49.9	11.7	0.0	0.0	19.1	19.1
Incr Delay (d2), s/veh	2.1	0.0	7.4	6.0	8.1	9.2	10.5	0.3	0.0	0.0	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	4.7	4.3	5.1	5.2	2.7	3.4	0.0	0.0	6.1	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	0.0	53.1	47.8	50.6	51.8	60.4	12.0	0.0	0.0	20.6	20.7
LnGrp LOS	D	A	D	D	D	D	E	B	A	A	C	C
Approach Vol, veh/h		296			517			642			683	
Approach Delay, s/veh		50.1			50.2			18.6			20.7	
Approach LOS		D			D			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		66.8		19.0	11.4	55.4		22.2				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		10.6		13.0	7.2	16.2		12.6				
Green Ext Time (p_c), s		6.5		1.0	0.1	4.5		4.6				

Intersection Summary												
HCM 6th Ctrl Delay			31.2									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	54	460	48	14	32	0	0	27	21
Future Volume (veh/h)	0	0	0	54	460	48	14	32	0	0	27	21
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				57	489	51	15	34	0	0	29	22
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				163	1460	160	239	141	0	0	119	90
Arrive On Green				0.49	0.49	0.49	0.12	0.12	0.00	0.00	0.12	0.12
Sat Flow, veh/h				335	3002	328	400	1172	0	0	987	749
Grp Volume(v), veh/h				315	0	282	49	0	0	0	0	51
Grp Sat Flow(s),veh/h/ln				1854	0	1811	1571	0	0	0	0	1736
Q Serve(g_s), s				2.6	0.0	2.3	0.2	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				2.6	0.0	2.3	0.8	0.0	0.0	0.0	0.0	0.7
Prop In Lane				0.18		0.18	0.31		0.00	0.00		0.43
Lane Grp Cap(c), veh/h				901	0	881	380	0	0	0	0	209
V/C Ratio(X)				0.35	0.00	0.32	0.13	0.00	0.00	0.00	0.00	0.24
Avail Cap(c_a), veh/h				3005	0	2936	1400	0	0	0	0	1266
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				3.9	0.0	3.9	9.9	0.0	0.0	0.0	0.0	9.8
Incr Delay (d2), s/veh				0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.2	0.0	4.1	10.0	0.0	0.0	0.0	0.0	10.4
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					597			49			51	
Approach Delay, s/veh					4.1			10.0			10.4	
Approach LOS					A			B			B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.6		17.1		7.6				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.7		4.6		2.8				
Green Ext Time (p_c), s				0.2		4.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			5.0									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	57	565	5	11	8	0	0	21	10
Future Vol, veh/h	0	0	0	57	565	5	11	8	0	0	21	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	68	673	6	13	10	0	0	25	12

Major/Minor	Major2			Minor1			Minor2			
Conflicting Flow All	0	0	0	485	815	-	-	812	340	
Stage 1	-	-	-	0	0	-	-	812	-	
Stage 2	-	-	-	485	815	-	-	0	-	
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-	
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-	
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32	
Pot Cap-1 Maneuver	-	-	-	465	310	0	0	312	656	
Stage 1	-	-	-	-	-	0	0	390	-	
Stage 2	-	-	-	532	389	0	0	-	-	
Platoon blocked, %		-	-							
Mov Cap-1 Maneuver	-	-	-	429	310	-	-	312	656	
Mov Cap-2 Maneuver	-	-	-	429	310	-	-	312	-	
Stage 1	-	-	-	-	-	-	-	390	-	
Stage 2	-	-	-	489	389	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s		15.4	15.6
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	369	-	-	-	376
HCM Lane V/C Ratio	0.061	-	-	-	0.098
HCM Control Delay (s)	15.4	-	-	-	15.6
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

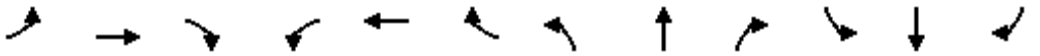
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	606	9	0	0	121	0	0	15
Future Vol, veh/h	0	0	0	0	606	9	0	0	121	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	748	11	0	0	149	0	0	19

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	380
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	618
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	618
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	11
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	618
HCM Lane V/C Ratio	-	-	0.03
HCM Control Delay (s)	-	-	11
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	125	1	186	571	254	21	55	338	521	37	14
Future Volume (veh/h)	3	125	1	186	571	254	21	55	338	521	37	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	154	1	230	705	314	26	68	417	692	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	673	4	247	1078	815	146	383	455	750	394	0
Arrive On Green	0.02	0.19	0.19	0.14	0.30	0.30	0.29	0.29	0.29	0.21	0.00	0.00
Sat Flow, veh/h	1781	3619	23	1781	3554	1585	510	1335	1585	3563	1870	0
Grp Volume(v), veh/h	4	76	79	230	705	314	94	0	417	692	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1845	0	1585	1781	1870	0
Q Serve(g_s), s	0.2	3.9	3.9	13.8	18.7	13.0	4.1	0.0	27.6	20.6	0.0	0.0
Cycle Q Clear(g_c), s	0.2	3.9	3.9	13.8	18.7	13.0	4.1	0.0	27.6	20.6	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.28		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	37	330	347	247	1078	815	529	0	455	750	394	0
V/C Ratio(X)	0.11	0.23	0.23	0.93	0.65	0.39	0.18	0.00	0.92	0.92	0.00	0.00
Avail Cap(c_a), veh/h	493	656	689	247	1312	919	596	0	512	756	397	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.0	37.5	37.5	46.2	32.8	16.0	29.0	0.0	37.4	41.9	0.0	0.0
Incr Delay (d2), s/veh	0.9	1.6	1.5	39.1	2.5	1.1	0.2	0.0	20.8	17.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.9	1.9	8.8	8.3	7.3	1.9	0.0	13.3	10.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	39.1	39.0	85.2	35.3	17.0	29.2	0.0	58.2	58.9	0.0	0.0
LnGrp LOS	D	D	D	F	D	B	C	A	E	E	A	A
Approach Vol, veh/h		159			1249			511			692	
Approach Delay, s/veh		39.4			39.9			52.8			58.9	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	25.5		27.4	7.0	38.3		35.7				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	15.8	5.9		22.6	2.2	20.7		29.6				
Green Ext Time (p_c), s	0.0	3.3		0.2	0.0	12.2		1.5				

Intersection Summary		
HCM 6th Ctrl Delay	47.4	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	82	0	3	133	95	0	0	10	95	2	111
Future Vol, veh/h	29	82	0	3	133	95	0	0	10	95	2	111
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	87	0	3	141	101	0	0	11	101	2	118
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	9	10.8	7.9	10.8
HCM LOS	A	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%	1%	46%
Vol Thru, %	100%	0%	0%	100%	58%	1%
Vol Right, %	0%	100%	0%	0%	41%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	10	29	82	231	208
LT Vol	0	0	29	0	3	95
Through Vol	0	0	0	82	133	2
RT Vol	0	10	0	0	95	111
Lane Flow Rate	0	11	31	87	246	221
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0	0.015	0.051	0.131	0.346	0.322
Departure Headway (Hd)	5.737	5.03	5.913	5.409	5.075	5.241
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	705	603	659	705	684
Service Time	3.515	2.807	3.672	3.168	3.126	3.295
HCM Lane V/C Ratio	0	0.016	0.051	0.132	0.349	0.323
HCM Control Delay	8.5	7.9	9	9	10.8	10.8
HCM Lane LOS	N	A	A	A	B	B
HCM 95th-tile Q	0	0	0.2	0.4	1.5	1.4

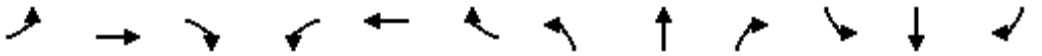
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	174	26	26	208	39	29
Future Vol, veh/h	174	26	26	208	39	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	200	30	30	239	45	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	230	0	514	215
Stage 1	-	-	-	-	215	-
Stage 2	-	-	-	-	299	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1338	-	521	825
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1338	-	507	825
Mov Cap-2 Maneuver	-	-	-	-	507	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	607	-	-	1338	-
HCM Lane V/C Ratio	0.129	-	-	0.022	-
HCM Control Delay (s)	11.8	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	94	62	0	0	0	97	533	127	119	466	142
Future Volume (veh/h)	52	94	62	0	0	0	97	533	127	119	466	142
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	99	65				102	561	134	125	491	149
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	232	137	90				130	1695	403	158	1643	496
Arrive On Green	0.13	0.13	0.13				0.07	0.60	0.60	0.09	0.61	0.61
Sat Flow, veh/h	1781	1054	692				1781	2847	678	1781	2690	811
Grp Volume(v), veh/h	55	0	164				102	349	346	125	323	317
Grp Sat Flow(s),veh/h/ln	1781	0	1746				1781	1777	1748	1781	1777	1724
Q Serve(g_s), s	2.0	0.0	6.5				4.1	7.1	7.2	5.0	6.2	6.3
Cycle Q Clear(g_c), s	2.0	0.0	6.5				4.1	7.1	7.2	5.0	6.2	6.3
Prop In Lane	1.00		0.40				1.00		0.39	1.00		0.47
Lane Grp Cap(c), veh/h	232	0	227				130	1058	1041	158	1085	1053
V/C Ratio(X)	0.24	0.00	0.72				0.78	0.33	0.33	0.79	0.30	0.30
Avail Cap(c_a), veh/h	668	0	655				143	1058	1041	178	1085	1053
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	28.1	0.0	30.1				32.8	7.3	7.4	32.2	6.7	6.7
Incr Delay (d2), s/veh	0.5	0.0	4.3				22.2	0.8	0.9	16.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.9				2.5	2.6	2.6	2.8	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	0.0	34.4				55.0	8.2	8.2	49.1	7.3	7.3
LnGrp LOS	C	A	C				D	A	A	D	A	A
Approach Vol, veh/h		219						797			765	
Approach Delay, s/veh		32.9						14.2			14.1	
Approach LOS		C						B			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	10.6	47.9		13.6	9.5	49.0
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	7.0	9.2		8.5	6.1	8.3
Green Ext Time (p_c), s	0.0	6.7		1.0	0.0	6.7

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	27	624	15	8	657
Future Vol, veh/h	8	27	624	15	8	657
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	28	637	15	8	670

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	996	326	0	0	652	0
Stage 1	645	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	241	670	-	-	930	-
Stage 1	484	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	238	670	-	-	930	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	674	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	474	930	-
HCM Lane V/C Ratio	-	-	0.075	0.009	-
HCM Control Delay (s)	-	-	13.2	8.9	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1	4	11	0	16	0	41	8	9	30	0
Future Vol, veh/h	4	1	4	11	0	16	0	41	8	9	30	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	4	12	0	18	0	46	9	10	34	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	114	109	34	108	105	51	-	0	0	55	0	0
Stage 1	54	54	-	51	51	-	-	-	-	-	-	-
Stage 2	60	55	-	57	54	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	863	781	1039	871	785	1017	0	-	-	1550	-	0
Stage 1	958	850	-	962	852	-	0	-	-	-	-	0
Stage 2	951	849	-	955	850	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	843	776	1039	861	780	1017	-	-	-	1550	-	-
Mov Cap-2 Maneuver	843	776	-	861	780	-	-	-	-	-	-	-
Stage 1	958	844	-	962	852	-	-	-	-	-	-	-
Stage 2	934	849	-	943	844	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.9	0	1.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	843	973	947	1550	-
HCM Lane V/C Ratio	-	-	0.005	0.006	0.032	0.007	-
HCM Control Delay (s)	-	-	9.3	8.7	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	16	630	640	28
Future Vol, veh/h	4	5	16	630	640	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	5	17	670	681	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1065	356	711	0	-	0
Stage 1	696	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	218	640	884	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	211	640	884	-	-	-
Mov Cap-2 Maneuver	211	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	670	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	0.3	0
HCM LOS	C		

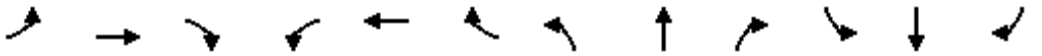
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	884	-	336	-	-
HCM Lane V/C Ratio	0.019	-	0.028	-	-
HCM Control Delay (s)	9.2	0.1	16	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	76	5	11	6	14	3	32	16	5	17	2
Future Vol, veh/h	8	76	5	11	6	14	3	32	16	5	17	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	84	5	12	7	15	3	35	18	5	19	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.2	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	9%	35%	21%
Vol Thru, %	63%	85%	19%	71%
Vol Right, %	31%	6%	45%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	89	31	24
LT Vol	3	8	11	5
Through Vol	32	76	6	17
RT Vol	16	5	14	2
Lane Flow Rate	56	98	34	26
Geometry Grp	1	1	1	1
Degree of Util (X)	0.062	0.111	0.037	0.031
Departure Headway (Hd)	4.005	4.087	3.951	4.198
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	885	872	898	844
Service Time	2.072	2.132	2.012	2.269
HCM Lane V/C Ratio	0.063	0.112	0.038	0.031
HCM Control Delay	7.3	7.6	7.2	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.1	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	19	29	37	12	13	11	535	26	19	485	9
Future Volume (veh/h)	57	19	29	37	12	13	11	535	26	19	485	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	22	33	42	14	15	12	608	30	22	551	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	35	453	170	35	453	104	1562	76	121	1586	28
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	28	123	1585	28	121	1585	19	3339	163	47	3390	60
Grp Volume(v), veh/h	87	0	33	56	0	15	342	0	308	303	0	280
Grp Sat Flow(s),veh/h/ln	152	0	1585	149	0	1585	1848	0	1673	1806	0	1691
Q Serve(g_s), s	0.3	0.0	0.6	0.3	0.0	0.3	0.0	0.0	4.7	0.0	0.0	4.1
Cycle Q Clear(g_c), s	11.1	0.0	0.6	11.1	0.0	0.3	4.6	0.0	4.7	4.0	0.0	4.1
Prop In Lane	0.75		1.00	0.75		1.00	0.04		0.10	0.07		0.04
Lane Grp Cap(c), veh/h	205	0	453	204	0	453	960	0	783	944	0	791
V/C Ratio(X)	0.43	0.00	0.07	0.27	0.00	0.03	0.36	0.00	0.39	0.32	0.00	0.35
Avail Cap(c_a), veh/h	541	0	813	534	0	813	1963	0	1717	1895	0	1736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	10.2	13.3	0.0	10.0	6.8	0.0	6.8	6.6	0.0	6.6
Incr Delay (d2), s/veh	1.4	0.0	0.1	0.7	0.0	0.0	0.8	0.0	1.2	0.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.3	0.0	0.1	1.5	0.0	1.4	1.3	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.8	0.0	10.2	14.0	0.0	10.1	7.6	0.0	7.9	7.3	0.0	7.6
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		120			71			650			583	
Approach Delay, s/veh		15.0			13.2			7.7			7.4	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.3		16.0		23.3		16.0				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		6.7		13.1		6.1		13.1				
Green Ext Time (p_c), s		11.7		0.2		10.4		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			8.5									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	2	9	0	1	7
Future Vol, veh/h	1	2	9	0	1	7
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	3	13	0	1	10
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.6	7.2	6.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	12%	0%	100%
Vol Thru, %	0%	33%	0%
Vol Right, %	88%	67%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	8	3	9
LT Vol	1	0	9
Through Vol	0	1	0
RT Vol	7	2	0
Lane Flow Rate	12	4	13
Geometry Grp	1	1	1
Degree of Util (X)	0.011	0.004	0.015
Departure Headway (Hd)	3.465	3.564	4.157
Convergence, Y/N	Yes	Yes	Yes
Cap	1037	1009	866
Service Time	1.471	1.568	2.159
HCM Lane V/C Ratio	0.012	0.004	0.015
HCM Control Delay	6.5	6.6	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	2	12	2	6	10	9	2	41	11	3	26	0
Future Vol, veh/h	2	12	2	6	10	9	2	41	11	3	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	15	2	7	12	11	2	50	13	4	32	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	23	0	0	17	0	0	68	57	16	84	53	18
Stage 1	-	-	-	-	-	-	20	20	-	32	32	-
Stage 2	-	-	-	-	-	-	48	37	-	52	21	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1592	-	-	1600	-	-	925	834	1063	903	838	1061
Stage 1	-	-	-	-	-	-	999	879	-	984	868	-
Stage 2	-	-	-	-	-	-	965	864	-	961	878	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1600	-	-	894	830	1063	847	834	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	894	830	-	847	834	-
Stage 1	-	-	-	-	-	-	998	878	-	983	865	-
Stage 2	-	-	-	-	-	-	926	861	-	894	877	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1.7	9.5	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	871	1592	-	-	1600	-	-	835
HCM Lane V/C Ratio	0.076	0.002	-	-	0.005	-	-	0.042
HCM Control Delay (s)	9.5	7.3	0	-	7.3	0	-	9.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

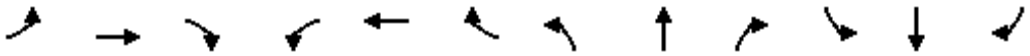
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	6	3	23	9	2	11	11	570	27	11	528	11
Future Vol, veh/h	6	3	23	9	2	11	11	570	27	11	528	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	3	26	10	2	12	12	633	30	12	587	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	959	1304	300	991	1295	332	599	0	0	663	0	0
Stage 1	617	617	-	672	672	-	-	-	-	-	-	-
Stage 2	342	687	-	319	623	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	211	159	696	200	161	664	974	-	-	922	-	-
Stage 1	444	479	-	412	453	-	-	-	-	-	-	-
Stage 2	646	446	-	667	476	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	199	153	696	184	155	664	974	-	-	922	-	-
Mov Cap-2 Maneuver	199	153	-	184	155	-	-	-	-	-	-	-
Stage 1	435	469	-	404	444	-	-	-	-	-	-	-
Stage 2	618	437	-	625	466	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	19	0.3	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	974	-	-	386	281	922	-	-
HCM Lane V/C Ratio	0.013	-	-	0.092	0.087	0.013	-	-
HCM Control Delay (s)	8.7	0.1	-	15.3	19	9	0.1	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	3	549	4	166	3	229	451	198	311	1
Future Volume (veh/h)	0	0	3	549	4	166	3	229	451	198	311	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	569	0	0	3	236	0	204	321	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	452		1241	0		7	546		340	581	2
Arrive On Green	0.00	0.00	0.00	0.24	0.00	0.00	0.15	0.15	0.00	0.25	0.25	0.25
Sat Flow, veh/h	0	1870	0	3563	0	1585	44	3601	1585	1354	2311	7
Grp Volume(v), veh/h	0	0	0	569	0	0	128	111	0	272	0	254
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1868	1777	1585	1803	0	1869
Q Serve(g_s), s	0.0	0.0	0.0	5.5	0.0	0.0	2.4	2.1	0.0	5.0	0.0	4.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.5	0.0	0.0	2.4	2.1	0.0	5.0	0.0	4.5
Prop In Lane	0.00		0.00	1.00		1.00	0.02		1.00	0.75		0.00
Lane Grp Cap(c), veh/h	0	452		1241	0		283	269		453	0	470
V/C Ratio(X)	0.00	0.00		0.46	0.00		0.45	0.41		0.60	0.00	0.54
Avail Cap(c_a), veh/h	0	1231		2723	0		1401	1333		854	0	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	13.0	0.0	0.0	14.7	14.6	0.0	12.5	0.0	12.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.1	1.0	0.0	1.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.4	0.0	0.0	1.0	0.8	0.0	1.8	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	13.3	0.0	0.0	15.8	15.6	0.0	13.8	0.0	13.3
LnGrp LOS	A	A		B	A		B	B		B	A	B
Approach Vol, veh/h		0			569			239			526	
Approach Delay, s/veh		0.0			13.3			15.7			13.6	
Approach LOS					B			B			B	

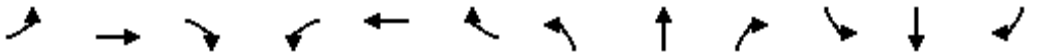
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.3		13.7		14.0		13.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		4.4		0.0		7.0		7.5				
Green Ext Time (p_c), s		1.4		0.0		2.5		1.7				

Intersection Summary												
HCM 6th Ctrl Delay			13.8									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	799	8	148	1054	393	10	0	66	338	15	127
Future Volume (veh/h)	0	799	8	148	1054	393	10	0	66	338	15	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	951	10	176	1255	0	12	0	79	415	0	151
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1224	13	222	1914		116	0	103	619	0	275
Arrive On Green	0.00	0.34	0.34	0.12	0.54	0.00	0.07	0.00	0.07	0.17	0.00	0.17
Sat Flow, veh/h	0	3696	38	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	469	492	176	1255	0	12	0	79	415	0	151
Grp Sat Flow(s),veh/h/ln	0	1777	1864	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	14.4	14.4	5.8	15.3	0.0	0.4	0.0	3.0	6.6	0.0	5.3
Cycle Q Clear(g_c), s	0.0	14.4	14.4	5.8	15.3	0.0	0.4	0.0	3.0	6.6	0.0	5.3
Prop In Lane	0.00		0.02	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	604	633	222	1914		116	0	103	619	0	275
V/C Ratio(X)	0.00	0.78	0.78	0.79	0.66		0.10	0.00	0.77	0.67	0.00	0.55
Avail Cap(c_a), veh/h	0	776	814	338	2490		206	0	183	1586	0	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.0	18.0	25.8	10.0	0.0	26.7	0.0	27.9	23.4	0.0	22.9
Incr Delay (d2), s/veh	0.0	3.8	3.6	7.2	0.4	0.0	0.4	0.0	11.1	1.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	6.0	2.7	4.6	0.0	0.2	0.0	1.4	2.7	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.8	21.6	33.0	10.4	0.0	27.1	0.0	39.0	24.7	0.0	24.6
LnGrp LOS	A	C	C	C	B		C	A	D	C	A	C
Approach Vol, veh/h		961			1431			91			566	
Approach Delay, s/veh		21.7			13.2			37.5			24.7	
Approach LOS		C			B			D			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		8.4	12.1	25.1		15.0		37.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		7.0	11.5	26.5		27.0		42.5				
Max Q Clear Time (g_c+I1), s		5.0	7.8	16.4		8.6		17.3				
Green Ext Time (p_c), s		0.1	0.2	4.2		1.9		10.3				

Intersection Summary												
HCM 6th Ctrl Delay			18.7									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

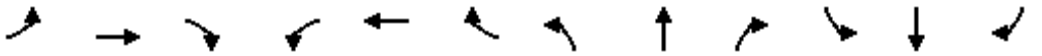
Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	196	12	26	166	33	27	15	32	39	30	18
Future Vol, veh/h	13	196	12	26	166	33	27	15	32	39	30	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	206	13	27	175	35	28	16	34	41	32	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	210	0	0	219	0	0	513	505	213	513	494	193
Stage 1	-	-	-	-	-	-	241	241	-	247	247	-
Stage 2	-	-	-	-	-	-	272	264	-	266	247	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1361	-	-	1350	-	-	472	470	827	472	476	849
Stage 1	-	-	-	-	-	-	762	706	-	757	702	-
Stage 2	-	-	-	-	-	-	734	690	-	739	702	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1361	-	-	1350	-	-	426	454	827	429	459	849
Mov Cap-2 Maneuver	-	-	-	-	-	-	426	454	-	429	459	-
Stage 1	-	-	-	-	-	-	753	698	-	748	686	-
Stage 2	-	-	-	-	-	-	669	674	-	685	694	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.9	12.7	14
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	548	1361	-	-	1350	-	-	490
HCM Lane V/C Ratio	0.142	0.01	-	-	0.02	-	-	0.187
HCM Control Delay (s)	12.7	7.7	0	-	7.7	0	-	14
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.7



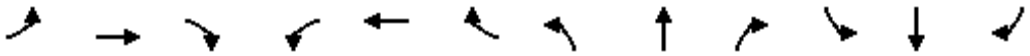
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	80	96	81	48	17	126	644	70	31	380	48
Future Volume (veh/h)	89	80	96	81	48	17	126	644	70	31	380	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	84	101	85	51	18	133	678	74	33	400	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	461	147	176	224	94	22	181	1216	133	69	995	126
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.10	0.38	0.38	0.04	0.31	0.31
Sat Flow, veh/h	1332	773	930	371	494	115	1781	3231	352	1781	3173	402
Grp Volume(v), veh/h	94	0	185	154	0	0	133	373	379	33	223	228
Grp Sat Flow(s),veh/h/ln	1332	0	1703	980	0	0	1781	1777	1807	1781	1777	1798
Q Serve(g_s), s	0.0	0.0	3.6	2.4	0.0	0.0	2.6	6.0	6.0	0.7	3.6	3.6
Cycle Q Clear(g_c), s	2.1	0.0	3.6	6.0	0.0	0.0	2.6	6.0	6.0	0.7	3.6	3.6
Prop In Lane	1.00		0.55	0.55		0.12	1.00		0.20	1.00		0.22
Lane Grp Cap(c), veh/h	461	0	323	339	0	0	181	669	680	69	557	564
V/C Ratio(X)	0.20	0.00	0.57	0.45	0.00	0.00	0.74	0.56	0.56	0.48	0.40	0.40
Avail Cap(c_a), veh/h	1123	0	1169	1038	0	0	978	1951	1984	978	1951	1974
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.8	0.0	13.4	14.6	0.0	0.0	15.9	9.0	9.0	17.1	9.8	9.8
Incr Delay (d2), s/veh	0.2	0.0	1.6	1.0	0.0	0.0	5.7	0.7	0.7	5.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.2	1.1	0.0	0.0	1.2	1.9	1.9	0.3	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	0.0	15.0	15.5	0.0	0.0	21.6	9.7	9.7	22.1	10.3	10.3
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	B	B
Approach Vol, veh/h		279			154			885			484	
Approach Delay, s/veh		14.4			15.5			11.5			11.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	18.8		11.5	8.4	16.5		11.5				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.7	8.0		5.6	4.6	5.6		8.0				
Green Ext Time (p_c), s	0.0	5.7		1.3	0.3	3.1		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		12.2	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



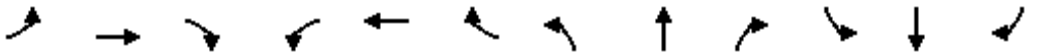
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	138	42	212	135	249	47	527	143	183	439	15
Future Volume (veh/h)	18	138	42	212	135	249	47	527	143	183	439	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	142	43	179	195	257	48	543	147	189	453	15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	192	186	329	345	501	74	892	241	234	1446	48
Arrive On Green	0.12	0.12	0.12	0.18	0.18	0.18	0.04	0.32	0.32	0.13	0.41	0.41
Sat Flow, veh/h	219	1640	1585	1781	1870	1585	1781	2767	746	1781	3510	116
Grp Volume(v), veh/h	161	0	43	179	195	257	48	348	342	189	229	239
Grp Sat Flow(s),veh/h/ln	1859	0	1585	1781	1870	1585	1781	1777	1736	1781	1777	1849
Q Serve(g_s), s	6.5	0.0	1.9	7.0	7.3	10.2	2.1	12.8	12.9	8.0	6.7	6.7
Cycle Q Clear(g_c), s	6.5	0.0	1.9	7.0	7.3	10.2	2.1	12.8	12.9	8.0	6.7	6.7
Prop In Lane	0.12		1.00	1.00		1.00	1.00		0.43	1.00		0.06
Lane Grp Cap(c), veh/h	218	0	186	329	345	501	74	573	560	234	732	762
V/C Ratio(X)	0.74	0.00	0.23	0.54	0.56	0.51	0.65	0.61	0.61	0.81	0.31	0.31
Avail Cap(c_a), veh/h	481	0	410	576	605	720	461	1379	1347	461	1379	1435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	31.0	28.6	28.7	21.6	36.5	22.1	22.1	32.7	15.3	15.4
Incr Delay (d2), s/veh	4.8	0.0	0.6	1.4	1.4	0.8	9.1	2.2	2.3	6.5	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.7	2.9	3.2	3.6	1.1	5.3	5.2	3.7	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	0.0	31.6	30.0	30.1	22.4	45.6	24.3	24.4	39.2	15.9	15.9
LnGrp LOS	D	A	C	C	C	C	D	C	C	D	B	B
Approach Vol, veh/h		204			631			738			657	
Approach Delay, s/veh		36.5			26.9			25.7			22.6	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.7	30.0		13.7	7.8	37.0		18.9				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		20.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	10.0	14.9		8.5	4.1	8.7		12.2				
Green Ext Time (p_c), s	0.3	10.1		0.7	0.1	6.2		2.0				

Intersection Summary			
HCM 6th Ctrl Delay		26.1	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.



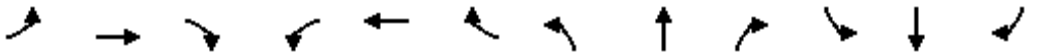
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	526	15	87	748	361	18	12	41	405	14	60
Future Volume (veh/h)	175	526	15	87	748	361	18	12	41	405	14	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	542	15	90	771	372	19	12	42	486	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	2041	56	113	1861	1087	45	28	64	577	303	0
Arrive On Green	0.12	0.58	0.58	0.13	1.00	1.00	0.04	0.04	0.04	0.16	0.00	0.00
Sat Flow, veh/h	1781	3532	98	1781	3554	1585	1112	702	1585	3563	1870	0
Grp Volume(v), veh/h	180	272	285	90	771	372	31	0	42	486	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1853	1781	1777	1585	1815	0	1585	1781	1870	0
Q Serve(g_s), s	11.4	8.8	8.8	5.6	0.0	0.0	1.9	0.0	3.0	15.2	0.0	0.0
Cycle Q Clear(g_c), s	11.4	8.8	8.8	5.6	0.0	0.0	1.9	0.0	3.0	15.2	0.0	0.0
Prop In Lane	1.00		0.05	1.00		1.00	0.61		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	209	1027	1071	113	1861	1087	74	0	64	577	303	0
V/C Ratio(X)	0.86	0.27	0.27	0.80	0.41	0.34	0.42	0.00	0.65	0.84	0.00	0.00
Avail Cap(c_a), veh/h	256	1027	1071	192	1861	1087	284	0	248	867	455	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.8	12.1	12.1	49.5	0.0	0.0	53.9	0.0	54.4	46.8	0.0	0.0
Incr Delay (d2), s/veh	21.3	0.6	0.6	9.6	0.5	0.7	3.8	0.0	10.7	4.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	3.4	3.6	2.6	0.1	0.2	1.0	0.0	1.4	7.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	12.7	12.7	59.2	0.5	0.7	57.6	0.0	65.1	51.6	0.0	0.0
LnGrp LOS	E	B	B	E	A	A	E	A	E	D	A	A
Approach Vol, veh/h		737			1233			73			486	
Approach Delay, s/veh		27.0			4.9			61.9			51.6	
Approach LOS		C			A			E			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.2	11.8	70.9		23.1	18.0	64.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	12.4	38.6		28.0	16.5	34.5				
Max Q Clear Time (g_c+I1), s		5.0	7.6	10.8		17.2	13.4	2.0				
Green Ext Time (p_c), s		0.2	0.1	3.2		1.4	0.1	7.3				

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



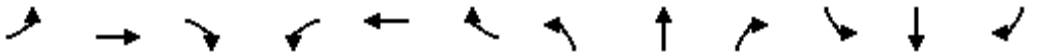
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	806	120	46	704	222	104	61	67	632	107	373
Future Volume (veh/h)	59	806	120	46	704	222	104	61	67	632	107	373
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	840	125	48	733	231	86	95	70	737	0	389
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1696	252	62	1911	852	134	141	119	666	0	296
Arrive On Green	0.04	0.55	0.55	0.03	0.54	0.54	0.08	0.08	0.08	0.19	0.00	0.19
Sat Flow, veh/h	1781	3102	462	1781	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	61	481	484	48	733	231	86	95	70	737	0	389
Grp Sat Flow(s),veh/h/ln	1781	1777	1787	1781	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	3.9	19.4	19.4	3.1	13.8	9.1	5.4	5.7	4.9	21.5	0.0	21.5
Cycle Q Clear(g_c), s	3.9	19.4	19.4	3.1	13.8	9.1	5.4	5.7	4.9	21.5	0.0	21.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	971	977	62	1911	852	134	141	119	666	0	296
V/C Ratio(X)	0.79	0.50	0.50	0.78	0.38	0.27	0.64	0.67	0.59	1.11	0.00	1.31
Avail Cap(c_a), veh/h	77	971	977	82	1911	852	527	553	469	666	0	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.5	16.2	16.2	55.1	15.5	14.4	51.7	51.8	51.4	46.8	0.0	46.8
Incr Delay (d2), s/veh	37.6	1.6	1.6	28.0	0.6	0.8	5.0	5.5	4.5	67.8	0.0	162.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.8	7.8	1.8	5.4	3.3	2.6	2.9	2.1	15.7	0.0	21.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	17.9	17.8	83.0	16.1	15.2	56.7	57.3	55.9	114.5	0.0	209.5
LnGrp LOS	F	B	B	F	B	B	E	E	E	F	A	F
Approach Vol, veh/h		1026			1012			251			1126	
Approach Delay, s/veh		22.3			19.0			56.7			147.3	
Approach LOS		C			B			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.2	8.5	67.4		26.0	9.5	66.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	5.3	36.2		21.5	5.0	36.5				
Max Q Clear Time (g_c+I1), s		7.7	5.1	21.4		23.5	5.9	15.8				
Green Ext Time (p_c), s		1.0	0.0	5.2		0.0	0.0	5.6				

Intersection Summary												
HCM 6th Ctrl Delay			65.1									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.



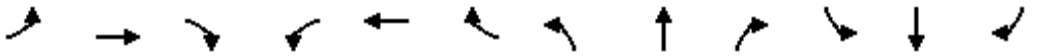
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	47	31	127	68	299	19	532	91	163	394	11
Future Volume (veh/h)	13	47	31	127	68	299	19	532	91	163	394	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	50	33	135	72	318	20	566	97	173	419	12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	144	122	265	141	555	42	809	138	225	1303	37
Arrive On Green	0.08	0.08	0.08	0.22	0.22	0.22	0.02	0.27	0.27	0.13	0.37	0.37
Sat Flow, veh/h	1781	1870	1585	1181	630	1585	1781	3035	519	1781	3528	101
Grp Volume(v), veh/h	14	50	33	207	0	318	20	331	332	173	211	220
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1777	1781	1777	1852
Q Serve(g_s), s	0.5	1.6	1.3	6.4	0.0	10.4	0.7	10.7	10.8	6.0	5.4	5.4
Cycle Q Clear(g_c), s	0.5	1.6	1.3	6.4	0.0	10.4	0.7	10.7	10.8	6.0	5.4	5.4
Prop In Lane	1.00		1.00	0.65		1.00	1.00		0.29	1.00		0.05
Lane Grp Cap(c), veh/h	138	144	122	406	0	555	42	474	474	225	656	684
V/C Ratio(X)	0.10	0.35	0.27	0.51	0.00	0.57	0.48	0.70	0.70	0.77	0.32	0.32
Avail Cap(c_a), veh/h	559	587	497	711	0	822	559	1115	1115	839	1115	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	27.9	27.7	21.7	0.0	16.8	30.7	21.1	21.1	27.0	14.4	14.4
Incr Delay (d2), s/veh	0.3	1.4	1.2	1.0	0.0	0.9	8.3	1.9	1.9	5.5	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.7	0.5	2.6	0.0	3.5	0.4	4.3	4.3	2.7	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	29.3	28.9	22.7	0.0	17.8	39.1	22.9	23.0	32.5	14.7	14.7
LnGrp LOS	C	C	C	C	A	B	D	C	C	C	B	B
Approach Vol, veh/h		97			525			683			604	
Approach Delay, s/veh		28.9			19.7			23.4			19.8	
Approach LOS		C			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	22.1		9.5	6.2	28.6		19.4				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	8.0	12.8		3.6	2.7	7.4		12.4				
Green Ext Time (p_c), s	0.4	4.2		0.3	0.0	2.6		1.9				

Intersection Summary			
HCM 6th Ctrl Delay		21.5	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	50	68	11	44	27	48	554	17	43	644	117
Future Volume (veh/h)	162	50	68	11	44	27	48	554	17	43	644	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	53	72	12	47	29	51	589	18	46	685	124
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	413	82	347	130	214	114	98	1257	38	91	1036	187
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.36	0.36	0.05	0.34	0.34
Sat Flow, veh/h	1095	372	1585	84	974	520	1781	3520	108	1781	3006	544
Grp Volume(v), veh/h	225	0	72	88	0	0	51	297	310	46	405	404
Grp Sat Flow(s),veh/h/ln	1467	0	1585	1578	0	0	1781	1777	1851	1781	1777	1773
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	0.0	1.0	4.7	4.8	0.9	7.1	7.1
Cycle Q Clear(g_c), s	5.1	0.0	1.4	5.1	0.0	0.0	1.0	4.7	4.8	0.9	7.1	7.1
Prop In Lane	0.76		1.00	0.14		0.33	1.00		0.06	1.00		0.31
Lane Grp Cap(c), veh/h	494	0	347	457	0	0	98	634	661	91	612	611
V/C Ratio(X)	0.46	0.00	0.21	0.19	0.00	0.00	0.52	0.47	0.47	0.51	0.66	0.66
Avail Cap(c_a), veh/h	879	0	777	908	0	0	242	871	907	257	871	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	11.7	11.8	0.0	0.0	16.9	9.1	9.1	17.0	10.2	10.2
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.2	0.0	0.0	4.2	0.5	0.5	4.3	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.4	0.5	0.0	0.0	0.5	1.5	1.6	0.4	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	0.0	12.0	12.0	0.0	0.0	21.1	9.7	9.6	21.3	11.4	11.5
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	B	B
Approach Vol, veh/h		297			88			658			855	
Approach Delay, s/veh		13.4			12.0			10.5			12.0	
Approach LOS		B			B			B			B	

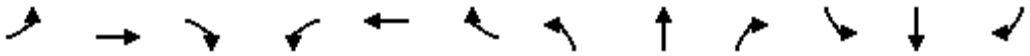
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	18.1		12.6	6.5	17.7		12.6				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.9	6.8		7.1	3.0	9.1		7.1				
Green Ext Time (p_c), s	0.0	3.0		1.1	0.0	3.5		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		11.7	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

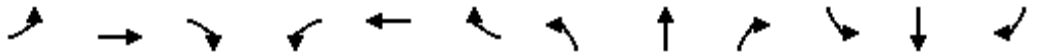
EXISTING PLUS PROJECT
AM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	7	6	18	10	18	5	330	22	52	395	9
Future Volume (veh/h)	9	7	6	18	10	18	5	330	22	52	395	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	7	6	19	11	19	5	351	23	55	420	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	88	76	417	58	101	156	1694	110	277	1609	37
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1380	930	797	1401	616	1063	11	3299	214	191	3134	72
Grp Volume(v), veh/h	10	0	13	19	0	30	200	0	179	251	0	234
Grp Sat Flow(s),veh/h/ln	1380	0	1727	1401	0	1679	1860	0	1664	1708	0	1689
Q Serve(g_s), s	0.2	0.0	0.2	0.3	0.0	0.4	0.0	0.0	1.4	0.0	0.0	1.9
Cycle Q Clear(g_c), s	0.6	0.0	0.2	0.5	0.0	0.4	1.4	0.0	1.4	1.9	0.0	1.9
Prop In Lane	1.00		0.46	1.00		0.63	0.03		0.13	0.22		0.04
Lane Grp Cap(c), veh/h	402	0	164	417	0	159	1105	0	854	1056	0	867
V/C Ratio(X)	0.02	0.00	0.08	0.05	0.00	0.19	0.18	0.00	0.21	0.24	0.00	0.27
Avail Cap(c_a), veh/h	1960	0	2114	2000	0	2056	3150	0	2716	2819	0	2757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	10.1	10.3	0.0	10.2	3.2	0.0	3.3	3.4	0.0	3.4
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.0	0.6	0.3	0.0	0.4	0.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.2	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.5	0.0	10.3	10.4	0.0	10.8	3.5	0.0	3.7	3.8	0.0	4.0
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		23			49			379			485	
Approach Delay, s/veh		10.4			10.6			3.6			3.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.6		6.9		17.6		6.9				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		3.4		2.6		3.9		2.5				
Green Ext Time (p_c), s		6.4		0.1		8.7		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			4.3									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	9	9	18	14	15	7	339	21	11	399	18
Future Volume (veh/h)	6	9	9	18	14	15	7	339	21	11	399	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	10	10	19	15	16	7	361	22	12	424	19
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	419	86	86	429	83	88	166	1633	98	173	1654	73
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1378	858	858	1392	828	883	16	3306	199	27	3347	148
Grp Volume(v), veh/h	6	0	20	19	0	31	206	0	184	239	0	216
Grp Sat Flow(s),veh/h/ln	1378	0	1716	1392	0	1711	1854	0	1666	1847	0	1675
Q Serve(g_s), s	0.1	0.0	0.3	0.3	0.0	0.4	0.0	0.0	1.5	0.0	0.0	1.8
Cycle Q Clear(g_c), s	0.5	0.0	0.3	0.5	0.0	0.4	1.5	0.0	1.5	1.8	0.0	1.8
Prop In Lane	1.00		0.50	1.00		0.52	0.03		0.12	0.05		0.09
Lane Grp Cap(c), veh/h	419	0	171	429	0	171	1074	0	823	1072	0	828
V/C Ratio(X)	0.01	0.00	0.12	0.04	0.00	0.18	0.19	0.00	0.22	0.22	0.00	0.26
Avail Cap(c_a), veh/h	2032	0	2178	2057	0	2172	3243	0	2820	3220	0	2836
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.0	0.0	9.7	9.9	0.0	9.8	3.4	0.0	3.4	3.5	0.0	3.5
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	0.0	0.5	0.3	0.0	0.5	0.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.2	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.0	0.0	10.0	10.0	0.0	10.3	3.7	0.0	3.9	3.8	0.0	4.1
LnGrp LOS	A	A	A	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		26			50			390			455	
Approach Delay, s/veh		10.0			10.2			3.8			4.0	
Approach LOS		A			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.7		7.0		16.7		7.0				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		3.5		2.5		3.8		2.5				
Green Ext Time (p_c), s		6.6		0.1		7.9		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			4.4									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	285	3	0	0	0	0	14	10	13	15	0
Future Vol, veh/h	19	285	3	0	0	0	0	14	10	13	15	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	303	3	0	0	0	0	15	11	14	16	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	8.7	7.6	8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	12%	0%	46%
Vol Thru, %	58%	88%	98%	54%
Vol Right, %	42%	0%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	162	146	28
LT Vol	0	19	0	13
Through Vol	14	143	143	15
RT Vol	10	0	3	0
Lane Flow Rate	26	172	155	30
Geometry Grp	2	5	5	2
Degree of Util (X)	0.032	0.224	0.198	0.04
Departure Headway (Hd)	4.456	4.689	4.615	4.793
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	808	763	775	751
Service Time	2.458	2.433	2.36	2.795
HCM Lane V/C Ratio	0.032	0.225	0.2	0.04
HCM Control Delay	7.6	8.8	8.5	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.9	0.7	0.1

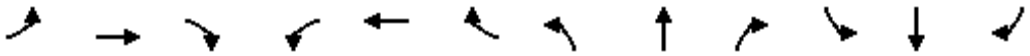
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	142	1	4	0	3	0	17	9	0	0	0
Future Vol, veh/h	164	142	1	4	0	3	0	17	9	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	174	151	1	4	0	3	0	18	10	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	500	152
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	473	894
Stage 1	-	-	-	0	543	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	894
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.2
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	894	-	-	-
HCM Lane V/C Ratio	0.031	-	-	-
HCM Control Delay (s)	9.2	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	70	24	41	167	26	23	19	18	6	23	22
Future Volume (veh/h)	15	70	24	41	167	26	23	19	18	6	23	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	80	27	47	190	30	26	22	20	7	26	25
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	645	796	257	764	1121	174	301	202	328	140	183	152
Arrive On Green	0.04	0.30	0.30	0.11	0.36	0.36	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	2641	852	1781	3082	479	647	977	1585	87	883	735
Grp Volume(v), veh/h	17	53	54	47	108	112	48	0	20	58	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1717	1781	1777	1784	1623	0	1585	1706	0	0
Q Serve(g_s), s	0.2	0.7	0.8	0.5	1.4	1.4	0.0	0.0	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.7	0.8	0.5	1.4	1.4	0.7	0.0	0.3	0.9	0.0	0.0
Prop In Lane	1.00		0.50	1.00		0.27	0.54		1.00	0.12		0.43
Lane Grp Cap(c), veh/h	645	535	517	764	646	649	503	0	328	475	0	0
V/C Ratio(X)	0.03	0.10	0.11	0.06	0.17	0.17	0.10	0.00	0.06	0.12	0.00	0.00
Avail Cap(c_a), veh/h	1104	1606	1552	1112	1606	1613	1397	0	1242	1586	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	8.3	8.4	6.0	7.2	7.2	10.7	0.0	10.6	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.2	0.1	0.4	0.4	0.2	0.0	0.1	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	8.4	8.4	6.0	7.2	7.2	10.8	0.0	10.7	11.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		124			267			68			58	
Approach Delay, s/veh		8.2			7.0			10.8			11.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	14.6		11.1	5.5	16.7		11.1				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.5	2.8		2.9	2.2	3.4		2.7				
Green Ext Time (p_c), s	0.0	0.4		0.4	0.0	0.8		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

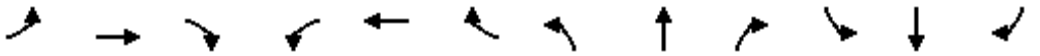
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	0	56	185	178	60	27	286	0	0	389	39
Future Volume (veh/h)	38	0	56	185	178	60	27	286	0	0	389	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	42	0	62	203	196	66	30	314	0	0	427	43
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	163	0	145	424	627	205	61	1315	0	0	795	80
Arrive On Green	0.09	0.00	0.09	0.24	0.24	0.24	0.03	0.37	0.00	0.00	0.24	0.24
Sat Flow, veh/h	1781	0	1585	1781	2632	860	1781	3647	0	0	3355	327
Grp Volume(v), veh/h	42	0	62	203	130	132	30	314	0	0	232	238
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1716	1781	1777	0	0	1777	1812
Q Serve(g_s), s	1.1	0.0	1.8	4.9	3.0	3.2	0.8	3.1	0.0	0.0	5.7	5.7
Cycle Q Clear(g_c), s	1.1	0.0	1.8	4.9	3.0	3.2	0.8	3.1	0.0	0.0	5.7	5.7
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.00	0.00		0.18
Lane Grp Cap(c), veh/h	163	0	145	424	423	408	61	1315	0	0	433	442
V/C Ratio(X)	0.26	0.00	0.43	0.48	0.31	0.32	0.49	0.24	0.00	0.00	0.53	0.54
Avail Cap(c_a), veh/h	820	0	730	891	889	858	535	2134	0	0	818	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	21.4	16.4	15.7	15.7	23.7	10.9	0.0	0.0	16.4	16.4
Incr Delay (d2), s/veh	0.8	0.0	2.0	3.0	1.5	1.6	6.1	0.2	0.0	0.0	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.7	2.1	1.3	1.3	0.4	1.1	0.0	0.0	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	0.0	23.4	19.4	17.1	17.4	29.8	11.1	0.0	0.0	18.6	18.6
LnGrp LOS	C	A	C	B	B	B	C	B	A	A	B	B
Approach Vol, veh/h		104			465			344			470	
Approach Delay, s/veh		22.8			18.2			12.7			18.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		23.5		9.6	6.3	17.2		16.9				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	23.0		25.0				
Max Q Clear Time (g_c+I1), s		5.1		3.8	2.8	7.7		6.9				
Green Ext Time (p_c), s		3.9		0.4	0.0	4.5		5.0				

Intersection Summary												
HCM 6th Ctrl Delay			17.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	24	404	31	9	17	0	0	14	24
Future Volume (veh/h)	0	0	0	24	404	31	9	17	0	0	14	24
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				26	430	33	10	18	0	0	15	26
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				94	1625	131	245	74	0	0	57	98
Arrive On Green				0.50	0.50	0.50	0.09	0.09	0.00	0.00	0.09	0.09
Sat Flow, veh/h				188	3236	260	445	801	0	0	614	1065
Grp Volume(v), veh/h				258	0	231	28	0	0	0	0	41
Grp Sat Flow(s),veh/h/ln				1861	0	1823	1245	0	0	0	0	1679
Q Serve(g_s), s				1.9	0.0	1.7	0.4	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s				1.9	0.0	1.7	0.9	0.0	0.0	0.0	0.0	0.5
Prop In Lane				0.10		0.14	0.36		0.00	0.00		0.63
Lane Grp Cap(c), veh/h				934	0	915	319	0	0	0	0	155
V/C Ratio(X)				0.28	0.00	0.25	0.09	0.00	0.00	0.00	0.00	0.26
Avail Cap(c_a), veh/h				3114	0	3051	1411	0	0	0	0	1264
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				3.4	0.0	3.4	10.5	0.0	0.0	0.0	0.0	10.1
Incr Delay (d2), s/veh				0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				3.6	0.0	3.5	10.6	0.0	0.0	0.0	0.0	11.0
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					489			28			41	
Approach Delay, s/veh					3.6			10.6			11.0	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				6.8		17.1		6.8				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.5		3.9		2.9				
Green Ext Time (p_c), s				0.1		3.2		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		4.5
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	71	457	6	12	7	0	0	20	5
Future Vol, veh/h	0	0	0	71	457	6	12	7	0	0	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	85	544	7	14	8	0	0	24	6

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	454	721	-	-	718	276
Stage 1	-	-	-	0	0	-	-	718	-
Stage 2	-	-	-	454	721	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	489	352	0	0	353	721
Stage 1	-	-	-	-	-	0	0	431	-
Stage 2	-	-	-	555	430	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	460	352	-	-	353	721
Mov Cap-2 Maneuver	-	-	-	460	352	-	-	353	-
Stage 1	-	-	-	-	-	-	-	431	-
Stage 2	-	-	-	520	430	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		14.2	14.9
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	413	-	-	-	393
HCM Lane V/C Ratio	0.055	-	-	-	0.076
HCM Control Delay (s)	14.2	-	-	-	14.9
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	526	35	0	0	170	0	0	5
Future Vol, veh/h	0	0	0	0	526	35	0	0	170	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	649	43	0	0	210	0	0	6

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	346
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	650
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	650
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	10.6
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	650
HCM Lane V/C Ratio	-	-	0.009
HCM Control Delay (s)	-	-	10.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	142	2	188	538	212	16	70	243	209	61	10
Future Volume (veh/h)	23	142	2	188	538	212	16	70	243	209	61	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	175	2	232	664	262	20	86	300	172	195	12
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	986	11	265	1112	730	79	339	358	263	258	16
Arrive On Green	0.11	0.27	0.27	0.15	0.31	0.31	0.23	0.23	0.23	0.15	0.15	0.15
Sat Flow, veh/h	1781	3599	41	1781	3554	1585	350	1503	1585	1781	1744	107
Grp Volume(v), veh/h	28	86	91	232	664	262	106	0	300	172	0	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1585	1853	0	1585	1781	0	1851
Q Serve(g_s), s	1.3	3.5	3.5	12.1	15.0	10.1	4.5	0.0	17.1	8.6	0.0	10.2
Cycle Q Clear(g_c), s	1.3	3.5	3.5	12.1	15.0	10.1	4.5	0.0	17.1	8.6	0.0	10.2
Prop In Lane	1.00		0.02	1.00		1.00	0.19		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	196	487	511	265	1112	730	418	0	358	263	0	274
V/C Ratio(X)	0.14	0.18	0.18	0.88	0.60	0.36	0.25	0.00	0.84	0.65	0.00	0.76
Avail Cap(c_a), veh/h	563	749	786	282	1498	903	684	0	585	432	0	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	26.3	26.3	39.5	27.5	16.5	30.2	0.0	35.1	38.1	0.0	38.8
Incr Delay (d2), s/veh	0.2	0.8	0.8	23.7	1.9	1.1	0.4	0.0	7.7	3.9	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	1.7	7.0	6.5	5.0	2.0	0.0	7.3	4.1	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	27.1	27.0	63.2	29.4	17.6	30.6	0.0	42.8	42.0	0.0	44.7
LnGrp LOS	D	C	C	E	C	B	C	A	D	D	A	D
Approach Vol, veh/h		205			1158			406			379	
Approach Delay, s/veh		28.6			33.5			39.6			43.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.8	31.4		18.6	15.1	35.1		26.0				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	14.1	5.5		12.2	3.3	17.0		19.1				
Green Ext Time (p_c), s	0.1	3.9		1.9	0.0	12.7		2.3				

Intersection Summary			
HCM 6th Ctrl Delay		35.9	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	23	0	32	20	29	0	23	42	56	10	19
Future Vol, veh/h	4	23	0	32	20	29	0	23	42	56	10	19
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	24	0	34	21	31	0	24	45	60	11	20
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	7.9	7.8	7.2	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	40%	66%
Vol Thru, %	35%	0%	100%	25%	12%
Vol Right, %	65%	0%	0%	36%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	4	23	81	85
LT Vol	0	4	0	32	56
Through Vol	23	0	23	20	10
RT Vol	42	0	0	29	19
Lane Flow Rate	69	4	24	86	90
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.073	0.006	0.033	0.1	0.105
Departure Headway (Hd)	3.814	5.36	4.858	4.196	4.183
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	922	661	728	843	845
Service Time	1.906	3.149	2.647	2.279	2.263
HCM Lane V/C Ratio	0.075	0.006	0.033	0.102	0.107
HCM Control Delay	7.2	8.2	7.8	7.8	7.8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.2	0	0.1	0.3	0.4

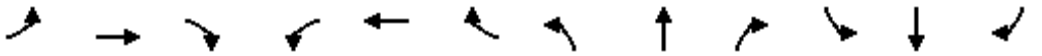
Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	114	37	44	107	24	69
Future Vol, veh/h	114	37	44	107	24	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	43	51	123	28	79

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	174	0	378	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	225	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1403	-	624	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1403	-	600	893
Mov Cap-2 Maneuver	-	-	-	-	600	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	780	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	793	-	-	1403	-
HCM Lane V/C Ratio	0.135	-	-	0.036	-
HCM Control Delay (s)	10.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	79	49	0	0	0	25	228	88	62	455	134
Future Volume (veh/h)	79	79	49	0	0	0	25	228	88	62	455	134
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	83	52				26	240	93	65	479	141
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	281	170	106				57	922	347	121	1088	318
Arrive On Green	0.16	0.16	0.16				0.03	0.37	0.37	0.07	0.40	0.40
Sat Flow, veh/h	1781	1075	674				1781	2525	951	1781	2712	793
Grp Volume(v), veh/h	83	0	135				26	167	166	65	313	307
Grp Sat Flow(s),veh/h/ln	1781	0	1749				1781	1777	1699	1781	1777	1728
Q Serve(g_s), s	1.3	0.0	2.3				0.5	2.2	2.3	1.2	4.2	4.2
Cycle Q Clear(g_c), s	1.3	0.0	2.3				0.5	2.2	2.3	1.2	4.2	4.2
Prop In Lane	1.00		0.39				1.00		0.56	1.00		0.46
Lane Grp Cap(c), veh/h	281	0	276				57	649	621	121	713	693
V/C Ratio(X)	0.30	0.00	0.49				0.45	0.26	0.27	0.54	0.44	0.44
Avail Cap(c_a), veh/h	1467	0	1440				315	1306	1249	391	1382	1344
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.6				15.6	7.3	7.3	14.8	7.1	7.1
Incr Delay (d2), s/veh	0.6	0.0	1.3				5.5	0.4	0.5	3.6	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.8				0.3	0.7	0.7	0.5	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	0.0	13.9				21.1	7.7	7.8	18.4	8.0	8.1
LnGrp LOS	B	A	B				C	A	A	B	A	A
Approach Vol, veh/h		218						359			685	
Approach Delay, s/veh		13.5						8.7			9.1	
Approach LOS		B						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	6.4	17.0		9.4	5.3	18.2
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	3.2	4.3		4.3	2.5	6.2
Green Ext Time (p_c), s	0.0	3.5		1.0	0.0	6.9

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	14	323	11	9	493
Future Vol, veh/h	11	14	323	11	9	493
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	14	330	11	9	503

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	606	171	0	0	341	0
Stage 1	336	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	429	843	-	-	1215	-
Stage 1	696	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	425	843	-	-	1215	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	743	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	588	1215	-
HCM Lane V/C Ratio	-	-	0.043	0.008	-
HCM Control Delay (s)	-	-	11.4	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	4	84	12	15	64
Future Vol, veh/h	30	4	84	12	15	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	4	94	13	17	72

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	207	101	0	0	107	0
Stage 1	101	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	781	954	-	-	1484	-
Stage 1	923	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	772	954	-	-	1484	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	790	1484	-
HCM Lane V/C Ratio	-	-	0.048	0.011	-
HCM Control Delay (s)	-	-	9.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	22	8	311	467	43
Future Vol, veh/h	7	22	8	311	467	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	23	9	331	497	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	704	272	543	0	-	0
Stage 1	520	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	371	726	1022	-	-	-
Stage 1	561	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	367	726	1022	-	-	-
Mov Cap-2 Maneuver	367	-	-	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1022	-	587	-	-
HCM Lane V/C Ratio	0.008	-	0.053	-	-
HCM Control Delay (s)	8.6	0	11.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	37	43	108	38	39
Future Vol, veh/h	0	37	43	108	38	39
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	45	52	130	46	47
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.1	8.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	28%	0%	0%
Vol Thru, %	72%	0%	49%
Vol Right, %	0%	100%	51%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	151	37	77
LT Vol	43	0	0
Through Vol	108	0	38
RT Vol	0	37	39
Lane Flow Rate	182	45	93
Geometry Grp	1	1	1
Degree of Util (X)	0.209	0.049	0.099
Departure Headway (Hd)	4.14	3.919	3.846
Convergence, Y/N	Yes	Yes	Yes
Cap	866	919	923
Service Time	2.172	1.919	1.904
HCM Lane V/C Ratio	0.21	0.049	0.101
HCM Control Delay	8.3	7.1	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.2	0.3

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	61	17	5	30	51	7	63	9	42	24	6
Future Vol, veh/h	37	61	17	5	30	51	7	63	9	42	24	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	67	19	5	33	56	8	69	10	46	26	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	7.6	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	32%	6%	58%
Vol Thru, %	80%	53%	35%	33%
Vol Right, %	11%	15%	59%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	115	86	72
LT Vol	7	37	5	42
Through Vol	63	61	30	24
RT Vol	9	17	51	6
Lane Flow Rate	87	126	95	79
Geometry Grp	1	1	1	1
Degree of Util (X)	0.108	0.154	0.108	0.101
Departure Headway (Hd)	4.464	4.395	4.117	4.588
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	805	818	872	783
Service Time	2.483	2.413	2.134	2.607
HCM Lane V/C Ratio	0.108	0.154	0.109	0.101
HCM Control Delay	8	8.2	7.6	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.5	0.4	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	11	62	40	8	3	50	289	11	14	485	21
Future Volume (veh/h)	27	11	62	40	8	3	50	289	11	14	485	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	12	70	45	9	3	57	328	12	16	551	24
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	52	261	246	30	261	297	1461	53	141	1727	74
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	94	316	1585	160	181	1585	277	2834	102	29	3350	144
Grp Volume(v), veh/h	43	0	70	54	0	3	200	0	197	311	0	280
Grp Sat Flow(s),veh/h/ln	410	0	1585	341	0	1585	1530	0	1684	1847	0	1676
Q Serve(g_s), s	0.1	0.0	1.2	0.6	0.0	0.0	0.0	0.0	1.9	0.0	0.0	2.9
Cycle Q Clear(g_c), s	4.6	0.0	1.2	4.9	0.0	0.0	1.7	0.0	1.9	2.9	0.0	2.9
Prop In Lane	0.72		1.00	0.83		1.00	0.29		0.06	0.05		0.09
Lane Grp Cap(c), veh/h	274	0	261	276	0	261	943	0	868	1078	0	864
V/C Ratio(X)	0.16	0.00	0.27	0.20	0.00	0.01	0.21	0.00	0.23	0.29	0.00	0.32
Avail Cap(c_a), veh/h	1028	0	1055	969	0	1055	2071	0	2241	2543	0	2231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	11.0	12.7	0.0	10.5	3.9	0.0	4.0	4.2	0.0	4.2
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.3	0.0	0.0	0.4	0.0	0.5	0.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.3	0.0	0.0	0.4	0.0	0.4	0.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.0	11.5	13.0	0.0	10.5	4.4	0.0	4.5	4.8	0.0	5.0
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		113			57			397			591	
Approach Delay, s/veh		11.4			12.9			4.4			4.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.5		9.8		20.5		9.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		3.9		6.6		4.9		6.9				
Green Ext Time (p_c), s		7.1		0.3		10.6		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			5.7									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	11	1	0	3	0	7	5	0	0
Future Vol, veh/h	0	3	0	11	1	0	3	0	7	5	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	0	12	1	0	3	0	7	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.2	6.7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	0%	92%	100%
Vol Thru, %	0%	100%	8%	0%
Vol Right, %	70%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	3	12	5
LT Vol	3	0	11	5
Through Vol	0	3	1	0
RT Vol	7	0	0	0
Lane Flow Rate	11	3	13	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.011	0.004	0.015	0.006
Departure Headway (Hd)	3.606	3.971	4.147	4.169
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	996	905	867	861
Service Time	1.616	1.98	2.154	2.181
HCM Lane V/C Ratio	0.011	0.003	0.015	0.006
HCM Control Delay	6.7	7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0	0

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	22	23	12	5	15	4	3	51	5	3	44	8
Future Vol, veh/h	22	23	12	5	15	4	3	51	5	3	44	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	28	15	6	18	5	4	62	6	4	54	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	23	0	0	43	0	0	155	125	36	157	130	21
Stage 1	-	-	-	-	-	-	90	90	-	33	33	-
Stage 2	-	-	-	-	-	-	65	35	-	124	97	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1592	-	-	1566	-	-	812	765	1037	809	761	1056
Stage 1	-	-	-	-	-	-	917	820	-	983	868	-
Stage 2	-	-	-	-	-	-	946	866	-	880	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1566	-	-	748	749	1037	741	745	1056
Mov Cap-2 Maneuver	-	-	-	-	-	-	748	749	-	741	745	-
Stage 1	-	-	-	-	-	-	901	806	-	966	865	-
Stage 2	-	-	-	-	-	-	876	863	-	794	801	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	1.5	10.2	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	767	1592	-	-	1566	-	-	778
HCM Lane V/C Ratio	0.094	0.017	-	-	0.004	-	-	0.086
HCM Control Delay (s)	10.2	7.3	0	-	7.3	0	-	10.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	11	1	16	18	1	11	13	331	21	11	578	7
Future Vol, veh/h	11	1	16	18	1	11	13	331	21	11	578	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	1	18	20	1	12	14	368	23	12	642	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	883	1089	325	754	1082	196	650	0	0	391	0	0
Stage 1	670	670	-	408	408	-	-	-	-	-	-	-
Stage 2	213	419	-	346	674	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	240	214	671	298	216	812	932	-	-	1164	-	-
Stage 1	413	454	-	591	595	-	-	-	-	-	-	-
Stage 2	769	588	-	643	452	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	229	207	671	281	208	812	932	-	-	1164	-	-
Mov Cap-2 Maneuver	229	207	-	281	208	-	-	-	-	-	-	-
Stage 1	405	447	-	580	584	-	-	-	-	-	-	-
Stage 2	742	577	-	614	445	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	15.9	0.4	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	932	-	-	365	364	1164	-	-
HCM Lane V/C Ratio	0.015	-	-	0.085	0.092	0.011	-	-
HCM Control Delay (s)	8.9	0.1	-	15.8	15.9	8.1	0.1	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	6	409	5	190	4	127	409	92	134	2
Future Volume (veh/h)	0	0	6	409	5	190	4	127	409	92	134	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	426	0	0	4	131	0	95	138	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	395		1235	0		17	594		235	375	6
Arrive On Green	0.00	0.00	0.00	0.21	0.00	0.00	0.17	0.17	0.00	0.17	0.17	0.17
Sat Flow, veh/h	0	1870	0	3563	0	1585	103	3539	1585	1400	2232	33
Grp Volume(v), veh/h	0	0	0	426	0	0	72	63	0	122	0	113
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1865	1777	1585	1800	0	1864
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	1.0	0.9	0.0	1.8	0.0	1.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.2	0.0	0.0	1.0	0.9	0.0	1.8	0.0	1.6
Prop In Lane	0.00		0.00	1.00		1.00	0.06		1.00	0.78		0.02
Lane Grp Cap(c), veh/h	0	395		1235	0		313	298		302	0	313
V/C Ratio(X)	0.00	0.00		0.34	0.00		0.23	0.21		0.40	0.00	0.36
Avail Cap(c_a), veh/h	0	1130		3474	0		1785	1700		1088	0	1127
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	10.5	0.0	0.0	10.7	10.7	0.0	11.1	0.0	11.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.4	0.3	0.0	0.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.4	0.3	0.0	0.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	10.7	0.0	0.0	11.1	11.0	0.0	11.9	0.0	11.7
LnGrp LOS	A	A		B	A		B	B		B	A	B
Approach Vol, veh/h		0			426			135			235	
Approach Delay, s/veh		0.0			10.7			11.1			11.8	
Approach LOS					B			B			B	

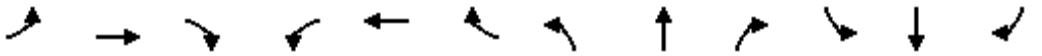
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		10.8		9.5		10.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		18.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		3.0		0.0		3.8		5.2				
Green Ext Time (p_c), s		0.7		0.0		1.1		1.3				

Intersection Summary		
HCM 6th Ctrl Delay	11.1	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	489	31	200	865	597	27	0	200	98	72	59
Future Volume (veh/h)	0	489	31	200	865	597	27	0	200	98	72	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	582	37	238	1030	0	32	0	238	102	108	70
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	813	52	295	1723		300	0	267	192	201	170
Arrive On Green	0.00	0.24	0.24	0.17	0.48	0.00	0.17	0.00	0.17	0.11	0.11	0.11
Sat Flow, veh/h	0	3487	215	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	304	315	238	1030	0	32	0	238	102	108	70
Grp Sat Flow(s),veh/h/ln	0	1777	1832	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	8.9	8.9	7.3	11.9	0.0	0.9	0.0	8.3	3.1	3.1	2.3
Cycle Q Clear(g_c), s	0.0	8.9	8.9	7.3	11.9	0.0	0.9	0.0	8.3	3.1	3.1	2.3
Prop In Lane	0.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	426	439	295	1723		300	0	267	192	201	170
V/C Ratio(X)	0.00	0.71	0.72	0.81	0.60		0.11	0.00	0.89	0.53	0.54	0.41
Avail Cap(c_a), veh/h	0	661	682	458	2519		300	0	267	852	895	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	19.7	19.7	22.7	10.5	0.0	19.9	0.0	23.0	23.8	23.8	23.5
Incr Delay (d2), s/veh	0.0	2.3	2.2	5.9	0.3	0.0	0.2	0.0	29.0	2.3	2.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	3.6	3.2	3.7	0.0	0.3	0.0	5.0	1.3	1.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.9	21.9	28.6	10.9	0.0	20.0	0.0	51.9	26.1	26.1	25.1
LnGrp LOS	A	C	C	C	B		C	A	D	C	C	C
Approach Vol, veh/h		619			1268			270			280	
Approach Delay, s/veh		21.9			14.2			48.1			25.8	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	14.0	13.8	18.0	10.6	31.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	14.5	21.0	27.0	40.0
Max Q Clear Time (g_c+I1), s	10.3	9.3	10.9	5.1	13.9
Green Ext Time (p_c), s	0.0	0.3	2.6	1.1	8.1

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

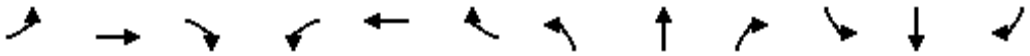
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	134	11	19	109	51	3	14	26	50	18	12
Future Vol, veh/h	13	134	11	19	109	51	3	14	26	50	18	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	141	12	20	115	54	3	15	27	53	19	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	153	0	0	373	384	147	378	363	142
Stage 1	-	-	-	-	-	-	175	175	-	182	182	-
Stage 2	-	-	-	-	-	-	198	209	-	196	181	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1409	-	-	1428	-	-	584	550	900	580	565	906
Stage 1	-	-	-	-	-	-	827	754	-	820	749	-
Stage 2	-	-	-	-	-	-	804	729	-	806	750	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1409	-	-	1428	-	-	550	535	900	539	550	906
Mov Cap-2 Maneuver	-	-	-	-	-	-	550	535	-	539	550	-
Stage 1	-	-	-	-	-	-	818	746	-	811	737	-
Stage 2	-	-	-	-	-	-	760	717	-	758	742	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.8	10.4	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	711	1409	-	-	1428	-	-	577
HCM Lane V/C Ratio	0.064	0.01	-	-	0.014	-	-	0.146
HCM Control Delay (s)	10.4	7.6	0	-	7.6	0	-	12.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.5



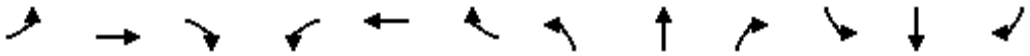
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	35	119	86	47	25	106	362	60	24	405	49
Future Volume (veh/h)	50	35	119	86	47	25	106	362	60	24	405	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	37	125	91	49	26	112	381	63	25	426	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	73	247	245	91	32	170	1086	178	55	928	113
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.10	0.36	0.36	0.03	0.29	0.29
Sat Flow, veh/h	1325	375	1267	426	469	166	1781	3056	501	1781	3190	387
Grp Volume(v), veh/h	53	0	162	166	0	0	112	220	224	25	236	242
Grp Sat Flow(s),veh/h/ln	1325	0	1642	1062	0	0	1781	1777	1780	1781	1777	1801
Q Serve(g_s), s	0.0	0.0	3.0	2.5	0.0	0.0	2.1	3.1	3.2	0.5	3.7	3.8
Cycle Q Clear(g_c), s	1.1	0.0	3.0	5.6	0.0	0.0	2.1	3.1	3.2	0.5	3.7	3.8
Prop In Lane	1.00		0.77	0.55		0.16	1.00		0.28	1.00		0.22
Lane Grp Cap(c), veh/h	487	0	320	369	0	0	170	632	633	55	517	524
V/C Ratio(X)	0.11	0.00	0.51	0.45	0.00	0.00	0.66	0.35	0.35	0.45	0.46	0.46
Avail Cap(c_a), veh/h	1193	0	1194	1125	0	0	1036	2067	2071	1036	2067	2095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	12.4	13.6	0.0	0.0	15.0	8.1	8.2	16.4	10.0	10.0
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.9	0.0	0.0	4.3	0.3	0.3	5.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.0	1.1	0.0	0.0	0.9	0.9	1.0	0.3	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.0	13.6	14.5	0.0	0.0	19.3	8.5	8.5	22.1	10.6	10.6
LnGrp LOS	B	A	B	B	A	A	B	A	A	C	B	B
Approach Vol, veh/h		215			166			556			503	
Approach Delay, s/veh		13.1			14.5			10.7			11.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	17.3		11.3	8.0	15.1		11.3				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.5	5.2		5.0	4.1	5.8		7.6				
Green Ext Time (p_c), s	0.0	3.1		1.0	0.2	3.3		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		11.7	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



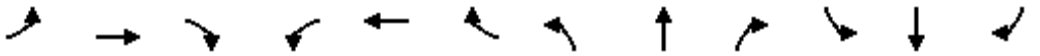
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	80	52	192	95	143	25	352	84	158	457	21
Future Volume (veh/h)	15	80	52	192	95	143	25	352	84	158	457	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	82	54	148	168	147	26	363	87	163	471	22
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	140	142	276	290	437	54	757	179	215	1232	57
Arrive On Green	0.09	0.09	0.09	0.15	0.15	0.15	0.03	0.27	0.27	0.12	0.36	0.36
Sat Flow, veh/h	287	1569	1585	1781	1870	1585	1781	2850	675	1781	3457	161
Grp Volume(v), veh/h	97	0	54	148	168	147	26	225	225	163	242	251
Grp Sat Flow(s),veh/h/ln	1856	0	1585	1781	1870	1585	1781	1777	1749	1781	1777	1841
Q Serve(g_s), s	2.6	0.0	1.6	3.9	4.3	3.8	0.7	5.4	5.6	4.5	5.2	5.2
Cycle Q Clear(g_c), s	2.6	0.0	1.6	3.9	4.3	3.8	0.7	5.4	5.6	4.5	5.2	5.2
Prop In Lane	0.15		1.00	1.00		1.00	1.00		0.39	1.00		0.09
Lane Grp Cap(c), veh/h	166	0	142	276	290	437	54	472	464	215	633	656
V/C Ratio(X)	0.59	0.00	0.38	0.54	0.58	0.34	0.48	0.48	0.49	0.76	0.38	0.38
Avail Cap(c_a), veh/h	907	0	775	871	914	966	696	2084	2051	696	2084	2160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	22.0	19.9	20.1	14.8	24.4	15.8	15.8	21.8	12.3	12.3
Incr Delay (d2), s/veh	3.3	0.0	1.7	1.6	1.8	0.5	6.6	1.6	1.7	5.4	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.6	1.5	1.7	1.2	0.4	2.1	2.1	2.0	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	0.0	23.6	21.5	21.9	15.2	31.0	17.4	17.5	27.1	13.1	13.1
LnGrp LOS	C	A	C	C	C	B	C	B	B	C	B	B
Approach Vol, veh/h		151			463			476			656	
Approach Delay, s/veh		24.9			19.7			18.2			16.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	18.7		9.2	6.1	23.3		12.5				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	6.5	7.6		4.6	2.7	7.2		6.3				
Green Ext Time (p_c), s	0.3	6.0		0.6	0.0	6.6		1.7				

Intersection Summary			
HCM 6th Ctrl Delay		18.6	
HCM 6th LOS		B	

Notes

User approved volume balancing among the lanes for turning movement.



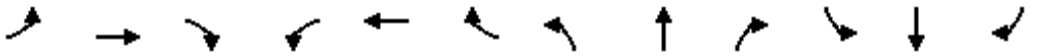
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	477	13	40	611	445	21	41	60	275	5	73
Future Volume (veh/h)	202	477	13	40	611	445	21	41	60	275	5	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	208	492	13	41	630	459	22	42	62	182	148	75
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	2127	56	57	1778	1035	36	69	91	272	179	91
Arrive On Green	0.13	0.60	0.60	0.04	0.67	0.67	0.06	0.06	0.06	0.15	0.15	0.15
Sat Flow, veh/h	1781	3537	93	1781	3554	1585	632	1207	1585	1781	1170	593
Grp Volume(v), veh/h	208	247	258	41	630	459	64	0	62	182	0	223
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1585	1839	0	1585	1781	0	1764
Q Serve(g_s), s	13.2	7.4	7.4	2.6	8.9	12.6	3.9	0.0	4.4	11.1	0.0	14.1
Cycle Q Clear(g_c), s	13.2	7.4	7.4	2.6	8.9	12.6	3.9	0.0	4.4	11.1	0.0	14.1
Prop In Lane	1.00		0.05	1.00		1.00	0.34		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	236	1069	1115	57	1778	1035	106	0	91	272	0	269
V/C Ratio(X)	0.88	0.23	0.23	0.73	0.35	0.44	0.60	0.00	0.68	0.67	0.00	0.83
Avail Cap(c_a), veh/h	260	1069	1115	107	1778	1035	288	0	248	434	0	429
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.0	10.6	10.6	54.6	11.1	6.1	52.9	0.0	53.1	46.0	0.0	47.2
Incr Delay (d2), s/veh	25.9	0.5	0.5	14.2	0.5	1.2	5.4	0.0	8.5	2.8	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	2.8	3.0	1.4	3.1	5.1	2.0	0.0	1.9	5.1	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.9	11.1	11.1	68.7	11.6	7.3	58.4	0.0	61.7	48.8	0.0	54.5
LnGrp LOS	E	B	B	E	B	A	E	A	E	D	A	D
Approach Vol, veh/h		713			1130			126			405	
Approach Delay, s/veh		29.7			11.9			60.0			51.9	
Approach LOS		C			B			E			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.1	8.2	73.7		22.1	19.8	62.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	6.9	44.1		28.0	16.8	34.2				
Max Q Clear Time (g_c+I1), s		6.4	4.6	9.4		16.1	15.2	14.6				
Green Ext Time (p_c), s		0.3	0.0	3.0		1.5	0.1	5.7				

Intersection Summary												
HCM 6th Ctrl Delay			26.6									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	606	124	41	768	245	122	73	38	327	110	208
Future Volume (veh/h)	74	606	124	41	768	245	122	73	38	327	110	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	631	129	43	800	255	102	112	40	228	273	217
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1654	338	58	1920	856	150	158	134	292	306	260
Arrive On Green	0.06	0.56	0.56	0.03	0.54	0.54	0.08	0.08	0.08	0.16	0.16	0.16
Sat Flow, veh/h	1781	2939	600	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	77	381	379	43	800	255	102	112	40	228	273	217
Grp Sat Flow(s),veh/h/ln	1781	1777	1762	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.9	13.7	13.8	2.8	15.4	10.1	6.4	6.7	2.7	14.1	16.4	15.3
Cycle Q Clear(g_c), s	4.9	13.7	13.8	2.8	15.4	10.1	6.4	6.7	2.7	14.1	16.4	15.3
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	1000	992	58	1920	856	150	158	134	292	306	260
V/C Ratio(X)	0.79	0.38	0.38	0.74	0.42	0.30	0.68	0.71	0.30	0.78	0.89	0.84
Avail Cap(c_a), veh/h	116	1000	992	108	1920	856	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	14.0	14.0	55.2	15.7	14.5	51.1	51.3	49.4	46.1	47.1	46.6
Incr Delay (d2), s/veh	24.1	1.0	1.1	17.0	0.7	0.9	5.3	5.7	1.2	12.1	24.9	19.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.4	5.4	1.5	6.0	3.7	3.1	3.4	1.1	7.2	9.7	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.8	15.0	15.1	72.1	16.4	15.4	56.4	57.0	50.7	58.2	72.0	66.1
LnGrp LOS	E	B	B	E	B	B	E	E	D	E	E	E
Approach Vol, veh/h		837			1098			254			718	
Approach Delay, s/veh		20.8			18.3			55.8			65.8	
Approach LOS		C			B			E			E	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.2	8.2	69.2		23.3	10.8	66.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	7.0	36.5		19.5	7.5	36.0				
Max Q Clear Time (g_c+I1), s		8.7	4.8	15.8		18.4	6.9	17.4				
Green Ext Time (p_c), s		1.0	0.0	4.5		0.4	0.0	6.0				

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	52	28	172	34	224	9	192	43	199	418	5
Future Volume (veh/h)	10	52	28	172	34	224	9	192	43	199	418	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	55	30	183	36	238	10	204	46	212	445	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	151	128	274	54	532	23	735	162	272	1418	16
Arrive On Green	0.08	0.08	0.08	0.18	0.18	0.18	0.01	0.25	0.25	0.15	0.39	0.39
Sat Flow, veh/h	1781	1870	1585	1500	295	1585	1781	2893	639	1781	3600	40
Grp Volume(v), veh/h	11	55	30	219	0	238	10	124	126	212	220	230
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1795	0	1585	1781	1777	1755	1781	1777	1863
Q Serve(g_s), s	0.3	1.6	1.0	6.7	0.0	6.9	0.3	3.3	3.4	6.8	5.0	5.1
Cycle Q Clear(g_c), s	0.3	1.6	1.0	6.7	0.0	6.9	0.3	3.3	3.4	6.8	5.0	5.1
Prop In Lane	1.00		1.00	0.84		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	143	151	128	328	0	532	23	451	446	272	700	734
V/C Ratio(X)	0.08	0.37	0.23	0.67	0.00	0.45	0.44	0.27	0.28	0.78	0.31	0.31
Avail Cap(c_a), veh/h	603	633	537	760	0	913	603	1203	1189	905	1203	1262
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	25.7	25.4	22.5	0.0	15.4	28.9	17.7	17.7	24.1	12.4	12.4
Incr Delay (d2), s/veh	0.2	1.5	0.9	2.4	0.0	0.6	12.7	0.3	0.3	4.8	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.4	2.8	0.0	2.3	0.2	1.3	1.3	3.0	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	27.2	26.4	24.8	0.0	15.9	41.6	18.0	18.1	28.8	12.6	12.6
LnGrp LOS	C	C	C	C	A	B	D	B	B	C	B	B
Approach Vol, veh/h		96			457			260			662	
Approach Delay, s/veh		26.7			20.2			18.9			17.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	20.1		9.4	5.5	28.4		15.9				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	8.8	5.4		3.6	2.3	7.1		8.9				
Green Ext Time (p_c), s	0.6	1.5		0.3	0.0	2.7		1.8				

Intersection Summary			
HCM 6th Ctrl Delay		19.3	
HCM 6th LOS		B	

Notes

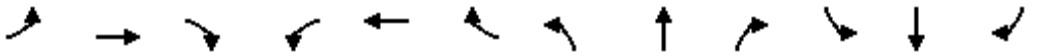
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Future Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	0	13	0	34	0	27	21	18	2	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	6.9	7	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	27%	89%
Vol Thru, %	56%	0%	0%	11%
Vol Right, %	44%	0%	73%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	15	44	19
LT Vol	0	15	12	17
Through Vol	25	0	0	2
RT Vol	20	0	32	0
Lane Flow Rate	48	16	47	20
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.019	0.048	0.024
Departure Headway (Hd)	3.792	4.289	3.683	4.259
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	944	834	970	840
Service Time	1.818	2.32	1.712	2.287
HCM Lane V/C Ratio	0.051	0.019	0.048	0.024
HCM Control Delay	7	7.4	6.9	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.2	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	11	31	6	21	43	29	343	13	17	458	64
Future Volume (veh/h)	112	11	31	6	21	43	29	343	13	17	458	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	12	33	6	22	46	31	365	14	18	487	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	31	271	140	96	177	67	1236	47	41	1033	144
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.35	0.35	0.02	0.33	0.33
Sat Flow, veh/h	1283	182	1585	68	560	1032	1781	3490	134	1781	3133	436
Grp Volume(v), veh/h	131	0	33	74	0	0	31	185	194	18	275	280
Grp Sat Flow(s),veh/h/ln	1465	0	1585	1659	0	0	1781	1777	1846	1781	1777	1792
Q Serve(g_s), s	1.1	0.0	0.5	0.0	0.0	0.0	0.5	2.3	2.3	0.3	3.7	3.8
Cycle Q Clear(g_c), s	2.3	0.0	0.5	1.2	0.0	0.0	0.5	2.3	2.3	0.3	3.7	3.8
Prop In Lane	0.91		1.00	0.08		0.62	1.00		0.07	1.00		0.24
Lane Grp Cap(c), veh/h	477	0	271	412	0	0	67	629	654	41	586	591
V/C Ratio(X)	0.27	0.00	0.12	0.18	0.00	0.00	0.46	0.29	0.30	0.44	0.47	0.47
Avail Cap(c_a), veh/h	1055	0	940	1103	0	0	294	1054	1095	311	1054	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	10.6	10.9	0.0	0.0	14.3	7.1	7.1	14.6	8.1	8.1
Incr Delay (d2), s/veh	0.3	0.0	0.2	0.2	0.0	0.0	4.8	0.3	0.2	7.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	0.3	0.0	0.0	0.3	0.6	0.6	0.2	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.6	0.0	10.8	11.1	0.0	0.0	19.1	7.3	7.3	21.7	8.7	8.7
LnGrp LOS	B	A	B	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		164			74			410			573	
Approach Delay, s/veh		11.4			11.1			8.2			9.1	
Approach LOS		B			B			A			A	

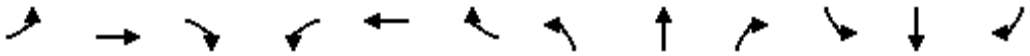
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	15.7		9.7	5.6	15.0		9.7				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.3	4.3		4.3	2.5	5.8		3.2				
Green Ext Time (p_c), s	0.0	1.9		0.6	0.0	2.8		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

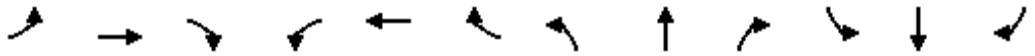
EXISTING PLUS PROJECT
PM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	29	23	29	34	65	19	612	53	36	675	22
Future Volume (veh/h)	26	29	23	29	34	65	19	612	53	36	675	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	31	24	31	36	69	20	651	56	38	718	23
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	145	112	362	85	163	123	1858	157	151	1915	60
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1289	977	757	1349	573	1099	31	3176	268	70	3275	102
Grp Volume(v), veh/h	28	0	55	31	0	105	382	0	345	401	0	378
Grp Sat Flow(s),veh/h/ln	1289	0	1734	1349	0	1673	1821	0	1654	1764	0	1684
Q Serve(g_s), s	0.7	0.0	1.0	0.7	0.0	2.1	0.0	0.0	3.9	0.0	0.0	4.3
Cycle Q Clear(g_c), s	2.8	0.0	1.0	1.7	0.0	2.1	3.8	0.0	3.9	4.1	0.0	4.3
Prop In Lane	1.00		0.44	1.00		0.66	0.05		0.16	0.09		0.06
Lane Grp Cap(c), veh/h	318	0	257	362	0	248	1171	0	967	1141	0	985
V/C Ratio(X)	0.09	0.00	0.21	0.09	0.00	0.42	0.33	0.00	0.36	0.35	0.00	0.38
Avail Cap(c_a), veh/h	1202	0	1447	1288	0	1396	2081	0	1840	2004	0	1873
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	13.5	14.2	0.0	13.9	3.9	0.0	3.9	3.9	0.0	4.0
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.1	0.0	1.1	0.6	0.0	0.8	0.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.2	0.0	0.7	0.9	0.0	0.9	1.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	0.0	13.9	14.3	0.0	15.1	4.5	0.0	4.7	4.6	0.0	4.9
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		83			136			727			779	
Approach Delay, s/veh		14.4			14.9			4.6			4.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		9.9		26.0		9.9				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		5.9		4.8		6.3		4.1				
Green Ext Time (p_c), s		13.6		0.3		14.7		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			5.9									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	30	42	31	30	51	32	675	53	23	632	72
Future Volume (veh/h)	38	30	42	31	30	51	32	675	53	23	632	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	32	45	33	32	54	34	718	56	24	672	77
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	104	146	337	92	156	139	1859	142	125	1817	204
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1311	703	989	1322	625	1055	58	3139	239	37	3067	344
Grp Volume(v), veh/h	40	0	77	33	0	86	420	0	388	406	0	367
Grp Sat Flow(s),veh/h/ln	1311	0	1692	1322	0	1680	1777	0	1659	1808	0	1640
Q Serve(g_s), s	1.0	0.0	1.5	0.8	0.0	1.7	0.0	0.0	4.6	0.0	0.0	4.3
Cycle Q Clear(g_c), s	2.7	0.0	1.5	2.3	0.0	1.7	4.4	0.0	4.6	4.2	0.0	4.3
Prop In Lane	1.00		0.58	1.00		0.63	0.08		0.14	0.06		0.21
Lane Grp Cap(c), veh/h	328	0	250	337	0	249	1158	0	983	1174	0	972
V/C Ratio(X)	0.12	0.00	0.31	0.10	0.00	0.35	0.36	0.00	0.40	0.35	0.00	0.38
Avail Cap(c_a), veh/h	1199	0	1373	1214	0	1364	1967	0	1795	2007	0	1775
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	0.0	14.1	15.1	0.0	14.1	4.0	0.0	4.0	3.9	0.0	4.0
Incr Delay (d2), s/veh	0.2	0.0	0.7	0.1	0.0	0.8	0.7	0.0	0.9	0.6	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.5	0.2	0.0	0.6	1.0	0.0	1.0	1.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	14.7	15.2	0.0	15.0	4.7	0.0	4.9	4.6	0.0	4.8
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		117			119			808			773	
Approach Delay, s/veh		15.0			15.0			4.8			4.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	26.9	10.1	26.9	10.1
Change Period (Y+Rc), s	5.0	4.6	5.0	4.6
Max Green Setting (Gmax), s	40.0	30.0	40.0	30.0
Max Q Clear Time (g_c+I1), s	6.6	4.7	6.3	4.3
Green Ext Time (p_c), s	15.3	0.5	14.6	0.5

Intersection Summary	
HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	394	16	0	0	0	0	20	34	33	42	0
Future Vol, veh/h	29	394	16	0	0	0	0	20	34	33	42	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	419	17	0	0	0	0	21	36	35	45	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.9	8.1	8.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	13%	0%	44%
Vol Thru, %	37%	87%	92%	56%
Vol Right, %	63%	0%	8%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	54	226	213	75
LT Vol	0	29	0	33
Through Vol	20	197	197	42
RT Vol	34	0	16	0
Lane Flow Rate	57	240	227	80
Geometry Grp	2	5	5	2
Degree of Util (X)	0.075	0.33	0.303	0.113
Departure Headway (Hd)	4.687	4.937	4.82	5.118
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	765	728	746	701
Service Time	2.712	2.662	2.545	3.142
HCM Lane V/C Ratio	0.075	0.33	0.304	0.114
HCM Control Delay	8.1	10.1	9.6	8.8
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	1.4	1.3	0.4

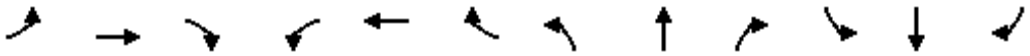
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	225	19	6	0	4	0	7	7	0	0	0
Future Vol, veh/h	214	225	19	6	0	4	0	7	7	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	228	239	20	6	0	4	0	7	7	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	705	249
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	361	790
Stage 1	-	-	-	0	439	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	790
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.6
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	790	-	-	-
HCM Lane V/C Ratio	0.019	-	-	-
HCM Control Delay (s)	9.6	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	170	53	122	203	179	39	49	68	43	57	41
Future Volume (veh/h)	37	170	53	122	203	179	39	49	68	43	57	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	193	60	139	231	203	44	56	77	49	65	47
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	577	660	199	732	636	534	257	275	389	191	209	117
Arrive On Green	0.09	0.25	0.25	0.19	0.35	0.35	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	2689	812	1781	1832	1539	528	1121	1585	307	851	477
Grp Volume(v), veh/h	42	126	127	139	224	210	100	0	77	161	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1593	1649	0	1585	1635	0	0
Q Serve(g_s), s	0.7	2.3	2.5	1.8	3.8	4.0	0.0	0.0	1.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	2.3	2.5	1.8	3.8	4.0	1.7	0.0	1.6	3.1	0.0	0.0
Prop In Lane	1.00		0.47	1.00		0.97	0.44		1.00	0.30		0.29
Lane Grp Cap(c), veh/h	577	436	423	732	617	553	532	0	389	517	0	0
V/C Ratio(X)	0.07	0.29	0.30	0.19	0.36	0.38	0.19	0.00	0.20	0.31	0.00	0.00
Avail Cap(c_a), veh/h	849	1309	1270	823	1309	1174	1143	0	1012	1243	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	12.5	12.5	6.0	9.9	10.0	12.2	0.0	12.2	12.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.1	0.2	0.2	0.0	0.4	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	0.8	0.4	1.2	1.1	0.6	0.0	0.5	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	12.6	12.7	6.1	10.1	10.2	12.5	0.0	12.5	13.2	0.0	0.0
LnGrp LOS	A	B	B	A	B	B	B	A	B	B	A	A
Approach Vol, veh/h		295			573			177			161	
Approach Delay, s/veh		12.1			9.1			12.5			13.2	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	14.6		14.2	7.8	18.7		14.2				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.8	4.5		5.1	2.7	6.0		3.7				
Green Ext Time (p_c), s	0.1	0.9		1.3	0.0	1.8		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		10.9	
HCM 6th LOS		B	

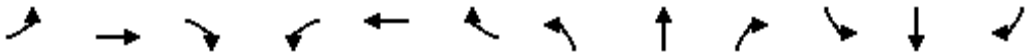
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	0	151	202	242	85	79	581	0	0	536	173
Future Volume (veh/h)	118	0	151	202	242	85	79	581	0	0	536	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	130	0	166	222	266	93	87	638	0	0	589	190
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	230	0	205	316	461	157	112	1971	0	0	1188	382
Arrive On Green	0.13	0.00	0.13	0.18	0.18	0.18	0.06	0.55	0.00	0.00	0.45	0.45
Sat Flow, veh/h	1781	0	1585	1781	2600	888	1781	3647	0	0	2737	851
Grp Volume(v), veh/h	130	0	166	222	180	179	87	638	0	0	396	383
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1711	1781	1777	0	0	1777	1717
Q Serve(g_s), s	7.4	0.0	11.0	12.7	10.0	10.4	5.2	10.5	0.0	0.0	17.0	17.1
Cycle Q Clear(g_c), s	7.4	0.0	11.0	12.7	10.0	10.4	5.2	10.5	0.0	0.0	17.0	17.1
Prop In Lane	1.00		1.00	1.00		0.52	1.00		0.00	0.00		0.50
Lane Grp Cap(c), veh/h	230	0	205	316	315	303	112	1971	0	0	799	772
V/C Ratio(X)	0.56	0.00	0.81	0.70	0.57	0.59	0.78	0.32	0.00	0.00	0.50	0.50
Avail Cap(c_a), veh/h	379	0	338	412	411	396	247	1971	0	0	799	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.98	0.99	0.99	0.99	0.92	0.92	0.00	0.00	0.94	0.94
Uniform Delay (d), s/veh	44.2	0.0	45.7	41.8	40.7	40.8	49.9	13.1	0.0	0.0	21.1	21.1
Incr Delay (d2), s/veh	2.1	0.0	7.3	10.0	5.8	6.5	10.3	0.4	0.0	0.0	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	4.7	6.4	4.9	4.9	2.6	4.3	0.0	0.0	7.5	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	0.0	53.0	51.8	46.4	47.3	60.2	13.5	0.0	0.0	23.1	23.2
LnGrp LOS	D	A	D	D	D	D	E	B	A	A	C	C
Approach Vol, veh/h		296			581			725			779	
Approach Delay, s/veh		50.1			48.7			19.1			23.2	
Approach LOS		D			D			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		64.9		19.0	11.4	53.5		24.1				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		12.5		13.0	7.2	19.1		14.7				
Green Ext Time (p_c), s		7.0		1.0	0.1	3.6		4.5				

Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	54	515	48	17	32	0	0	27	21
Future Volume (veh/h)	0	0	0	54	515	48	17	32	0	0	27	21
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				57	548	51	18	34	0	0	29	22
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				148	1487	145	251	136	0	0	121	92
Arrive On Green				0.48	0.48	0.48	0.12	0.12	0.00	0.00	0.12	0.12
Sat Flow, veh/h				305	3067	299	448	1103	0	0	987	749
Grp Volume(v), veh/h				347	0	309	52	0	0	0	0	51
Grp Sat Flow(s),veh/h/ln				1855	0	1816	1551	0	0	0	0	1736
Q Serve(g_s), s				2.9	0.0	2.6	0.2	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				2.9	0.0	2.6	0.9	0.0	0.0	0.0	0.0	0.7
Prop In Lane				0.16		0.16	0.35		0.00	0.00		0.43
Lane Grp Cap(c), veh/h				900	0	881	387	0	0	0	0	214
V/C Ratio(X)				0.39	0.00	0.35	0.13	0.00	0.00	0.00	0.00	0.24
Avail Cap(c_a), veh/h				2999	0	2936	1385	0	0	0	0	1263
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				4.0	0.0	4.0	9.9	0.0	0.0	0.0	0.0	9.8
Incr Delay (d2), s/veh				0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.3	0.0	4.2	10.0	0.0	0.0	0.0	0.0	10.4
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					656			52			51	
Approach Delay, s/veh					4.3			10.0			10.4	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.6		17.1		7.6				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.7		4.9		2.9				
Green Ext Time (p_c), s				0.2		4.6		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		5.1
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	57	620	5	11	8	0	0	21	10
Future Vol, veh/h	0	0	0	57	620	5	11	8	0	0	21	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	68	738	6	13	10	0	0	25	12

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	518	880	-	-	877	372
Stage 1	-	-	-	0	0	-	-	877	-
Stage 2	-	-	-	518	880	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	440	284	0	0	285	625
Stage 1	-	-	-	-	-	0	0	364	-
Stage 2	-	-	-	509	363	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	403	284	-	-	285	625
Mov Cap-2 Maneuver	-	-	-	403	284	-	-	285	-
Stage 1	-	-	-	-	-	-	-	364	-
Stage 2	-	-	-	465	363	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		16.2	16.6
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	343	-	-	-	346
HCM Lane V/C Ratio	0.066	-	-	-	0.107
HCM Control Delay (s)	16.2	-	-	-	16.6
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

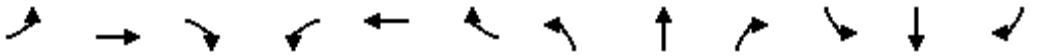
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	661	9	0	0	146	0	0	15
Future Vol, veh/h	0	0	0	0	661	9	0	0	146	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	816	11	0	0	180	0	0	19

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	414
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	587
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	587
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	11.3
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	587
HCM Lane V/C Ratio	-	-	0.032
HCM Control Delay (s)	-	-	11.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	150	1	186	626	254	21	55	360	521	37	14
Future Volume (veh/h)	3	150	1	186	626	254	21	55	360	521	37	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	185	1	230	773	314	26	68	444	692	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	717	4	236	1099	811	152	397	471	722	379	0
Arrive On Green	0.02	0.20	0.20	0.13	0.31	0.31	0.30	0.30	0.30	0.20	0.00	0.00
Sat Flow, veh/h	1781	3624	20	1781	3554	1585	510	1335	1585	3563	1870	0
Grp Volume(v), veh/h	4	91	95	230	773	314	94	0	444	692	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1585	1845	0	1585	1781	1870	0
Q Serve(g_s), s	0.3	4.9	4.9	14.6	21.8	13.7	4.3	0.0	31.0	21.8	0.0	0.0
Cycle Q Clear(g_c), s	0.3	4.9	4.9	14.6	21.8	13.7	4.3	0.0	31.0	21.8	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.28		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	37	351	369	236	1099	811	548	0	471	722	379	0
V/C Ratio(X)	0.11	0.26	0.26	0.98	0.70	0.39	0.17	0.00	0.94	0.96	0.00	0.00
Avail Cap(c_a), veh/h	471	626	658	236	1253	880	569	0	489	722	379	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	54.5	38.5	38.5	49.0	34.6	16.9	29.5	0.0	38.9	44.7	0.0	0.0
Incr Delay (d2), s/veh	0.9	1.8	1.7	51.8	3.2	1.1	0.2	0.0	26.9	23.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	2.4	9.8	9.8	7.6	2.0	0.0	15.5	12.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	40.2	40.2	100.8	37.8	18.0	29.7	0.0	65.8	68.5	0.0	0.0
LnGrp LOS	E	D	D	F	D	B	C	A	E	E	A	A
Approach Vol, veh/h		190			1317			538			692	
Approach Delay, s/veh		40.5			44.1			59.5			68.5	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	27.8		27.6	7.1	40.5		38.3				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	16.6	6.9		23.8	2.3	23.8		33.0				
Green Ext Time (p_c), s	0.0	4.0		0.0	0.0	11.3		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		53.0
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	82	0	29	133	106	0	14	55	98	26	111
Future Vol, veh/h	29	82	0	29	133	106	0	14	55	98	26	111
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	87	0	31	141	113	0	15	59	104	28	118
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	9.3	10.7	8.4	10.3
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	11%	42%
Vol Thru, %	20%	0%	100%	50%	11%
Vol Right, %	80%	0%	0%	40%	47%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	29	82	268	235
LT Vol	0	29	0	29	98
Through Vol	14	0	82	133	26
RT Vol	55	0	0	106	111
Lane Flow Rate	73	31	87	285	250
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.097	0.052	0.136	0.377	0.334
Departure Headway (Hd)	4.779	6.103	5.598	4.762	4.811
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	740	582	634	750	743
Service Time	2.871	3.892	3.386	2.834	2.88
HCM Lane V/C Ratio	0.099	0.053	0.137	0.38	0.336
HCM Control Delay	8.4	9.2	9.3	10.7	10.3
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.3	0.2	0.5	1.8	1.5

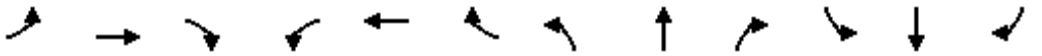
Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	230	35	76	244	60	81
Future Vol, veh/h	230	35	76	244	60	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	264	40	87	280	69	93

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	304	0	738	284
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	454	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1257	-	385	755
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	640	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1257	-	353	755
Mov Cap-2 Maneuver	-	-	-	-	353	-
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	509	-	-	1257	-
HCM Lane V/C Ratio	0.318	-	-	0.069	-
HCM Control Delay (s)	15.3	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	136	65	0	0	0	100	541	135	119	531	223
Future Volume (veh/h)	119	136	65	0	0	0	100	541	135	119	531	223
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	143	68				105	569	142	125	559	235
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	287	193	92				134	1590	396	158	1409	591
Arrive On Green	0.16	0.16	0.16				0.08	0.56	0.56	0.09	0.58	0.58
Sat Flow, veh/h	1781	1198	570				1781	2819	701	1781	2440	1023
Grp Volume(v), veh/h	125	0	211				105	358	353	125	407	387
Grp Sat Flow(s),veh/h/ln	1781	0	1768				1781	1777	1744	1781	1777	1686
Q Serve(g_s), s	4.6	0.0	8.2				4.2	7.9	8.0	5.0	9.0	9.1
Cycle Q Clear(g_c), s	4.6	0.0	8.2				4.2	7.9	8.0	5.0	9.0	9.1
Prop In Lane	1.00		0.32				1.00		0.40	1.00		0.61
Lane Grp Cap(c), veh/h	287	0	285				134	1002	984	158	1026	974
V/C Ratio(X)	0.44	0.00	0.74				0.78	0.36	0.36	0.79	0.40	0.40
Avail Cap(c_a), veh/h	668	0	663				143	1002	984	178	1026	974
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	27.2	0.0	28.8				32.7	8.6	8.6	32.2	8.3	8.3
Incr Delay (d2), s/veh	1.0	0.0	3.8				22.8	1.0	1.0	15.6	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	3.6				2.6	3.0	3.0	2.8	3.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	0.0	32.5				55.6	9.6	9.6	47.7	9.2	9.3
LnGrp LOS	C	A	C				E	A	A	D	A	A
Approach Vol, veh/h		336						816			919	
Approach Delay, s/veh		30.9						15.5			14.5	
Approach LOS		C						B			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	10.6	45.6		15.8	9.6	46.6
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	7.0	10.0		10.2	6.2	11.1
Green Ext Time (p_c), s	0.0	6.6		1.4	0.0	7.5

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	27	644	15	8	724
Future Vol, veh/h	8	27	644	15	8	724
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	28	657	15	8	739

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1051	336	0	0	672	0
Stage 1	665	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	222	660	-	-	915	-
Stage 1	473	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	660	-	-	915	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	452	915	-
HCM Lane V/C Ratio	-	-	0.079	0.009	-
HCM Control Delay (s)	-	-	13.6	9	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	16	122	16	15	83
Future Vol, veh/h	40	16	122	16	15	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	18	137	18	17	93

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	273	146	0	0	155	0
Stage 1	146	-	-	-	-	-
Stage 2	127	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	716	901	-	-	1425	-
Stage 1	881	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	707	901	-	-	1425	-
Mov Cap-2 Maneuver	707	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	887	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	753	1425	-
HCM Lane V/C Ratio	-	-	0.084	0.012	-
HCM Control Delay (s)	-	-	10.2	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	11	16	642	678	57
Future Vol, veh/h	12	11	16	642	678	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	12	17	683	721	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1128	391	782	0	-	0
Stage 1	752	-	-	-	-	-
Stage 2	376	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	198	608	832	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	191	608	832	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	832	-	284	-	-
HCM Lane V/C Ratio	0.02	-	0.086	-	-
HCM Control Delay (s)	9.4	0.1	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	62	69	109	100	50
Future Vol, veh/h	3	62	69	109	100	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	75	83	131	120	60

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	447	150	180	0	-	0
Stage 1	150	-	-	-	-	-
Stage 2	297	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	569	896	1396	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	533	896	1396	-	-	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	754	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1396	-	869	-	-
HCM Lane V/C Ratio	0.06	-	0.09	-	-
HCM Control Delay (s)	7.7	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	87	11	11	57	69	13	82	16	68	70	18
Future Vol, veh/h	32	87	11	11	57	69	13	82	16	68	70	18
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	96	12	12	63	76	14	90	18	75	77	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	8.7	8.8	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	25%	8%	44%
Vol Thru, %	74%	67%	42%	45%
Vol Right, %	14%	8%	50%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	130	137	156
LT Vol	13	32	11	68
Through Vol	82	87	57	70
RT Vol	16	11	69	18
Lane Flow Rate	122	143	151	171
Geometry Grp	1	1	1	1
Degree of Util (X)	0.162	0.191	0.19	0.228
Departure Headway (Hd)	4.773	4.818	4.534	4.79
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	741	787	746
Service Time	2.828	2.869	2.583	2.842
HCM Lane V/C Ratio	0.163	0.193	0.192	0.229
HCM Control Delay	8.8	9	8.7	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.7	0.7	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	25	92	37	18	13	85	541	26	19	503	35
Future Volume (veh/h)	63	25	92	37	18	13	85	541	26	19	503	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	28	105	42	20	15	97	615	30	22	572	40
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	27	583	112	33	583	209	1218	59	92	1458	100
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	4	74	1585	3	91	1585	274	2674	130	47	3202	220
Grp Volume(v), veh/h	100	0	105	62	0	15	355	0	387	331	0	303
Grp Sat Flow(s),veh/h/ln	78	0	1585	94	0	1585	1400	0	1679	1806	0	1662
Q Serve(g_s), s	0.1	0.0	2.4	0.1	0.0	0.3	3.1	0.0	8.9	0.0	0.0	6.6
Cycle Q Clear(g_c), s	20.0	0.0	2.4	20.0	0.0	0.3	9.7	0.0	8.9	6.4	0.0	6.6
Prop In Lane	0.72		1.00	0.68		1.00	0.27		0.08	0.07		0.13
Lane Grp Cap(c), veh/h	143	0	583	146	0	583	722	0	764	893	0	757
V/C Ratio(X)	0.70	0.00	0.18	0.43	0.00	0.03	0.49	0.00	0.51	0.37	0.00	0.40
Avail Cap(c_a), veh/h	143	0	584	146	0	584	1109	0	1236	1375	0	1225
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	11.6	16.8	0.0	11.0	10.3	0.0	10.5	9.8	0.0	9.9
Incr Delay (d2), s/veh	14.1	0.0	0.1	2.0	0.0	0.0	1.9	0.0	1.9	0.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.8	0.5	0.0	0.1	2.8	0.0	3.2	2.5	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	11.8	18.8	0.0	11.0	12.2	0.0	12.3	10.7	0.0	11.1
LnGrp LOS	D	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		205			77			742			634	
Approach Delay, s/veh		23.6			17.3			12.3			10.9	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.7		24.6		29.7		24.6				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		11.7		22.0		8.6		22.0				
Green Ext Time (p_c), s		13.0		0.0		11.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.4									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	2	9	0	0	1	0	7	5	0	0
Future Vol, veh/h	0	1	2	9	0	0	1	0	7	5	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	2	10	0	0	1	0	7	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.6	7.2	6.5	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	0%	100%	100%
Vol Thru, %	0%	33%	0%	0%
Vol Right, %	88%	67%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	3	9	5
LT Vol	1	0	9	5
Through Vol	0	1	0	0
RT Vol	7	2	0	0
Lane Flow Rate	9	3	10	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.008	0.003	0.011	0.006
Departure Headway (Hd)	3.462	3.567	4.162	4.164
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	1039	1008	865	864
Service Time	1.466	1.571	2.164	2.168
HCM Lane V/C Ratio	0.009	0.003	0.012	0.006
HCM Control Delay	6.5	6.6	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0	0

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	23	5	6	29	9	5	93	11	3	68	16
Future Vol, veh/h	10	23	5	6	29	9	5	93	11	3	68	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	28	6	7	35	11	6	113	13	4	83	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	46	0	0	34	0	0	161	115	31	173	113	41
Stage 1	-	-	-	-	-	-	55	55	-	55	55	-
Stage 2	-	-	-	-	-	-	106	60	-	118	58	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1562	-	-	1578	-	-	804	775	1043	790	777	1030
Stage 1	-	-	-	-	-	-	957	849	-	957	849	-
Stage 2	-	-	-	-	-	-	900	845	-	887	847	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1562	-	-	1578	-	-	716	765	1043	684	767	1030
Mov Cap-2 Maneuver	-	-	-	-	-	-	716	765	-	684	767	-
Stage 1	-	-	-	-	-	-	949	842	-	949	845	-
Stage 2	-	-	-	-	-	-	792	841	-	752	840	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	1	10.5	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	784	1562	-	-	1578	-	-	801
HCM Lane V/C Ratio	0.17	0.008	-	-	0.005	-	-	0.132
HCM Control Delay (s)	10.5	7.3	0	-	7.3	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	3	31	9	2	11	21	647	27	11	604	21
Future Vol, veh/h	9	3	31	9	2	11	21	647	27	11	604	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	3	34	10	2	12	23	719	30	12	671	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1114	1502	347	1141	1498	375	694	0	0	749	0	0
Stage 1	707	707	-	780	780	-	-	-	-	-	-	-
Stage 2	407	795	-	361	718	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	163	121	649	156	121	623	897	-	-	856	-	-
Stage 1	392	436	-	354	404	-	-	-	-	-	-	-
Stage 2	592	398	-	630	431	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	149	113	649	137	113	623	897	-	-	856	-	-
Mov Cap-2 Maneuver	149	113	-	137	113	-	-	-	-	-	-	-
Stage 1	375	426	-	338	386	-	-	-	-	-	-	-
Stage 2	552	380	-	578	421	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.3	23.6	0.5	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	897	-	-	319	218	856	-	-
HCM Lane V/C Ratio	0.026	-	-	0.15	0.112	0.014	-	-
HCM Control Delay (s)	9.1	0.2	-	18.3	23.6	9.3	0.1	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.4	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	3	588	4	166	3	251	485	198	337	1
Future Volume (veh/h)	0	0	3	588	4	166	3	251	485	198	337	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	609	0	0	3	259	0	204	347	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	469		1254	0		6	566		328	604	2
Arrive On Green	0.00	0.00	0.00	0.25	0.00	0.00	0.16	0.16	0.00	0.25	0.25	0.25
Sat Flow, veh/h	0	1870	0	3563	0	1585	40	3605	1585	1292	2376	7
Grp Volume(v), veh/h	0	0	0	609	0	0	140	122	0	285	0	267
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1868	1777	1585	1806	0	1869
Q Serve(g_s), s	0.0	0.0	0.0	6.2	0.0	0.0	2.7	2.5	0.0	5.6	0.0	5.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	6.2	0.0	0.0	2.7	2.5	0.0	5.6	0.0	5.0
Prop In Lane	0.00		0.00	1.00		1.00	0.02		1.00	0.72		0.00
Lane Grp Cap(c), veh/h	0	469		1254	0		293	279		459	0	475
V/C Ratio(X)	0.00	0.00		0.49	0.00		0.48	0.44		0.62	0.00	0.56
Avail Cap(c_a), veh/h	0	1171		2591	0		1333	1268		814	0	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	13.5	0.0	0.0	15.3	15.2	0.0	13.2	0.0	13.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.2	1.1	0.0	1.4	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.6	0.0	0.0	1.1	1.0	0.0	2.1	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	13.8	0.0	0.0	16.6	16.3	0.0	14.6	0.0	14.0
LnGrp LOS	A	A		B	A		B	B		B	A	B
Approach Vol, veh/h		0			609			262			552	
Approach Delay, s/veh		0.0			13.8			16.4			14.3	
Approach LOS					B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.8		14.5		14.6		14.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		4.7		0.0		7.6		8.2				
Green Ext Time (p_c), s		1.5		0.0		2.6		1.9				

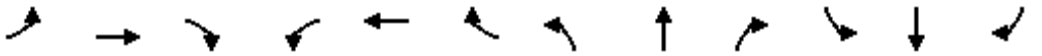
Intersection Summary		
HCM 6th Ctrl Delay		14.5
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	847	8	148	1109	393	10	0	66	338	15	127
Future Volume (veh/h)	0	847	8	148	1109	393	10	0	66	338	15	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1008	10	176	1320	0	12	0	79	415	0	151
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1262	13	221	1942		116	0	103	613	0	273
Arrive On Green	0.00	0.35	0.35	0.12	0.55	0.00	0.07	0.00	0.07	0.17	0.00	0.17
Sat Flow, veh/h	0	3699	36	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	497	521	176	1320	0	12	0	79	415	0	151
Grp Sat Flow(s),veh/h/ln	0	1777	1864	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	15.7	15.7	6.0	16.7	0.0	0.4	0.0	3.1	6.8	0.0	5.4
Cycle Q Clear(g_c), s	0.0	15.7	15.7	6.0	16.7	0.0	0.4	0.0	3.1	6.8	0.0	5.4
Prop In Lane	0.00		0.02	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	622	652	221	1942		116	0	103	613	0	273
V/C Ratio(X)	0.00	0.80	0.80	0.80	0.68		0.10	0.00	0.77	0.68	0.00	0.55
Avail Cap(c_a), veh/h	0	755	792	328	2421		200	0	178	1542	0	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.3	18.3	26.5	10.2	0.0	27.4	0.0	28.7	24.2	0.0	23.6
Incr Delay (d2), s/veh	0.0	5.1	4.8	7.9	0.6	0.0	0.4	0.0	11.1	1.3	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.5	6.8	2.8	5.1	0.0	0.2	0.0	1.4	2.8	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.3	23.1	34.5	10.8	0.0	27.8	0.0	39.8	25.5	0.0	25.4
LnGrp LOS	A	C	C	C	B		C	A	D	C	A	C
Approach Vol, veh/h		1018			1496			91			566	
Approach Delay, s/veh		23.2			13.6			38.2			25.5	
Approach LOS		C			B			D			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		8.6	12.2	26.3		15.2		38.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		7.0	11.5	26.5		27.0		42.5				
Max Q Clear Time (g_c+I1), s		5.1	8.0	17.7		8.8		18.7				
Green Ext Time (p_c), s		0.1	0.1	4.1		1.9		10.7				

Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

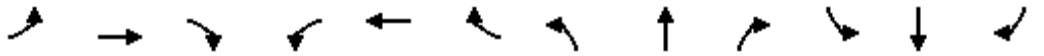
Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	16	196	12	26	166	81	27	18	32	78	33	21
Future Vol, veh/h	16	196	12	26	166	81	27	18	32	78	33	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	206	13	27	175	85	28	19	34	82	35	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	260	0	0	219	0	0	547	561	213	545	525	218
Stage 1	-	-	-	-	-	-	247	247	-	272	272	-
Stage 2	-	-	-	-	-	-	300	314	-	273	253	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1304	-	-	1350	-	-	448	436	827	449	458	822
Stage 1	-	-	-	-	-	-	757	702	-	734	685	-
Stage 2	-	-	-	-	-	-	709	656	-	733	698	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	1350	-	-	398	419	827	404	440	822
Mov Cap-2 Maneuver	-	-	-	-	-	-	398	419	-	404	440	-
Stage 1	-	-	-	-	-	-	746	691	-	723	669	-
Stage 2	-	-	-	-	-	-	638	640	-	674	688	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.7	13.3	16.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	515	1304	-	-	1350	-	-	450
HCM Lane V/C Ratio	0.157	0.013	-	-	0.02	-	-	0.309
HCM Control Delay (s)	13.3	7.8	0	-	7.7	0	-	16.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	1.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	80	135	81	48	23	174	721	70	37	450	48
Future Volume (veh/h)	89	80	135	81	48	23	174	721	70	37	450	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	94	84	142	85	51	24	183	759	74	39	474	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	130	220	199	101	29	246	1281	125	78	962	103
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.14	0.39	0.39	0.04	0.30	0.30
Sat Flow, veh/h	1325	625	1056	301	486	139	1781	3271	319	1781	3238	347
Grp Volume(v), veh/h	94	0	226	160	0	0	183	412	421	39	259	266
Grp Sat Flow(s),veh/h/ln	1325	0	1680	926	0	0	1781	1777	1813	1781	1777	1808
Q Serve(g_s), s	0.0	0.0	5.0	2.4	0.0	0.0	4.0	7.4	7.4	0.9	4.9	4.9
Cycle Q Clear(g_c), s	2.6	0.0	5.0	7.3	0.0	0.0	4.0	7.4	7.4	0.9	4.9	4.9
Prop In Lane	1.00		0.63	0.53		0.15	1.00		0.18	1.00		0.19
Lane Grp Cap(c), veh/h	443	0	351	330	0	0	246	696	710	78	528	537
V/C Ratio(X)	0.21	0.00	0.64	0.49	0.00	0.00	0.74	0.59	0.59	0.50	0.49	0.49
Avail Cap(c_a), veh/h	985	0	1038	893	0	0	880	1756	1792	880	1756	1787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	0.0	14.6	15.5	0.0	0.0	16.8	9.8	9.8	18.9	11.7	11.7
Incr Delay (d2), s/veh	0.2	0.0	2.0	1.1	0.0	0.0	4.4	0.8	0.8	4.9	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.8	1.3	0.0	0.0	1.7	2.4	2.4	0.4	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	0.0	16.6	16.6	0.0	0.0	21.2	10.6	10.6	23.8	12.4	12.4
LnGrp LOS	B	A	B	B	A	A	C	B	B	C	B	B
Approach Vol, veh/h		320			160			1016			564	
Approach Delay, s/veh		15.8			16.6			12.5			13.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	20.9		13.1	10.3	17.1		13.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.9	9.4		7.0	6.0	6.9		9.3				
Green Ext Time (p_c), s	0.1	6.4		1.5	0.4	3.7		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		13.5	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

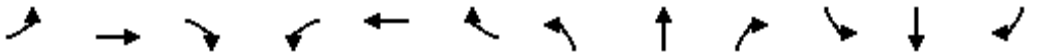
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	138	42	212	135	287	47	604	143	217	506	18
Future Volume (veh/h)	21	138	42	212	135	287	47	604	143	217	506	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	142	43	179	195	296	48	623	147	224	522	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	29	187	184	345	363	542	69	952	224	263	1549	56
Arrive On Green	0.12	0.12	0.12	0.19	0.19	0.19	0.04	0.33	0.33	0.15	0.44	0.44
Sat Flow, veh/h	249	1609	1585	1781	1870	1585	1781	2854	672	1781	3497	127
Grp Volume(v), veh/h	164	0	43	179	195	296	48	387	383	224	265	276
Grp Sat Flow(s),veh/h/ln	1858	0	1585	1781	1870	1585	1781	1777	1749	1781	1777	1847
Q Serve(g_s), s	7.8	0.0	2.2	8.2	8.5	13.7	2.4	16.9	16.9	11.1	8.9	8.9
Cycle Q Clear(g_c), s	7.8	0.0	2.2	8.2	8.5	13.7	2.4	16.9	16.9	11.1	8.9	8.9
Prop In Lane	0.13		1.00	1.00		1.00	1.00		0.38	1.00		0.07
Lane Grp Cap(c), veh/h	216	0	184	345	363	542	69	593	584	263	787	818
V/C Ratio(X)	0.76	0.00	0.23	0.52	0.54	0.55	0.70	0.65	0.66	0.85	0.34	0.34
Avail Cap(c_a), veh/h	512	0	437	491	515	671	392	1174	1156	392	1174	1221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	36.4	32.8	32.9	24.2	43.1	25.8	25.8	37.7	16.6	16.6
Incr Delay (d2), s/veh	5.4	0.0	0.6	1.2	1.2	0.9	11.9	2.6	2.7	10.9	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.9	3.5	3.8	5.0	1.3	7.2	7.1	5.5	3.5	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	0.0	37.1	34.0	34.2	25.0	55.1	28.4	28.5	48.6	17.1	17.1
LnGrp LOS	D	A	D	C	C	C	E	C	C	D	B	B
Approach Vol, veh/h		207			670			818			765	
Approach Delay, s/veh		42.8			30.1			30.0			26.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	35.4		15.2	8.1	45.3		22.2				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	13.1	18.9		9.8	4.4	10.9		15.7				
Green Ext Time (p_c), s	0.3	11.4		0.8	0.1	7.4		1.9				

Intersection Summary			
HCM 6th Ctrl Delay		29.9	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	548	15	87	786	361	18	12	41	405	14	60
Future Volume (veh/h)	186	548	15	87	786	361	18	12	41	405	14	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	565	15	90	810	372	19	12	42	486	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	2043	54	113	1838	1076	45	28	64	577	303	0
Arrive On Green	0.12	0.58	0.58	0.13	1.00	1.00	0.04	0.04	0.04	0.16	0.00	0.00
Sat Flow, veh/h	1781	3536	94	1781	3554	1585	1112	702	1585	3563	1870	0
Grp Volume(v), veh/h	192	284	296	90	810	372	31	0	42	486	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1853	1781	1777	1585	1815	0	1585	1781	1870	0
Q Serve(g_s), s	12.2	9.2	9.2	5.6	0.0	0.0	1.9	0.0	3.0	15.2	0.0	0.0
Cycle Q Clear(g_c), s	12.2	9.2	9.2	5.6	0.0	0.0	1.9	0.0	3.0	15.2	0.0	0.0
Prop In Lane	1.00		0.05	1.00		1.00	0.61		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	221	1027	1071	113	1838	1076	74	0	64	577	303	0
V/C Ratio(X)	0.87	0.28	0.28	0.80	0.44	0.35	0.42	0.00	0.65	0.84	0.00	0.00
Avail Cap(c_a), veh/h	256	1027	1071	192	1838	1076	284	0	248	867	455	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.76	0.76	0.76	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.5	12.2	12.2	49.5	0.0	0.0	53.9	0.0	54.4	46.8	0.0	0.0
Incr Delay (d2), s/veh	23.6	0.7	0.6	9.4	0.6	0.7	3.8	0.0	10.7	4.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	3.6	3.8	2.6	0.1	0.2	1.0	0.0	1.4	7.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.1	12.9	12.8	58.9	0.6	0.7	57.6	0.0	65.1	51.6	0.0	0.0
LnGrp LOS	E	B	B	E	A	A	E	A	E	D	A	A
Approach Vol, veh/h		772			1272			73			486	
Approach Delay, s/veh		27.8			4.7			61.9			51.6	
Approach LOS		C			A			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.2	11.8	70.9	23.1	18.8	64.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	12.4	38.6	28.0	16.5	34.5
Max Q Clear Time (g_c+I1), s	5.0	7.6	11.2	17.2	14.2	2.0
Green Ext Time (p_c), s	0.2	0.1	3.4	1.4	0.1	7.7

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	823	126	46	723	222	110	61	67	632	107	386
Future Volume (veh/h)	59	823	126	46	723	222	110	61	67	632	107	386
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	857	131	48	753	231	90	100	70	737	0	402
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1680	257	62	1901	848	139	146	124	666	0	296
Arrive On Green	0.04	0.54	0.54	0.03	0.53	0.53	0.08	0.08	0.08	0.19	0.00	0.19
Sat Flow, veh/h	1781	3090	472	1781	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	61	493	495	48	753	231	90	100	70	737	0	402
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	3.9	20.1	20.1	3.1	14.4	9.1	5.6	6.0	4.9	21.5	0.0	21.5
Cycle Q Clear(g_c), s	3.9	20.1	20.1	3.1	14.4	9.1	5.6	6.0	4.9	21.5	0.0	21.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	966	971	62	1901	848	139	146	124	666	0	296
V/C Ratio(X)	0.79	0.51	0.51	0.78	0.40	0.27	0.65	0.68	0.56	1.11	0.00	1.36
Avail Cap(c_a), veh/h	77	966	971	82	1901	848	527	553	469	666	0	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.5	16.6	16.6	55.1	15.8	14.6	51.5	51.6	51.1	46.8	0.0	46.8
Incr Delay (d2), s/veh	37.6	1.8	1.7	28.0	0.6	0.8	4.9	5.5	4.0	67.8	0.0	180.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	8.1	8.2	1.8	5.7	3.3	2.7	3.0	2.0	15.7	0.0	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	18.3	18.3	83.0	16.4	15.4	56.4	57.1	55.1	114.5	0.0	227.7
LnGrp LOS	F	B	B	F	B	B	E	E	E	F	A	F
Approach Vol, veh/h		1049			1032			260			1139	
Approach Delay, s/veh		22.6			19.3			56.3			154.5	
Approach LOS		C			B			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.5	8.5	67.0		26.0	9.5	66.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	5.3	36.2		21.5	5.0	36.5				
Max Q Clear Time (g_c+I1), s		8.0	5.1	22.1		23.5	5.9	16.4				
Green Ext Time (p_c), s		1.0	0.0	5.2		0.0	0.0	5.7				

Intersection Summary												
HCM 6th Ctrl Delay			67.3									
HCM 6th LOS			E									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	47	31	127	68	335	19	561	91	194	419	11
Future Volume (veh/h)	13	47	31	127	68	335	19	561	91	194	419	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	50	33	135	72	356	20	597	97	206	446	12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	136	115	277	148	602	41	824	134	259	1383	37
Arrive On Green	0.07	0.07	0.07	0.23	0.23	0.23	0.02	0.27	0.27	0.15	0.39	0.39
Sat Flow, veh/h	1781	1870	1585	1181	630	1585	1781	3062	496	1781	3535	95
Grp Volume(v), veh/h	14	50	33	207	0	356	20	346	348	206	224	234
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1781	1781	1777	1853
Q Serve(g_s), s	0.5	1.8	1.4	6.9	0.0	12.6	0.8	12.4	12.4	7.8	6.1	6.2
Cycle Q Clear(g_c), s	0.5	1.8	1.4	6.9	0.0	12.6	0.8	12.4	12.4	7.8	6.1	6.2
Prop In Lane	1.00		1.00	0.65		1.00	1.00		0.28	1.00		0.05
Lane Grp Cap(c), veh/h	129	136	115	425	0	602	41	478	479	259	695	725
V/C Ratio(X)	0.11	0.37	0.29	0.49	0.00	0.59	0.49	0.72	0.73	0.80	0.32	0.32
Avail Cap(c_a), veh/h	509	534	453	646	0	796	509	1015	1017	763	1015	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	30.9	30.8	23.2	0.0	17.4	33.8	23.2	23.3	28.9	14.8	14.9
Incr Delay (d2), s/veh	0.4	1.7	1.3	0.9	0.0	0.9	8.7	2.1	2.1	5.5	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	0.5	2.9	0.0	4.3	0.4	5.0	5.1	3.5	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	32.6	32.1	24.0	0.0	18.3	42.5	25.3	25.4	34.5	15.1	15.1
LnGrp LOS	C	C	C	C	A	B	D	C	C	C	B	B
Approach Vol, veh/h		97			563			714			664	
Approach Delay, s/veh		32.2			20.4			25.8			21.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.9	24.0		9.7	6.3	32.5		21.5				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	9.8	14.4		3.8	2.8	8.2		14.6				
Green Ext Time (p_c), s	0.5	4.4		0.3	0.0	2.8		1.9				

Intersection Summary			
HCM 6th Ctrl Delay		23.1	
HCM 6th LOS		C	

Notes

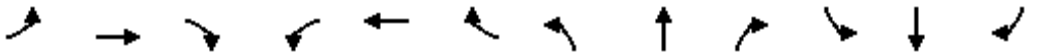
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Future Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	0	45	0	37	0	6	15	54	3	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.4	6.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	55%	76%
Vol Thru, %	30%	0%	0%	4%
Vol Right, %	70%	0%	45%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	3	77	67
LT Vol	0	3	42	51
Through Vol	6	0	0	3
RT Vol	14	0	35	13
Lane Flow Rate	21	3	82	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.004	0.089	0.082
Departure Headway (Hd)	3.717	4.358	3.933	4.135
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	956	815	907	864
Service Time	1.767	2.415	1.976	2.171
HCM Lane V/C Ratio	0.022	0.004	0.09	0.082
HCM Control Delay	6.9	7.4	7.4	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.3	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	50	68	11	44	27	48	610	17	43	709	117
Future Volume (veh/h)	162	50	68	11	44	27	48	610	17	43	709	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	172	53	72	12	47	29	51	649	18	46	754	124
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	83	361	123	219	116	97	1295	36	90	1084	178
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.05	0.37	0.37	0.05	0.35	0.35
Sat Flow, veh/h	1019	365	1585	76	961	510	1781	3532	98	1781	3055	502
Grp Volume(v), veh/h	225	0	72	88	0	0	51	326	341	46	439	439
Grp Sat Flow(s),veh/h/ln	1384	0	1585	1546	0	0	1781	1777	1853	1781	1777	1780
Q Serve(g_s), s	0.0	0.0	1.4	0.1	0.0	0.0	1.1	5.5	5.5	1.0	8.2	8.2
Cycle Q Clear(g_c), s	5.9	0.0	1.4	5.9	0.0	0.0	1.1	5.5	5.5	1.0	8.2	8.2
Prop In Lane	0.76		1.00	0.14		0.33	1.00		0.05	1.00		0.28
Lane Grp Cap(c), veh/h	480	0	361	458	0	0	97	651	679	90	630	631
V/C Ratio(X)	0.47	0.00	0.20	0.19	0.00	0.00	0.53	0.50	0.50	0.51	0.70	0.70
Avail Cap(c_a), veh/h	819	0	739	855	0	0	231	829	864	245	829	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	0.0	12.0	12.1	0.0	0.0	17.8	9.5	9.5	17.9	10.7	10.7
Incr Delay (d2), s/veh	0.7	0.0	0.3	0.2	0.0	0.0	4.3	0.6	0.6	4.5	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.4	0.5	0.0	0.0	0.5	1.8	1.8	0.5	2.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	12.3	12.3	0.0	0.0	22.1	10.1	10.1	22.3	12.4	12.4
LnGrp LOS	B	A	B	B	A	A	C	B	B	C	B	B
Approach Vol, veh/h		297			88			718			924	
Approach Delay, s/veh		13.9			12.3			10.9			12.9	
Approach LOS		B			B			B			B	

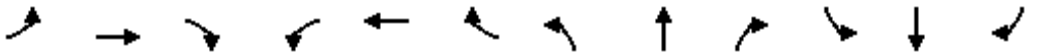
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	19.2		13.3	6.6	18.7		13.3				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	3.0	7.5		7.9	3.1	10.2		7.9				
Green Ext Time (p_c), s	0.0	3.2		1.1	0.0	3.5		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		12.3	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NEAR TERM (2030)
NO PROJECT
AM PEAK HOUR

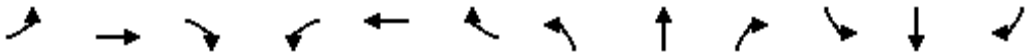


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	8	6	19	11	19	5	495	24	56	689	10
Future Volume (veh/h)	10	8	6	19	11	19	5	495	24	56	689	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	9	6	20	12	20	5	527	26	60	733	11
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	96	64	330	58	97	111	2103	103	203	2022	29
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	1377	1047	698	1398	630	1051	6	3363	165	130	3233	47
Grp Volume(v), veh/h	11	0	15	20	0	32	294	0	264	408	0	396
Grp Sat Flow(s),veh/h/ln	1377	0	1745	1398	0	1681	1861	0	1672	1716	0	1694
Q Serve(g_s), s	0.3	0.0	0.3	0.5	0.0	0.6	0.0	0.0	2.4	0.0	0.0	3.9
Cycle Q Clear(g_c), s	0.9	0.0	0.3	0.7	0.0	0.6	2.4	0.0	2.4	3.6	0.0	3.9
Prop In Lane	1.00		0.40	1.00		0.63	0.02		0.10	0.15		0.03
Lane Grp Cap(c), veh/h	314	0	161	330	0	155	1272	0	1046	1195	0	1059
V/C Ratio(X)	0.03	0.00	0.09	0.06	0.00	0.21	0.23	0.00	0.25	0.34	0.00	0.37
Avail Cap(c_a), veh/h	1404	0	1541	1436	0	1485	2276	0	1969	2074	0	1994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	14.1	14.5	0.0	14.3	2.8	0.0	2.8	3.0	0.0	3.1
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.1	0.0	0.7	0.3	0.0	0.5	0.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.1	0.0	0.2	0.4	0.0	0.4	0.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	0.0	14.4	14.5	0.0	14.9	3.2	0.0	3.3	3.7	0.0	3.9
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		26			52			558			804	
Approach Delay, s/veh		14.5			14.8			3.2			3.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.2		7.7		26.2		7.7				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		4.4		2.9		5.9		2.7				
Green Ext Time (p_c), s		10.0		0.1		15.4		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			4.2									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	10	10	13	15	49	8	472	14	105	600	19
Future Volume (veh/h)	6	10	10	13	15	49	8	472	14	105	600	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	11	11	14	16	52	9	502	15	112	638	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	309	97	97	350	44	142	116	2081	61	337	1688	52
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1333	858	858	1390	387	1257	14	3420	101	330	2774	85
Grp Volume(v), veh/h	6	0	22	14	0	68	276	0	250	373	0	397
Grp Sat Flow(s),veh/h/ln	1333	0	1716	1390	0	1644	1851	0	1684	1502	0	1687
Q Serve(g_s), s	0.1	0.0	0.4	0.3	0.0	1.3	0.0	0.0	2.4	0.0	0.0	4.2
Cycle Q Clear(g_c), s	1.5	0.0	0.4	0.7	0.0	1.3	2.3	0.0	2.4	3.4	0.0	4.2
Prop In Lane	1.00		0.50	1.00		0.76	0.03		0.06	0.30		0.05
Lane Grp Cap(c), veh/h	309	0	194	350	0	186	1234	0	1025	1050	0	1027
V/C Ratio(X)	0.02	0.00	0.11	0.04	0.00	0.37	0.22	0.00	0.24	0.35	0.00	0.39
Avail Cap(c_a), veh/h	1316	0	1491	1400	0	1429	2218	0	1951	1821	0	1955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	13.7	14.1	0.0	14.2	3.1	0.0	3.1	3.3	0.0	3.5
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.0	0.0	1.2	0.3	0.0	0.4	0.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.1	0.0	0.5	0.5	0.0	0.4	0.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	14.0	14.1	0.0	15.4	3.4	0.0	3.6	4.0	0.0	4.3
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		28			82			526			770	
Approach Delay, s/veh		14.2			15.1			3.5			4.2	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		8.5		26.0		8.5				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		4.4		3.5		6.2		3.3				
Green Ext Time (p_c), s		9.3		0.1		14.8		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			4.8									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	356	3	0	0	0	0	15	11	14	16	0
Future Vol, veh/h	29	356	3	0	0	0	0	15	11	14	16	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	379	3	0	0	0	0	16	12	15	17	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.2	7.8	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	14%	0%	47%
Vol Thru, %	58%	86%	98%	53%
Vol Right, %	42%	0%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	207	181	30
LT Vol	0	29	0	14
Through Vol	15	178	178	16
RT Vol	11	0	3	0
Lane Flow Rate	28	220	193	32
Geometry Grp	2	5	5	2
Degree of Util (X)	0.036	0.288	0.247	0.044
Departure Headway (Hd)	4.626	4.708	4.626	4.966
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	778	760	772	725
Service Time	2.628	2.46	2.378	2.969
HCM Lane V/C Ratio	0.036	0.289	0.25	0.044
HCM Control Delay	7.8	9.4	8.9	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.2	1	0.1

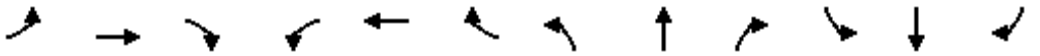
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	153	249	1	4	0	3	0	18	10	0	0	0
Future Vol, veh/h	153	249	1	4	0	3	0	18	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	163	265	1	4	0	3	0	19	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	592	266
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	419	773
Stage 1	-	-	-	0	494	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	773
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.8
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	773	-	-	-
HCM Lane V/C Ratio	0.039	-	-	-
HCM Control Delay (s)	9.8	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	86	32	36	214	28	51	25	9	6	26	24
Future Volume (veh/h)	16	86	32	36	214	28	51	25	9	6	26	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	98	36	41	243	32	58	28	10	7	30	27
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	615	764	268	717	1090	142	381	150	365	135	211	166
Arrive On Green	0.05	0.30	0.30	0.09	0.34	0.34	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	2579	905	1781	3162	412	878	653	1585	74	917	723
Grp Volume(v), veh/h	18	66	68	41	135	140	86	0	10	64	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1707	1781	1777	1796	1531	0	1585	1713	0	0
Q Serve(g_s), s	0.2	0.9	1.0	0.5	1.8	1.9	0.3	0.0	0.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.9	1.0	0.5	1.8	1.9	1.3	0.0	0.2	1.0	0.0	0.0
Prop In Lane	1.00		0.53	1.00		0.23	0.67		1.00	0.11		0.42
Lane Grp Cap(c), veh/h	615	526	506	717	613	619	531	0	365	513	0	0
V/C Ratio(X)	0.03	0.13	0.13	0.06	0.22	0.23	0.16	0.00	0.03	0.12	0.00	0.00
Avail Cap(c_a), veh/h	1061	1579	1517	1076	1579	1596	1331	0	1221	1567	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	8.7	8.7	6.4	7.8	7.9	10.5	0.0	10.1	10.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.3	0.1	0.5	0.5	0.4	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	8.7	8.8	6.4	7.9	7.9	10.7	0.0	10.1	10.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		152			316			96			64	
Approach Delay, s/veh		8.6			7.7			10.6			10.5	
Approach LOS		A			A			B			B	

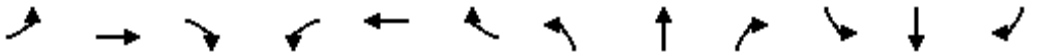
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	14.6		12.0	5.6	16.2		12.0				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.5	3.0		3.0	2.2	3.9		3.3				
Green Ext Time (p_c), s	0.0	0.5		0.4	0.0	1.0		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

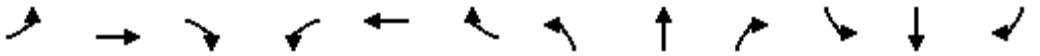


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	0	60	303	204	100	29	369	0	0	573	64
Future Volume (veh/h)	51	0	60	303	204	100	29	369	0	0	573	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	56	0	66	333	224	110	32	405	0	0	630	70
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	153	0	136	521	684	324	61	1334	0	0	856	95
Arrive On Green	0.09	0.00	0.09	0.29	0.29	0.29	0.03	0.38	0.00	0.00	0.27	0.27
Sat Flow, veh/h	1781	0	1585	1781	2339	1109	1781	3647	0	0	3319	358
Grp Volume(v), veh/h	56	0	66	333	168	166	32	405	0	0	347	353
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1671	1781	1777	0	0	1777	1806
Q Serve(g_s), s	1.8	0.0	2.4	9.9	4.5	4.7	1.1	4.9	0.0	0.0	10.8	10.9
Cycle Q Clear(g_c), s	1.8	0.0	2.4	9.9	4.5	4.7	1.1	4.9	0.0	0.0	10.8	10.9
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.00	0.00		0.20
Lane Grp Cap(c), veh/h	153	0	136	521	519	488	61	1334	0	0	472	479
V/C Ratio(X)	0.37	0.00	0.48	0.64	0.32	0.34	0.52	0.30	0.00	0.00	0.74	0.74
Avail Cap(c_a), veh/h	673	0	599	731	730	686	439	1751	0	0	671	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	26.5	18.8	16.8	16.9	28.9	13.4	0.0	0.0	20.4	20.4
Incr Delay (d2), s/veh	1.5	0.0	2.6	4.7	1.3	1.5	6.8	0.3	0.0	0.0	2.5	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.0	4.4	1.9	1.9	0.6	1.9	0.0	0.0	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	0.0	29.2	23.4	18.1	18.4	35.7	13.7	0.0	0.0	22.9	22.9
LnGrp LOS	C	A	C	C	B	B	D	B	A	A	C	C
Approach Vol, veh/h		122			667			437			700	
Approach Delay, s/veh		28.5			20.9			15.3			22.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		27.9		10.2	6.7	21.2		22.8				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	23.0		25.0				
Max Q Clear Time (g_c+I1), s		6.9		4.4	3.1	12.9		11.9				
Green Ext Time (p_c), s		5.0		0.4	0.0	3.3		5.9				

Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	26	565	33	8	29	0	0	15	26
Future Volume (veh/h)	0	0	0	26	565	33	8	29	0	0	15	26
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				28	601	35	9	31	0	0	16	28
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				74	1651	101	214	129	0	0	65	114
Arrive On Green				0.49	0.49	0.49	0.11	0.11	0.00	0.00	0.11	0.11
Sat Flow, veh/h				149	3343	204	301	1209	0	0	610	1068
Grp Volume(v), veh/h				350	0	314	40	0	0	0	0	44
Grp Sat Flow(s),veh/h/ln				1863	0	1834	1510	0	0	0	0	1678
Q Serve(g_s), s				2.8	0.0	2.5	0.3	0.0	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s				2.8	0.0	2.5	0.8	0.0	0.0	0.0	0.0	0.6
Prop In Lane				0.08		0.11	0.22		0.00	0.00		0.64
Lane Grp Cap(c), veh/h				920	0	906	343	0	0	0	0	179
V/C Ratio(X)				0.38	0.00	0.35	0.12	0.00	0.00	0.00	0.00	0.25
Avail Cap(c_a), veh/h				3067	0	3019	1437	0	0	0	0	1243
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				3.8	0.0	3.8	10.1	0.0	0.0	0.0	0.0	10.0
Incr Delay (d2), s/veh				0.3	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.1	0.0	4.0	10.2	0.0	0.0	0.0	0.0	10.7
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					664			40			44	
Approach Delay, s/veh					4.0			10.2			10.7	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.2		17.1		7.2				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.6		4.8		2.8				
Green Ext Time (p_c), s				0.1		4.6		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		4.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	87	583	6	53	11	0	0	37	5
Future Vol, veh/h	0	0	0	87	583	6	53	11	0	0	37	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	104	694	7	63	13	0	0	44	6

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	577	909	-	-	906	351
Stage 1	-	-	-	0	0	-	-	906	-
Stage 2	-	-	-	577	909	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	400	273	0	0	275	645
Stage 1	-	-	-	-	-	0	0	353	-
Stage 2	-	-	-	469	352	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	348	273	-	-	275	645
Mov Cap-2 Maneuver	-	-	-	348	273	-	-	275	-
Stage 1	-	-	-	-	-	-	-	353	-
Stage 2	-	-	-	407	352	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		19	19.7
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	332	-	-	-	295
HCM Lane V/C Ratio	0.229	-	-	-	0.169
HCM Control Delay (s)	19	-	-	-	19.7
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.9	-	-	-	0.6

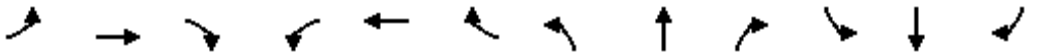
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	593	39	1	0	160	0	0	79
Future Vol, veh/h	0	0	0	0	593	39	1	0	160	0	0	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	732	48	1	0	198	0	0	98

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	390
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	609
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	609
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	12
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	609
HCM Lane V/C Ratio	-	-	0.16
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	130	2	203	594	229	28	60	364	320	97	12
Future Volume (veh/h)	25	130	2	203	594	229	28	60	364	320	97	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	160	2	251	733	283	35	74	449	265	302	15
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	959	12	212	998	735	164	347	441	325	323	16
Arrive On Green	0.11	0.27	0.27	0.12	0.28	0.28	0.28	0.28	0.28	0.18	0.18	0.18
Sat Flow, veh/h	1781	3594	45	1781	3554	1585	591	1250	1585	1781	1767	88
Grp Volume(v), veh/h	31	79	83	251	733	283	109	0	449	265	0	317
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1585	1841	0	1585	1781	0	1855
Q Serve(g_s), s	2.0	4.3	4.3	15.0	23.5	14.7	5.7	0.0	35.0	18.0	0.0	21.2
Cycle Q Clear(g_c), s	2.0	4.3	4.3	15.0	23.5	14.7	5.7	0.0	35.0	18.0	0.0	21.2
Prop In Lane	1.00		0.02	1.00		1.00	0.32		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	187	474	497	212	998	735	512	0	441	325	0	339
V/C Ratio(X)	0.17	0.17	0.17	1.18	0.73	0.39	0.21	0.00	1.02	0.81	0.00	0.94
Avail Cap(c_a), veh/h	424	565	592	212	1129	793	512	0	441	325	0	339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	35.4	35.4	55.4	41.0	22.1	34.9	0.0	45.4	49.4	0.0	50.7
Incr Delay (d2), s/veh	0.3	0.8	0.7	119.9	4.1	1.2	0.3	0.0	47.8	15.2	0.0	32.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.0	2.1	13.8	10.9	7.9	2.7	0.0	19.6	9.4	0.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	36.2	36.1	175.3	45.1	23.3	35.2	0.0	93.2	64.6	0.0	83.6
LnGrp LOS	D	D	D	F	D	C	D	A	F	E	A	F
Approach Vol, veh/h		193			1267			558			582	
Approach Delay, s/veh		38.6			66.0			81.9			75.0	
Approach LOS		D			E			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	39.0		27.6	17.9	40.8		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	6.3		23.2	4.0	25.5		37.0				
Green Ext Time (p_c), s	0.0	3.5		0.0	0.0	9.8		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		69.4
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	25	0	6	22	69	0	6	13	68	2	21
Future Vol, veh/h	4	25	0	6	22	69	0	6	13	68	2	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	27	0	6	23	73	0	6	14	72	2	22
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	7.9	8.1	7.2	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%	6%	75%
Vol Thru, %	100%	0%	0%	100%	23%	2%
Vol Right, %	0%	100%	0%	0%	71%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	13	4	25	97	91
LT Vol	0	0	4	0	6	68
Through Vol	6	0	0	25	22	2
RT Vol	0	13	0	0	69	21
Lane Flow Rate	6	14	4	27	103	97
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0.009	0.016	0.006	0.036	0.128	0.132
Departure Headway (Hd)	4.939	4.236	5.414	4.913	4.454	4.897
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	728	848	664	732	809	737
Service Time	2.649	1.946	3.123	2.621	2.461	2.897
HCM Lane V/C Ratio	0.008	0.017	0.006	0.037	0.127	0.132
HCM Control Delay	7.7	7	8.2	7.8	8.1	8.6
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0	0	0.1	0.4	0.5

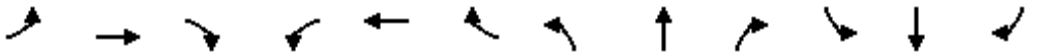
Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	19	19	98	17	25
Future Vol, veh/h	72	19	19	98	17	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	22	22	113	20	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	251	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1486	-	738	963
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1486	-	726	963
Mov Cap-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	851	-	-	1486	-
HCM Lane V/C Ratio	0.057	-	-	0.015	-
HCM Control Delay (s)	9.5	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	125	69	0	0	0	37	325	118	67	740	152
Future Volume (veh/h)	66	125	69	0	0	0	37	325	118	67	740	152
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	132	73				39	342	124	71	779	160
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	320	203	112				77	1116	398	119	1346	276
Arrive On Green	0.18	0.18	0.18				0.04	0.43	0.43	0.07	0.46	0.46
Sat Flow, veh/h	1781	1132	626				1781	2567	915	1781	2936	603
Grp Volume(v), veh/h	69	0	205				39	235	231	71	471	468
Grp Sat Flow(s),veh/h/ln	1781	0	1758				1781	1777	1706	1781	1777	1762
Q Serve(g_s), s	1.4	0.0	4.6				0.9	3.6	3.7	1.6	8.2	8.2
Cycle Q Clear(g_c), s	1.4	0.0	4.6				0.9	3.6	3.7	1.6	8.2	8.2
Prop In Lane	1.00		0.36				1.00		0.54	1.00		0.34
Lane Grp Cap(c), veh/h	320	0	316				77	773	742	119	814	808
V/C Ratio(X)	0.22	0.00	0.65				0.50	0.30	0.31	0.59	0.58	0.58
Avail Cap(c_a), veh/h	1143	0	1128				246	1018	977	305	1077	1068
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	16.0				19.7	7.7	7.8	19.1	8.4	8.4
Incr Delay (d2), s/veh	0.3	0.0	2.2				5.0	0.5	0.5	4.7	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.8				0.4	1.2	1.2	0.8	2.7	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	0.0	18.3				24.7	8.2	8.3	23.7	9.8	9.8
LnGrp LOS	B	A	B				C	A	A	C	A	A
Approach Vol, veh/h		274						505			1010	
Approach Delay, s/veh		17.5						9.5			10.8	
Approach LOS		B						A			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	7.0	23.3		11.8	6.0	24.3
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	3.6	5.7		6.6	2.9	10.2
Green Ext Time (p_c), s	0.0	5.0		1.3	0.0	9.1

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	15	462	12	10	798
Future Vol, veh/h	12	15	462	12	10	798
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	15	471	12	10	814

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	904	242	0	0	483	0
Stage 1	477	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	277	759	-	-	1076	-
Stage 1	590	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	272	759	-	-	1076	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	590	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	1076	-
HCM Lane V/C Ratio	-	-	0.065	0.009	-
HCM Control Delay (s)	-	-	14.1	8.4	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1	0	6	0	2	0	24	8	2	39	0
Future Vol, veh/h	6	1	0	6	0	2	0	24	8	2	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1	0	7	0	2	0	27	9	2	44	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	81	84	44	81	80	32	-	0	0	36	0	0
Stage 1	48	48	-	32	32	-	-	-	-	-	-	-
Stage 2	33	36	-	49	48	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	907	806	1026	907	810	1042	0	-	-	1575	-	0
Stage 1	965	855	-	984	868	-	0	-	-	-	-	0
Stage 2	983	865	-	964	855	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	904	805	1026	905	809	1042	-	-	-	1575	-	-
Mov Cap-2 Maneuver	904	805	-	905	809	-	-	-	-	-	-	-
Stage 1	965	854	-	984	868	-	-	-	-	-	-	-
Stage 2	981	865	-	962	854	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.9	0	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	904	805	936	1575	-
HCM Lane V/C Ratio	-	-	0.007	0.001	0.01	0.001	-
HCM Control Delay (s)	-	-	9	9.5	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	6	454	795	21
Future Vol, veh/h	2	10	6	454	795	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	11	6	483	846	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1111	434	868	0	-	0
Stage 1	857	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	203	570	772	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	201	570	772	-	-	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	372	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	772	-	436	-	-
HCM Lane V/C Ratio	0.008	-	0.029	-	-
HCM Control Delay (s)	9.7	0.1	13.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

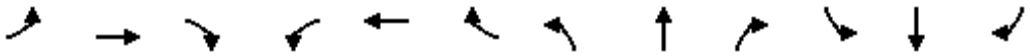
Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	39	0	5	19	9	1	24	10	11	12	4
Future Vol, veh/h	4	39	0	5	19	9	1	24	10	11	12	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	43	0	5	21	10	1	26	11	12	13	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.2	7.2	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	9%	15%	41%
Vol Thru, %	69%	91%	58%	44%
Vol Right, %	29%	0%	27%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	43	33	27
LT Vol	1	4	5	11
Through Vol	24	39	19	12
RT Vol	10	0	9	4
Lane Flow Rate	38	47	36	30
Geometry Grp	1	1	1	1
Degree of Util (X)	0.042	0.054	0.04	0.034
Departure Headway (Hd)	3.935	4.097	3.954	4.1
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	905	871	902	869
Service Time	1.981	2.135	1.995	2.146
HCM Lane V/C Ratio	0.042	0.054	0.04	0.035
HCM Control Delay	7.2	7.4	7.2	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.1	0.1

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	9	13	43	4	3	5	434	12	21	801	16
Future Volume (veh/h)	24	9	13	43	4	3	5	434	12	21	801	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	10	15	49	5	3	6	493	14	24	910	18
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	34	196	173	10	196	97	2180	61	115	2176	42
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.63	0.63	0.63	0.63	0.63	0.63
Sat Flow, veh/h	4	271	1585	4	78	1585	8	3434	97	32	3427	67
Grp Volume(v), veh/h	37	0	15	54	0	3	269	0	244	497	0	455
Grp Sat Flow(s),veh/h/ln	275	0	1585	82	0	1585	1854	0	1685	1836	0	1690
Q Serve(g_s), s	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	2.5	0.0	0.0	5.4
Cycle Q Clear(g_c), s	4.9	0.0	0.3	4.9	0.0	0.1	2.4	0.0	2.5	5.3	0.0	5.4
Prop In Lane	0.73		1.00	0.91		1.00	0.02		0.06	0.05		0.04
Lane Grp Cap(c), veh/h	191	0	196	183	0	196	1269	0	1070	1260	0	1073
V/C Ratio(X)	0.19	0.00	0.08	0.30	0.00	0.02	0.21	0.00	0.23	0.39	0.00	0.42
Avail Cap(c_a), veh/h	762	0	797	720	0	797	1931	0	1693	1918	0	1699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	15.4	19.0	0.0	15.3	3.1	0.0	3.1	3.6	0.0	3.6
Incr Delay (d2), s/veh	0.5	0.0	0.2	0.9	0.0	0.0	0.3	0.0	0.4	0.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.5	0.0	0.0	0.5	0.0	0.5	1.2	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	0.0	15.6	19.9	0.0	15.3	3.4	0.0	3.5	4.3	0.0	4.6
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		52			57			513			952	
Approach Delay, s/veh		16.1			19.7			3.4			4.5	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.3		9.5		30.3		9.5				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		4.5		6.9		7.4		6.9				
Green Ext Time (p_c), s		9.1		0.1		17.9		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			5.1									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	0	12	1	3	8
Future Vol, veh/h	3	0	12	1	3	8
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	17	1	4	12
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7	7.2	6.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	27%	0%	92%
Vol Thru, %	0%	100%	8%
Vol Right, %	73%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	11	3	13
LT Vol	3	0	12
Through Vol	0	3	1
RT Vol	8	0	0
Lane Flow Rate	16	4	19
Geometry Grp	1	1	1
Degree of Util (X)	0.016	0.005	0.022
Departure Headway (Hd)	3.593	3.976	4.15
Convergence, Y/N	Yes	Yes	Yes
Cap	999	904	867
Service Time	1.605	1.984	2.154
HCM Lane V/C Ratio	0.016	0.004	0.022
HCM Control Delay	6.7	7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0.1

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	6	2	5	10	10	3	20	5	5	19	2
Future Vol, veh/h	2	6	2	5	10	10	3	20	5	5	19	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	7	2	6	12	12	4	24	6	6	23	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	24	0	0	9	0	0	55	48	8	57	43	18
Stage 1	-	-	-	-	-	-	12	12	-	30	30	-
Stage 2	-	-	-	-	-	-	43	36	-	27	13	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1591	-	-	1611	-	-	943	844	1074	940	849	1061
Stage 1	-	-	-	-	-	-	1009	886	-	987	870	-
Stage 2	-	-	-	-	-	-	971	865	-	990	885	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1591	-	-	1611	-	-	918	840	1074	911	845	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	918	840	-	911	845	-
Stage 1	-	-	-	-	-	-	1008	885	-	986	867	-
Stage 2	-	-	-	-	-	-	939	862	-	956	884	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	1.4	9.2	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	882	1591	-	-	1611	-	-	871
HCM Lane V/C Ratio	0.039	0.002	-	-	0.004	-	-	0.036
HCM Control Delay (s)	9.2	7.3	0	-	7.2	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1

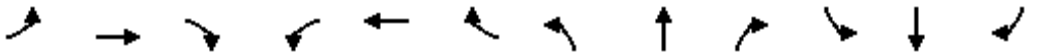
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	6	1	5	19	1	12	14	436	23	12	848	8
Future Vol, veh/h	6	1	5	19	1	12	14	436	23	12	848	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1	6	21	1	13	16	484	26	13	942	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1248	1515	476	1027	1506	255	951	0	0	510	0	0
Stage 1	973	973	-	529	529	-	-	-	-	-	-	-
Stage 2	275	542	-	498	977	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	130	118	535	189	120	744	718	-	-	1051	-	-
Stage 1	271	329	-	501	525	-	-	-	-	-	-	-
Stage 2	708	518	-	523	327	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	121	111	535	178	113	744	718	-	-	1051	-	-
Mov Cap-2 Maneuver	121	111	-	178	113	-	-	-	-	-	-	-
Stage 1	263	320	-	485	509	-	-	-	-	-	-	-
Stage 2	672	502	-	502	318	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27	22.3	0.4	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	718	-	-	177	243	1051	-	-
HCM Lane V/C Ratio	0.022	-	-	0.075	0.146	0.013	-	-
HCM Control Delay (s)	10.1	0.1	-	27	22.3	8.5	0.1	-
HCM Lane LOS	B	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.5	0	-	-

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	23	154	425	14	212	64	188	452	119	264	7
Future Volume (veh/h)	11	23	154	425	14	212	64	188	452	119	264	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	24	0	448	0	0	66	194	0	123	272	7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	344		1074	0		146	460		229	543	14
Arrive On Green	0.24	0.24	0.00	0.24	0.00	0.00	0.17	0.17	0.00	0.21	0.21	0.21
Sat Flow, veh/h	313	1457	0	2774	0	1585	869	2735	1585	1069	2538	67
Grp Volume(v), veh/h	35	0	0	448	0	0	139	121	0	209	0	193
Grp Sat Flow(s),veh/h/ln	1770	0	0	1387	0	1585	1827	1777	1585	1817	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	4.5	0.0	0.0	2.4	2.2	0.0	3.6	0.0	3.2
Cycle Q Clear(g_c), s	0.5	0.0	0.0	5.0	0.0	0.0	2.4	2.2	0.0	3.6	0.0	3.2
Prop In Lane	0.31		0.00	1.00		1.00	0.48		1.00	0.59		0.04
Lane Grp Cap(c), veh/h	552	0		1074	0		308	299		389	0	398
V/C Ratio(X)	0.06	0.00		0.42	0.00		0.45	0.41		0.54	0.00	0.49
Avail Cap(c_a), veh/h	1351	0		2379	0		1471	1431		924	0	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	0.0	12.2	0.0	0.0	13.2	13.1	0.0	12.4	0.0	12.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.0	0.9	0.0	1.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.0	0.0	0.0	0.9	0.8	0.0	1.3	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	0.0	0.0	12.4	0.0	0.0	14.3	14.0	0.0	13.5	0.0	13.1
LnGrp LOS	B	A		B	A		B	B		B	A	B
Approach Vol, veh/h		35			448			260			402	
Approach Delay, s/veh		10.6			12.4			14.2			13.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.5		12.9		12.1		12.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		4.4		2.5		5.6		7.0				
Green Ext Time (p_c), s		1.5		0.1		2.0		1.4				

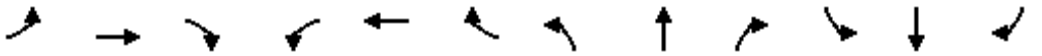
Intersection Summary		
HCM 6th Ctrl Delay	13.1	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	679	33	216	933	645	29	0	216	106	78	78
Future Volume (veh/h)	0	679	33	216	933	645	29	0	216	106	78	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	808	39	257	1111	0	35	0	257	110	116	93
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	986	48	308	1882		266	0	237	194	204	173
Arrive On Green	0.00	0.29	0.29	0.17	0.53	0.00	0.15	0.00	0.15	0.11	0.11	0.11
Sat Flow, veh/h	0	3544	167	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	416	431	257	1111	0	35	0	257	110	116	93
Grp Sat Flow(s),veh/h/ln	0	1777	1840	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	13.9	13.9	8.9	13.6	0.0	1.1	0.0	9.5	3.7	3.7	3.5
Cycle Q Clear(g_c), s	0.0	13.9	13.9	8.9	13.6	0.0	1.1	0.0	9.5	3.7	3.7	3.5
Prop In Lane	0.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	508	526	308	1882		266	0	237	194	204	173
V/C Ratio(X)	0.00	0.82	0.82	0.83	0.59		0.13	0.00	1.09	0.57	0.57	0.54
Avail Cap(c_a), veh/h	0	587	607	406	2234		266	0	237	756	794	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.2	21.2	25.4	10.2	0.0	23.5	0.0	27.1	26.9	26.9	26.8
Incr Delay (d2), s/veh	0.0	8.0	7.7	10.9	0.3	0.0	0.2	0.0	83.2	2.6	2.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.3	6.5	4.4	4.3	0.0	0.4	0.0	8.9	1.6	1.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	29.1	28.9	36.3	10.5	0.0	23.7	0.0	110.3	29.5	29.4	29.4
LnGrp LOS	A	C	C	D	B		C	A	F	C	C	C
Approach Vol, veh/h		847			1368			292			319	
Approach Delay, s/veh		29.0			15.4			99.9			29.5	
Approach LOS		C			B			F			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		14.0	15.5	22.7		11.4		38.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		9.5	14.5	21.0		27.0		40.0				
Max Q Clear Time (g_c+I1), s		11.5	10.9	15.9		5.7		15.6				
Green Ext Time (p_c), s		0.0	0.3	2.3		1.2		8.7				

Intersection Summary												
HCM 6th Ctrl Delay			29.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

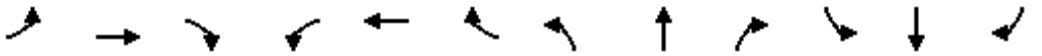
Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	156	12	21	163	23	3	13	28	16	16	10
Future Vol, veh/h	12	156	12	21	163	23	3	13	28	16	16	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	164	13	22	172	24	3	14	29	17	17	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	196	0	0	177	0	0	439	437	171	446	431	184
Stage 1	-	-	-	-	-	-	197	197	-	228	228	-
Stage 2	-	-	-	-	-	-	242	240	-	218	203	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1377	-	-	1399	-	-	528	513	873	523	517	858
Stage 1	-	-	-	-	-	-	805	738	-	775	715	-
Stage 2	-	-	-	-	-	-	762	707	-	784	733	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1377	-	-	1399	-	-	497	499	873	484	503	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	497	499	-	484	503	-
Stage 1	-	-	-	-	-	-	797	731	-	767	702	-
Stage 2	-	-	-	-	-	-	721	694	-	736	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8	10.6	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	686	1377	-	-	1399	-	-	549
HCM Lane V/C Ratio	0.068	0.009	-	-	0.016	-	-	0.081
HCM Control Delay (s)	10.6	7.6	0	-	7.6	0	-	12.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3



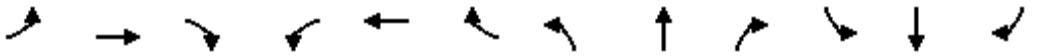
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	38	93	93	51	25	88	460	65	23	624	89
Future Volume (veh/h)	66	38	93	93	51	25	88	460	65	23	624	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	40	98	98	54	26	93	484	68	24	657	94
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	448	94	231	237	99	34	144	1295	181	52	1131	162
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.08	0.41	0.41	0.03	0.36	0.36
Sat Flow, veh/h	1319	481	1178	497	504	171	1781	3131	438	1781	3121	446
Grp Volume(v), veh/h	69	0	138	178	0	0	93	274	278	24	374	377
Grp Sat Flow(s),veh/h/ln	1319	0	1658	1173	0	0	1781	1777	1792	1781	1777	1790
Q Serve(g_s), s	0.0	0.0	2.9	3.3	0.0	0.0	2.0	4.3	4.3	0.5	6.8	6.8
Cycle Q Clear(g_c), s	1.7	0.0	2.9	6.2	0.0	0.0	2.0	4.3	4.3	0.5	6.8	6.8
Prop In Lane	1.00		0.71	0.55		0.15	1.00		0.24	1.00		0.25
Lane Grp Cap(c), veh/h	448	0	325	370	0	0	144	735	741	52	644	649
V/C Ratio(X)	0.15	0.00	0.43	0.48	0.00	0.00	0.65	0.37	0.38	0.46	0.58	0.58
Avail Cap(c_a), veh/h	1017	0	1040	991	0	0	894	1783	1798	894	1783	1796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	0.0	14.1	15.6	0.0	0.0	17.8	8.1	8.1	19.0	10.3	10.3
Incr Delay (d2), s/veh	0.2	0.0	0.9	1.0	0.0	0.0	4.8	0.3	0.3	6.2	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.0	1.4	0.0	0.0	0.9	1.3	1.3	0.3	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.0	14.9	16.6	0.0	0.0	22.6	8.4	8.4	25.2	11.1	11.1
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	B	B
Approach Vol, veh/h		207			178			645			775	
Approach Delay, s/veh		14.5			16.6			10.5			11.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	21.6		12.4	7.9	19.5		12.4				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.5	6.3		4.9	4.0	8.8		8.2				
Green Ext Time (p_c), s	0.0	3.9		0.9	0.2	5.7		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		12.0	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	86	56	209	103	157	29	387	100	232	586	58
Future Volume (veh/h)	27	86	56	209	103	157	29	387	100	232	586	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	89	58	160	182	162	30	399	103	239	604	60
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	139	157	274	288	508	58	753	192	297	1316	131
Arrive On Green	0.10	0.10	0.10	0.15	0.15	0.15	0.03	0.27	0.27	0.17	0.40	0.40
Sat Flow, veh/h	442	1406	1585	1781	1870	1585	1781	2802	716	1781	3265	324
Grp Volume(v), veh/h	117	0	58	160	182	162	30	251	251	239	328	336
Grp Sat Flow(s),veh/h/ln	1848	0	1585	1781	1870	1585	1781	1777	1741	1781	1777	1812
Q Serve(g_s), s	3.7	0.0	2.1	5.1	5.5	4.7	1.0	7.3	7.4	7.8	8.2	8.2
Cycle Q Clear(g_c), s	3.7	0.0	2.1	5.1	5.5	4.7	1.0	7.3	7.4	7.8	8.2	8.2
Prop In Lane	0.24		1.00	1.00		1.00	1.00		0.41	1.00		0.18
Lane Grp Cap(c), veh/h	182	0	157	274	288	508	58	478	468	297	716	730
V/C Ratio(X)	0.64	0.00	0.37	0.58	0.63	0.32	0.51	0.53	0.54	0.80	0.46	0.46
Avail Cap(c_a), veh/h	610	0	523	734	771	918	588	1758	1723	588	1758	1793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	25.6	23.9	24.0	15.6	28.9	18.9	18.9	24.3	13.3	13.3
Incr Delay (d2), s/veh	3.7	0.0	1.5	2.0	2.3	0.4	6.9	1.9	2.0	5.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.8	2.1	2.4	1.5	0.5	3.0	3.0	3.4	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	27.0	25.8	26.3	15.9	35.7	20.8	21.0	29.4	14.2	14.2
LnGrp LOS	C	A	C	C	C	B	D	C	C	C	B	B
Approach Vol, veh/h		175			504			532			903	
Approach Delay, s/veh		29.0			22.8			21.7			18.2	
Approach LOS		C			C			C			B	

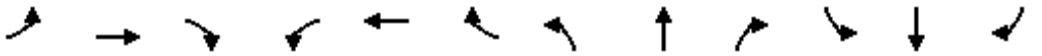
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.7	21.4		10.6	6.6	29.5		13.9				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		20.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	9.8	9.4		5.7	3.0	10.2		7.5				
Green Ext Time (p_c), s	0.5	6.9		0.6	0.0	9.6		1.8				

Intersection Summary			
HCM 6th Ctrl Delay		21.1	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	584	14	43	660	481	23	44	65	297	5	82
Future Volume (veh/h)	218	584	14	43	660	481	23	44	65	297	5	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	225	602	14	44	680	496	24	45	67	198	156	85
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	2080	48	58	1695	1015	39	73	97	291	186	101
Arrive On Green	0.14	0.59	0.59	0.04	0.63	0.63	0.06	0.06	0.06	0.16	0.16	0.16
Sat Flow, veh/h	1781	3550	83	1781	3554	1585	639	1199	1585	1781	1138	620
Grp Volume(v), veh/h	225	301	315	44	680	496	69	0	67	198	0	241
Grp Sat Flow(s),veh/h/ln	1781	1777	1856	1781	1777	1585	1838	0	1585	1781	0	1759
Q Serve(g_s), s	14.3	9.7	9.7	2.8	10.8	15.5	4.2	0.0	4.8	12.0	0.0	15.3
Cycle Q Clear(g_c), s	14.3	9.7	9.7	2.8	10.8	15.5	4.2	0.0	4.8	12.0	0.0	15.3
Prop In Lane	1.00		0.04	1.00		1.00	0.35		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	252	1041	1087	58	1695	1015	112	0	97	291	0	288
V/C Ratio(X)	0.89	0.29	0.29	0.75	0.40	0.49	0.61	0.00	0.69	0.68	0.00	0.84
Avail Cap(c_a), veh/h	260	1041	1087	107	1695	1015	288	0	248	434	0	428
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.5	11.9	11.9	54.5	13.0	7.1	52.7	0.0	52.9	45.3	0.0	46.6
Incr Delay (d2), s/veh	29.0	0.7	0.7	14.5	0.6	1.4	5.3	0.0	8.5	2.8	0.0	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	3.8	3.9	1.5	3.8	6.5	2.1	0.0	2.1	5.5	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	12.6	12.5	69.0	13.5	8.5	58.0	0.0	61.4	48.0	0.0	55.7
LnGrp LOS	E	B	B	E	B	A	E	A	E	D	A	E
Approach Vol, veh/h		841			1220			136			439	
Approach Delay, s/veh		29.9			13.5			59.7			52.2	
Approach LOS		C			B			E			D	

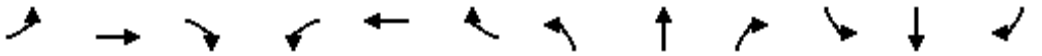
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	11.5	8.3	71.9	23.3	20.8	59.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	6.9	44.1	28.0	16.8	34.2
Max Q Clear Time (g_c+I1), s	6.8	4.8	11.7	17.3	16.3	17.5
Green Ext Time (p_c), s	0.4	0.0	3.7	1.5	0.0	5.9

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	717	129	44	839	265	127	79	41	353	119	219
Future Volume (veh/h)	91	717	129	44	839	265	127	79	41	353	119	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	747	134	46	874	276	107	117	43	246	295	228
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1664	298	60	1852	826	156	164	139	302	317	269
Arrive On Green	0.07	0.55	0.55	0.03	0.52	0.52	0.09	0.09	0.09	0.17	0.17	0.17
Sat Flow, veh/h	1781	3010	540	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	95	441	440	46	874	276	107	117	43	246	295	228
Grp Sat Flow(s),veh/h/ln	1781	1777	1773	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.1	17.0	17.0	2.9	18.0	11.6	6.7	7.0	2.9	15.3	17.9	16.0
Cycle Q Clear(g_c), s	6.1	17.0	17.0	2.9	18.0	11.6	6.7	7.0	2.9	15.3	17.9	16.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	982	980	60	1852	826	156	164	139	302	317	269
V/C Ratio(X)	0.82	0.45	0.45	0.77	0.47	0.33	0.69	0.71	0.31	0.81	0.93	0.85
Avail Cap(c_a), veh/h	116	982	980	108	1852	826	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	15.3	15.3	55.1	17.5	16.0	50.9	51.1	49.2	46.0	47.1	46.3
Incr Delay (d2), s/veh	32.9	1.4	1.4	18.6	0.9	1.1	5.3	5.7	1.3	15.6	32.9	21.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	6.8	6.8	1.6	7.2	4.2	3.2	3.5	1.2	8.1	11.2	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.0	16.7	16.7	73.8	18.3	17.1	56.2	56.8	50.5	61.6	80.0	68.0
LnGrp LOS	F	B	B	E	B	B	E	E	D	E	E	E
Approach Vol, veh/h		976			1196			267			769	
Approach Delay, s/veh		23.4			20.2			55.5			70.5	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.6	8.3	68.1	24.0	12.0	64.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	7.0	36.5	19.5	7.5	36.0
Max Q Clear Time (g_c+I1), s	9.0	4.9	19.0	19.9	8.1	20.0
Green Ext Time (p_c), s	1.1	0.0	5.0	0.0	0.0	6.2

Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	56	30	186	37	229	10	211	46	226	507	45
Future Volume (veh/h)	22	56	30	186	37	229	10	211	46	226	507	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	60	32	198	39	244	11	224	49	240	539	48
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	149	157	133	281	55	565	25	708	152	302	1316	117
Arrive On Green	0.08	0.08	0.08	0.19	0.19	0.19	0.01	0.24	0.24	0.17	0.40	0.40
Sat Flow, veh/h	1781	1870	1585	1500	295	1585	1781	2910	625	1781	3301	293
Grp Volume(v), veh/h	23	60	32	237	0	244	11	135	138	240	290	297
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1795	0	1585	1781	1777	1758	1781	1777	1818
Q Serve(g_s), s	0.7	1.9	1.2	7.6	0.0	7.2	0.4	3.8	4.0	8.0	7.2	7.3
Cycle Q Clear(g_c), s	0.7	1.9	1.2	7.6	0.0	7.2	0.4	3.8	4.0	8.0	7.2	7.3
Prop In Lane	1.00		1.00	0.84		1.00	1.00		0.36	1.00		0.16
Lane Grp Cap(c), veh/h	149	157	133	337	0	565	25	432	428	302	708	725
V/C Ratio(X)	0.15	0.38	0.24	0.70	0.00	0.43	0.44	0.31	0.32	0.80	0.41	0.41
Avail Cap(c_a), veh/h	578	607	514	728	0	911	578	1153	1140	867	1153	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	26.7	26.4	23.4	0.0	15.1	30.2	19.1	19.2	24.6	13.3	13.3
Incr Delay (d2), s/veh	0.5	1.5	0.9	2.7	0.0	0.5	11.9	0.4	0.4	4.8	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.4	3.2	0.0	2.4	0.2	1.5	1.5	3.5	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	28.3	27.3	26.1	0.0	15.6	42.1	19.5	19.6	29.4	13.7	13.7
LnGrp LOS	C	C	C	C	A	B	D	B	B	C	B	B
Approach Vol, veh/h		115			481			284			827	
Approach Delay, s/veh		27.7			20.8			20.4			18.2	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.1	20.1		9.8	5.6	29.7		16.7				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	10.0	6.0		3.9	2.4	9.3		9.6				
Green Ext Time (p_c), s	0.6	1.6		0.3	0.0	3.7		1.9				

Intersection Summary		
HCM 6th Ctrl Delay		20.0
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	12	33	6	23	46	31	509	14	18	761	69
Future Volume (veh/h)	121	12	33	6	23	46	31	509	14	18	761	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	13	35	6	24	49	33	541	15	19	810	73
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	23	258	126	92	167	70	1428	40	43	1253	113
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.40	0.40	0.02	0.38	0.38
Sat Flow, veh/h	1386	140	1585	61	567	1026	1781	3532	98	1781	3297	297
Grp Volume(v), veh/h	142	0	35	79	0	0	33	272	284	19	437	446
Grp Sat Flow(s),veh/h/ln	1525	0	1585	1654	0	0	1781	1777	1853	1781	1777	1817
Q Serve(g_s), s	0.5	0.0	0.6	0.0	0.0	0.0	0.6	3.6	3.6	0.4	6.8	6.8
Cycle Q Clear(g_c), s	2.5	0.0	0.6	2.8	0.0	0.0	0.6	3.6	3.6	0.4	6.8	6.8
Prop In Lane	0.91		1.00	0.08		0.62	1.00		0.05	1.00		0.16
Lane Grp Cap(c), veh/h	453	0	258	385	0	0	70	718	749	43	675	690
V/C Ratio(X)	0.31	0.00	0.14	0.21	0.00	0.00	0.47	0.38	0.38	0.44	0.65	0.65
Avail Cap(c_a), veh/h	964	0	852	999	0	0	266	955	996	282	955	976
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.8	0.0	12.0	12.3	0.0	0.0	15.7	7.0	7.0	16.1	8.5	8.5
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.3	0.0	0.0	4.8	0.3	0.3	6.9	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.4	0.0	0.0	0.3	1.0	1.0	0.2	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	12.2	12.6	0.0	0.0	20.5	7.3	7.3	23.0	9.6	9.6
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		177			79			589			902	
Approach Delay, s/veh		13.0			12.6			8.1			9.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	18.5		9.9	5.8	17.7		9.9				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.4	5.6		4.5	2.6	8.8		4.8				
Green Ext Time (p_c), s	0.0	2.8		0.7	0.0	4.0		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

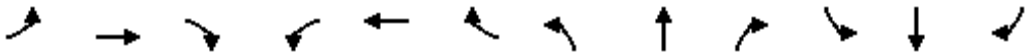
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NEAR TERM (2030)
NO PROJECT
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	31	25	31	37	70	21	920	57	39	867	24
Future Volume (veh/h)	28	31	25	31	37	70	21	920	57	39	867	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	33	27	33	39	74	22	979	61	41	922	26
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	125	102	299	76	144	101	2117	130	129	2113	58
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1280	952	779	1343	577	1096	25	3258	200	62	3253	90
Grp Volume(v), veh/h	30	0	60	33	0	113	555	0	507	501	0	488
Grp Sat Flow(s),veh/h/ln	1280	0	1730	1343	0	1673	1817	0	1666	1719	0	1686
Q Serve(g_s), s	1.0	0.0	1.4	1.0	0.0	2.8	0.0	0.0	6.7	0.0	0.0	6.3
Cycle Q Clear(g_c), s	3.7	0.0	1.4	2.4	0.0	2.8	6.5	0.0	6.7	5.6	0.0	6.3
Prop In Lane	1.00		0.45	1.00		0.65	0.04		0.12	0.08		0.05
Lane Grp Cap(c), veh/h	252	0	227	299	0	220	1266	0	1082	1206	0	1095
V/C Ratio(X)	0.12	0.00	0.26	0.11	0.00	0.51	0.44	0.00	0.47	0.42	0.00	0.45
Avail Cap(c_a), veh/h	960	0	1185	1042	0	1146	1720	0	1521	1616	0	1539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	17.1	18.2	0.0	17.7	3.8	0.0	3.9	3.7	0.0	3.8
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.2	0.0	1.9	0.9	0.0	1.1	0.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.5	0.3	0.0	1.0	1.6	0.0	1.5	1.4	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	0.0	17.7	18.4	0.0	19.6	4.7	0.0	5.0	4.5	0.0	4.8
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		90			146			1062			989	
Approach Delay, s/veh		18.4			19.3			4.8			4.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	33.5	10.3	33.5	10.3
Change Period (Y+Rc), s	5.0	4.6	5.0	4.6
Max Green Setting (Gmax), s	40.0	30.0	40.0	30.0
Max Q Clear Time (g_c+I1), s	8.7	5.7	8.3	4.8
Green Ext Time (p_c), s	19.7	0.4	18.8	0.7

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	32	45	25	32	84	35	959	65	105	741	78
Future Volume (veh/h)	41	32	45	25	32	84	35	959	65	105	741	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	34	48	27	34	89	37	1020	69	112	788	83
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	106	149	294	69	181	114	2050	136	233	1523	161
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1268	702	990	1316	457	1197	50	3176	211	212	2359	249
Grp Volume(v), veh/h	44	0	82	27	0	123	582	0	544	431	0	552
Grp Sat Flow(s),veh/h/ln	1268	0	1692	1316	0	1655	1773	0	1664	1163	0	1657
Q Serve(g_s), s	1.6	0.0	2.0	0.9	0.0	3.2	0.0	0.0	8.1	1.6	0.0	8.4
Cycle Q Clear(g_c), s	4.8	0.0	2.0	2.9	0.0	3.2	7.6	0.0	8.1	9.7	0.0	8.4
Prop In Lane	1.00		0.59	1.00		0.72	0.06		0.13	0.26		0.15
Lane Grp Cap(c), veh/h	257	0	255	294	0	250	1226	0	1074	847	0	1070
V/C Ratio(X)	0.17	0.00	0.32	0.09	0.00	0.49	0.48	0.00	0.51	0.51	0.00	0.52
Avail Cap(c_a), veh/h	873	0	1076	933	0	1053	1563	0	1411	1073	0	1406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	17.9	19.2	0.0	18.4	4.3	0.0	4.4	4.0	0.0	4.4
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.1	0.0	1.5	1.0	0.0	1.3	1.7	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.8	0.3	0.0	1.2	2.0	0.0	2.0	1.5	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	0.0	18.6	19.3	0.0	19.9	5.3	0.0	5.7	5.7	0.0	5.8
LnGrp LOS	C	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		126			150			1126			983	
Approach Delay, s/veh		19.4			19.8			5.5			5.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.4		11.7		35.4		11.7				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		10.1		6.8		11.7		5.2				
Green Ext Time (p_c), s		20.3		0.5		18.2		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			7.3									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	392	17	0	0	0	0	22	37	36	45	0
Future Vol, veh/h	114	392	17	0	0	0	0	22	37	36	45	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	417	18	0	0	0	0	23	39	38	48	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	11.2	8.4	9.1
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	37%	0%	44%
Vol Thru, %	37%	63%	92%	56%
Vol Right, %	63%	0%	8%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	310	213	81
LT Vol	0	114	0	36
Through Vol	22	196	196	45
RT Vol	37	0	17	0
Lane Flow Rate	63	330	227	86
Geometry Grp	2	5	5	2
Degree of Util (X)	0.085	0.467	0.306	0.127
Departure Headway (Hd)	4.889	5.097	4.856	5.315
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	706	741	675
Service Time	2.923	2.827	2.587	3.346
HCM Lane V/C Ratio	0.086	0.467	0.306	0.127
HCM Control Delay	8.4	12.2	9.7	9.1
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.3	2.5	1.3	0.4

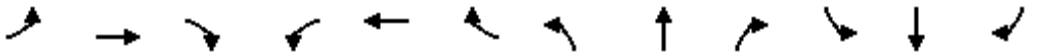
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	204	249	21	6	0	4	0	8	8	0	0	0
Future Vol, veh/h	204	249	21	6	0	4	0	8	8	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	217	265	22	6	0	4	0	9	9	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	710	276
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	359	763
Stage 1	-	-	-	0	437	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	763
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.8
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	763	-	-	-
HCM Lane V/C Ratio	0.022	-	-	-
HCM Control Delay (s)	9.8	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



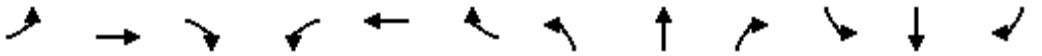
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	218	64	118	234	193	54	52	62	46	66	44
Future Volume (veh/h)	40	218	64	118	234	193	54	52	62	46	66	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	248	73	134	266	219	61	59	70	52	75	50
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	674	194	701	643	511	291	238	386	189	212	113
Arrive On Green	0.10	0.25	0.25	0.19	0.34	0.34	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	2722	784	1781	1882	1496	644	980	1585	305	872	463
Grp Volume(v), veh/h	45	160	161	134	251	234	120	0	70	177	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1729	1781	1777	1601	1624	0	1585	1640	0	0
Q Serve(g_s), s	0.7	3.0	3.1	1.7	4.4	4.6	0.0	0.0	1.4	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.7	3.0	3.1	1.7	4.4	4.6	2.1	0.0	1.4	3.4	0.0	0.0
Prop In Lane	1.00		0.45	1.00		0.93	0.51		1.00	0.29		0.28
Lane Grp Cap(c), veh/h	561	440	428	701	607	547	530	0	386	514	0	0
V/C Ratio(X)	0.08	0.36	0.38	0.19	0.41	0.43	0.23	0.00	0.18	0.34	0.00	0.00
Avail Cap(c_a), veh/h	827	1319	1284	799	1319	1188	1131	0	1020	1258	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.9	12.6	12.6	6.1	10.2	10.3	12.4	0.0	12.1	12.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.2	0.2	0.3	0.0	0.3	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	1.0	0.4	1.3	1.3	0.8	0.0	0.4	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.9	12.8	12.8	6.2	10.4	10.5	12.7	0.0	12.4	13.4	0.0	0.0
LnGrp LOS	A	B	B	A	B	B	B	A	B	B	A	A
Approach Vol, veh/h		366			619			190			177	
Approach Delay, s/veh		12.3			9.5			12.6			13.4	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	14.6		14.0	8.0	18.4		14.0				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.7	5.1		5.4	2.7	6.6		4.1				
Green Ext Time (p_c), s	0.1	1.2		1.4	0.0	2.0		1.2				

Intersection Summary			
HCM 6th Ctrl Delay		11.2	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

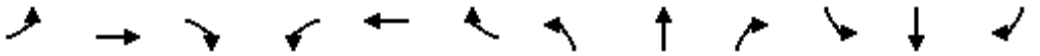


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	0	163	298	265	164	85	769	0	0	652	198
Future Volume (veh/h)	161	0	163	298	265	164	85	769	0	0	652	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	177	0	179	327	291	180	93	845	0	0	716	218
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	247	0	219	390	467	281	119	1790	0	0	1059	322
Arrive On Green	0.14	0.00	0.14	0.22	0.22	0.22	0.07	0.50	0.00	0.00	0.39	0.39
Sat Flow, veh/h	1781	0	1585	1781	2133	1283	1781	3647	0	0	2777	817
Grp Volume(v), veh/h	177	0	179	327	241	230	93	845	0	0	474	460
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1639	1781	1777	0	0	1777	1723
Q Serve(g_s), s	10.3	0.0	11.8	19.0	13.2	13.8	5.6	16.7	0.0	0.0	23.8	23.8
Cycle Q Clear(g_c), s	10.3	0.0	11.8	19.0	13.2	13.8	5.6	16.7	0.0	0.0	23.8	23.8
Prop In Lane	1.00		1.00	1.00		0.78	1.00		0.00	0.00		0.47
Lane Grp Cap(c), veh/h	247	0	219	390	389	359	119	1790	0	0	701	680
V/C Ratio(X)	0.72	0.00	0.82	0.84	0.62	0.64	0.78	0.47	0.00	0.00	0.68	0.68
Avail Cap(c_a), veh/h	379	0	338	412	411	379	247	1790	0	0	701	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.98	0.92	0.92	0.92	0.76	0.76	0.00	0.00	0.84	0.84
Uniform Delay (d), s/veh	44.5	0.0	45.2	40.4	38.1	38.3	49.6	17.4	0.0	0.0	27.0	27.0
Incr Delay (d2), s/veh	3.8	0.0	8.5	16.4	5.5	6.6	8.3	0.7	0.0	0.0	4.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	5.2	10.0	6.3	6.1	2.8	6.9	0.0	0.0	10.9	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	0.0	53.7	56.8	43.7	44.9	58.0	18.1	0.0	0.0	31.4	31.5
LnGrp LOS	D	A	D	E	D	D	E	B	A	A	C	C
Approach Vol, veh/h		356			798			938			934	
Approach Delay, s/veh		51.0			49.4			22.1			31.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		59.4		20.0	11.8	47.6		28.6				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		18.7		13.8	7.6	25.8		21.0				
Green Ext Time (p_c), s		6.8		1.1	0.1	0.0		2.7				

Intersection Summary												
HCM 6th Ctrl Delay			35.6									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	58	657	52	15	121	0	0	29	23
Future Volume (veh/h)	0	0	0	58	657	52	15	121	0	0	29	23
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				62	699	55	16	129	0	0	31	24
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				123	1457	120	172	295	0	0	170	132
Arrive On Green				0.46	0.46	0.46	0.17	0.17	0.00	0.00	0.17	0.17
Sat Flow, veh/h				267	3153	260	125	1697	0	0	977	757
Grp Volume(v), veh/h				431	0	385	145	0	0	0	0	55
Grp Sat Flow(s),veh/h/ln				1857	0	1823	1822	0	0	0	0	1734
Q Serve(g_s), s				4.3	0.0	3.8	0.2	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				4.3	0.0	3.8	1.9	0.0	0.0	0.0	0.0	0.7
Prop In Lane				0.14		0.14	0.11		0.00	0.00		0.44
Lane Grp Cap(c), veh/h				858	0	843	467	0	0	0	0	302
V/C Ratio(X)				0.50	0.00	0.46	0.31	0.00	0.00	0.00	0.00	0.18
Avail Cap(c_a), veh/h				2787	0	2737	1366	0	0	0	0	1171
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				5.0	0.0	4.9	9.9	0.0	0.0	0.0	0.0	9.4
Incr Delay (d2), s/veh				0.5	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.7	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				5.5	0.0	5.3	10.2	0.0	0.0	0.0	0.0	9.7
LnGrp LOS				A	A	A	B	A	A	A	A	A
Approach Vol, veh/h					816			145			55	
Approach Delay, s/veh					5.4			10.2			9.7	
Approach LOS					A			B			A	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				9.2		17.4		9.2				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.7		6.3		3.9				
Green Ext Time (p_c), s				0.2		6.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		6.3
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	89	749	5	33	11	0	0	64	11
Future Vol, veh/h	0	0	0	89	749	5	33	11	0	0	64	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	106	892	6	39	13	0	0	76	13

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	696	1110	-	-	1107	449
Stage 1	-	-	-	0	0	-	-	1107	-
Stage 2	-	-	-	696	1110	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	328	208	0	0	209	557
Stage 1	-	-	-	-	-	0	0	284	-
Stage 2	-	-	-	398	283	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	230	208	-	-	209	557
Mov Cap-2 Maneuver	-	-	-	230	208	-	-	209	-
Stage 1	-	-	-	-	-	-	-	284	-
Stage 2	-	-	-	284	283	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		25.9	30.2
HCM LOS		D	D

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	-	-	-	230
HCM Lane V/C Ratio	0.234	-	-	-	0.388
HCM Control Delay (s)	25.9	-	-	-	30.2
HCM Lane LOS	D	-	-	-	D
HCM 95th %tile Q(veh)	0.9	-	-	-	1.7

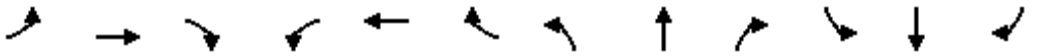
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	799	69	3	0	131	0	0	37
Future Vol, veh/h	0	0	0	0	799	69	3	0	131	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	986	85	4	0	162	0	0	46

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	536
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	489
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	489
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	13.1
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	489
HCM Lane V/C Ratio	-	-	0.093
HCM Control Delay (s)	-	-	13.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	135	1	201	778	274	63	62	388	599	54	18
Future Volume (veh/h)	3	135	1	201	778	274	63	62	388	599	54	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	167	1	248	960	338	78	77	479	808	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	800	5	226	1161	826	271	268	468	692	363	0
Arrive On Green	0.02	0.22	0.22	0.13	0.33	0.33	0.30	0.30	0.30	0.19	0.00	0.00
Sat Flow, veh/h	1781	3622	22	1781	3554	1585	918	906	1585	3563	1870	0
Grp Volume(v), veh/h	4	82	86	248	960	338	155	0	479	808	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	1585	1824	0	1585	1781	1870	0
Q Serve(g_s), s	0.3	4.5	4.5	15.0	29.5	15.4	7.8	0.0	35.0	23.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	4.5	4.5	15.0	29.5	15.4	7.8	0.0	35.0	23.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.50		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	37	393	412	226	1161	826	539	0	468	692	363	0
V/C Ratio(X)	0.11	0.21	0.21	1.10	0.83	0.41	0.29	0.00	1.02	1.17	0.00	0.00
Avail Cap(c_a), veh/h	451	600	630	226	1200	843	539	0	468	692	363	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.9	37.7	37.7	51.7	36.8	17.3	32.1	0.0	41.7	47.7	0.0	0.0
Incr Delay (d2), s/veh	0.9	1.2	1.1	89.2	6.3	1.2	0.4	0.0	47.6	90.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	2.2	12.3	13.7	8.6	3.5	0.0	19.8	19.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	38.9	38.8	140.9	43.0	18.5	32.6	0.0	89.3	138.6	0.0	0.0
LnGrp LOS	E	D	D	F	D	B	C	A	F	F	A	A
Approach Vol, veh/h		172			1546			634			808	
Approach Delay, s/veh		39.3			53.4			75.4			138.6	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	31.6		27.6	7.2	44.1		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	6.5		25.0	2.3	31.5		37.0				
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	7.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		78.8	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	89	0	3	144	127	0	3	11	126	8	120
Future Vol, veh/h	31	89	0	3	144	127	0	3	11	126	8	120
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	95	0	3	153	135	0	3	12	134	9	128
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	9.4	12.1	8.3	12.3
HCM LOS	A	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%	1%	50%
Vol Thru, %	100%	0%	0%	100%	53%	3%
Vol Right, %	0%	100%	0%	0%	46%	47%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	11	31	89	274	254
LT Vol	0	0	31	0	3	126
Through Vol	3	0	0	89	144	8
RT Vol	0	11	0	0	127	120
Lane Flow Rate	3	12	33	95	291	270
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0.005	0.018	0.056	0.148	0.423	0.409
Departure Headway (Hd)	6.104	5.394	6.143	5.638	5.219	5.45
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	590	668	577	629	685	654
Service Time	3.804	3.094	3.941	3.435	3.298	3.532
HCM Lane V/C Ratio	0.005	0.018	0.057	0.151	0.425	0.413
HCM Control Delay	8.8	8.2	9.3	9.4	12.1	12.3
HCM Lane LOS	A	A	A	A	B	B
HCM 95th-tile Q	0	0.1	0.2	0.5	2.1	2

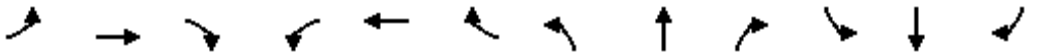
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	188	28	28	237	42	31
Future Vol, veh/h	188	28	28	237	42	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	32	32	272	48	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	248	0	568	232
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	336	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1318	-	484	807
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	724	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1318	-	470	807
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	703	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	571	-	-	1318	-
HCM Lane V/C Ratio	0.147	-	-	0.024	-
HCM Control Delay (s)	12.4	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	133	79	0	0	0	127	770	234	129	666	299
Future Volume (veh/h)	86	133	79	0	0	0	127	770	234	129	666	299
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	140	83				134	811	246	136	701	315
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	299	185	110				143	1477	448	171	1347	605
Arrive On Green	0.17	0.17	0.17				0.08	0.55	0.55	0.10	0.57	0.57
Sat Flow, veh/h	1781	1100	652				1781	2686	814	1781	2384	1071
Grp Volume(v), veh/h	91	0	223				134	536	521	136	523	493
Grp Sat Flow(s),veh/h/ln	1781	0	1753				1781	1777	1724	1781	1777	1678
Q Serve(g_s), s	3.2	0.0	8.7				5.4	14.0	14.0	5.4	13.0	13.0
Cycle Q Clear(g_c), s	3.2	0.0	8.7				5.4	14.0	14.0	5.4	13.0	13.0
Prop In Lane	1.00		0.37				1.00		0.47	1.00		0.64
Lane Grp Cap(c), veh/h	299	0	295				143	977	948	171	1004	948
V/C Ratio(X)	0.30	0.00	0.76				0.93	0.55	0.55	0.80	0.52	0.52
Avail Cap(c_a), veh/h	668	0	657				143	977	948	178	1004	948
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.53	0.53	0.53
Uniform Delay (d), s/veh	26.3	0.0	28.5				32.9	10.4	10.4	31.9	9.6	9.6
Incr Delay (d2), s/veh	0.6	0.0	4.0				55.4	2.2	2.3	12.2	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	3.8				4.5	5.5	5.3	2.8	4.8	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	0.0	32.5				88.4	12.7	12.7	44.1	10.7	10.7
LnGrp LOS	C	A	C				F	B	B	D	B	B
Approach Vol, veh/h		314						1191			1152	
Approach Delay, s/veh		30.9						21.2			14.6	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	11.1	44.6		16.3	10.0	45.7
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	7.4	16.0		10.7	7.4	15.0
Green Ext Time (p_c), s	0.0	6.0		1.4	0.0	7.2

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	34	982	16	9	885
Future Vol, veh/h	9	34	982	16	9	885
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	35	1002	16	9	903

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1480	509	0	0	1018	0
Stage 1	1010	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	116	509	-	-	677	-
Stage 1	313	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	113	509	-	-	677	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	313	-	-	-	-	-
Stage 2	579	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	294	677	-
HCM Lane V/C Ratio	-	-	0.149	0.014	-
HCM Control Delay (s)	-	-	19.4	10.4	0.1
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1	4	12	0	17	0	48	9	10	34	0
Future Vol, veh/h	4	1	4	12	0	17	0	48	9	10	34	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	4	13	0	19	0	54	10	11	38	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	129	124	38	122	119	59	-	0	0	64	0	0
Stage 1	60	60	-	59	59	-	-	-	-	-	-	-
Stage 2	69	64	-	63	60	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	844	766	1034	853	771	1007	0	-	-	1538	-	0
Stage 1	951	845	-	953	846	-	0	-	-	-	-	0
Stage 2	941	842	-	948	845	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	824	761	1034	844	766	1007	-	-	-	1538	-	-
Mov Cap-2 Maneuver	824	761	-	844	766	-	-	-	-	-	-	-
Stage 1	951	839	-	953	846	-	-	-	-	-	-	-
Stage 2	923	842	-	936	839	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9	0	1.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	824	965	932	1538	-
HCM Lane V/C Ratio	-	-	0.005	0.006	0.035	0.007	-
HCM Control Delay (s)	-	-	9.4	8.8	9	7.4	0
HCM Lane LOS	-	-	A	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	17	988	866	30
Future Vol, veh/h	4	5	17	988	866	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	5	18	1051	921	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1499	477	953	0	-	0
Stage 1	937	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	113	534	717	-	-	-
Stage 1	342	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	106	534	717	-	-	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	321	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.8	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	717	-	191	-	-
HCM Lane V/C Ratio	0.025	-	0.05	-	-
HCM Control Delay (s)	10.2	0.3	24.8	-	-
HCM Lane LOS	B	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	82	5	12	6	15	3	42	17	5	26	2
Future Vol, veh/h	9	82	5	12	6	15	3	42	17	5	26	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	90	5	13	7	16	3	46	19	5	29	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.2	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	9%	36%	15%
Vol Thru, %	68%	85%	18%	79%
Vol Right, %	27%	5%	45%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	96	33	33
LT Vol	3	9	12	5
Through Vol	42	82	6	26
RT Vol	17	5	15	2
Lane Flow Rate	68	105	36	36
Geometry Grp	1	1	1	1
Degree of Util (X)	0.077	0.121	0.04	0.043
Departure Headway (Hd)	4.052	4.13	3.997	4.227
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	873	861	884	836
Service Time	2.13	2.19	2.074	2.31
HCM Lane V/C Ratio	0.078	0.122	0.041	0.043
HCM Control Delay	7.5	7.8	7.2	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.4	0.1	0.1

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	21	31	40	13	19	12	881	28	25	695	10
Future Volume (veh/h)	62	21	31	40	13	19	12	881	28	25	695	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	24	35	45	15	22	14	1001	32	28	790	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	21	521	104	21	521	69	1748	55	89	1719	24
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	2	65	1585	2	63	1585	15	3403	108	50	3347	46
Grp Volume(v), veh/h	94	0	35	60	0	22	548	0	499	422	0	407
Grp Sat Flow(s),veh/h/ln	66	0	1585	64	0	1585	1844	0	1683	1749	0	1694
Q Serve(g_s), s	0.0	0.0	0.9	0.0	0.0	0.6	0.0	0.0	12.5	0.0	0.0	9.3
Cycle Q Clear(g_c), s	20.0	0.0	0.9	20.0	0.0	0.6	12.3	0.0	12.5	8.6	0.0	9.3
Prop In Lane	0.74		1.00	0.75		1.00	0.03		0.06	0.07		0.03
Lane Grp Cap(c), veh/h	125	0	521	125	0	521	1007	0	864	961	0	870
V/C Ratio(X)	0.75	0.00	0.07	0.48	0.00	0.04	0.54	0.00	0.58	0.44	0.00	0.47
Avail Cap(c_a), veh/h	125	0	521	125	0	521	1265	0	1106	1193	0	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	14.0	23.7	0.0	13.9	10.2	0.0	10.2	9.3	0.0	9.5
Incr Delay (d2), s/veh	22.2	0.0	0.1	2.9	0.0	0.0	1.7	0.0	2.2	1.1	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.3	0.9	0.0	0.2	4.8	0.0	4.5	3.3	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	0.0	14.1	26.6	0.0	13.9	11.8	0.0	12.4	10.4	0.0	10.9
LnGrp LOS	D	A	B	C	A	B	B	A	B	B	A	B
Approach Vol, veh/h		129			82			1047			829	
Approach Delay, s/veh		38.9			23.2			12.1			10.7	
Approach LOS		D			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.2		24.6		36.2		24.6				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		14.5		22.0		11.3		22.0				
Green Ext Time (p_c), s		16.8		0.0		14.5		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.6									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1	2	10	0	1	8
Future Vol, veh/h	1	2	10	0	1	8
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	3	14	0	1	12
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.6	7.2	6.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	11%	0%	100%
Vol Thru, %	0%	33%	0%
Vol Right, %	89%	67%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	9	3	10
LT Vol	1	0	10
Through Vol	0	1	0
RT Vol	8	2	0
Lane Flow Rate	13	4	14
Geometry Grp	1	1	1
Degree of Util (X)	0.013	0.004	0.017
Departure Headway (Hd)	3.456	3.568	4.161
Convergence, Y/N	Yes	Yes	Yes
Cap	1039	1007	865
Service Time	1.464	1.574	2.163
HCM Lane V/C Ratio	0.013	0.004	0.016
HCM Control Delay	6.5	6.6	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0.1

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	2	13	2	6	11	13	2	48	12	9	30	0
Future Vol, veh/h	2	13	2	6	11	13	2	48	12	9	30	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	16	2	7	13	16	2	59	15	11	37	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	29	0	0	18	0	0	75	64	17	93	57	21
Stage 1	-	-	-	-	-	-	21	21	-	35	35	-
Stage 2	-	-	-	-	-	-	54	43	-	58	22	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1584	-	-	1599	-	-	915	827	1062	891	834	1056
Stage 1	-	-	-	-	-	-	998	878	-	981	866	-
Stage 2	-	-	-	-	-	-	958	859	-	954	877	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1584	-	-	1599	-	-	881	823	1062	828	830	1056
Mov Cap-2 Maneuver	-	-	-	-	-	-	881	823	-	828	830	-
Stage 1	-	-	-	-	-	-	997	877	-	980	863	-
Stage 2	-	-	-	-	-	-	914	856	-	877	876	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1.5	9.6	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	862	1584	-	-	1599	-	-	830
HCM Lane V/C Ratio	0.088	0.002	-	-	0.005	-	-	0.057
HCM Control Delay (s)	9.6	7.3	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	6	3	31	10	2	17	15	914	29	12	741	12
Future Vol, veh/h	6	3	31	10	2	17	15	914	29	12	741	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	3	34	11	2	19	17	1016	32	13	823	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1399	1938	418	1505	1928	524	836	0	0	1048	0	0
Stage 1	856	856	-	1066	1066	-	-	-	-	-	-	-
Stage 2	543	1082	-	439	862	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	100	65	584	84	66	498	794	-	-	660	-	-
Stage 1	319	373	-	237	297	-	-	-	-	-	-	-
Stage 2	492	292	-	567	370	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	59	584	71	60	498	794	-	-	660	-	-
Mov Cap-2 Maneuver	87	59	-	71	60	-	-	-	-	-	-	-
Stage 1	302	359	-	225	282	-	-	-	-	-	-	-
Stage 2	445	277	-	509	356	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.3	38.5	0.3	0.4
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	794	-	-	231	139	660	-	-
HCM Lane V/C Ratio	0.021	-	-	0.192	0.232	0.02	-	-
HCM Control Delay (s)	9.6	0.2	-	24.3	38.5	10.6	0.2	-
HCM Lane LOS	A	A	-	C	E	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.9	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	11	72	633	25	201	141	402	508	225	430	12
Future Volume (veh/h)	5	11	72	633	25	201	141	402	508	225	430	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	11	0	672	0	0	145	414	0	232	443	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	384		1048	0		212	645		295	605	17
Arrive On Green	0.29	0.29	0.00	0.29	0.00	0.00	0.24	0.24	0.00	0.25	0.25	0.25
Sat Flow, veh/h	400	1343	0	2807	0	1585	891	2711	1585	1181	2421	67
Grp Volume(v), veh/h	16	0	0	672	0	0	297	262	0	356	0	331
Grp Sat Flow(s),veh/h/ln	1743	0	0	1404	0	1585	1826	1777	1585	1811	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	12.9	0.0	0.0	8.8	7.9	0.0	10.9	0.0	9.7
Cycle Q Clear(g_c), s	0.4	0.0	0.0	13.3	0.0	0.0	8.8	7.9	0.0	10.9	0.0	9.7
Prop In Lane	0.31		0.00	1.00		1.00	0.49		1.00	0.65		0.04
Lane Grp Cap(c), veh/h	577	0		1048	0		434	423		453	0	464
V/C Ratio(X)	0.03	0.00		0.64	0.00		0.68	0.62		0.79	0.00	0.71
Avail Cap(c_a), veh/h	804	0		1423	0		873	849		547	0	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	0.0	19.9	0.0	0.0	20.7	20.3	0.0	20.9	0.0	20.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	1.9	1.5	0.0	6.2	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	3.5	0.0	0.0	3.8	3.2	0.0	5.1	0.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	0.0	0.0	20.6	0.0	0.0	22.6	21.8	0.0	27.1	0.0	23.8
LnGrp LOS	B	A		C	A		C	C		C	A	C
Approach Vol, veh/h		16			672			559			687	
Approach Delay, s/veh		15.4			20.6			22.2			25.5	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	18.7	21.5	19.4	21.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	25.0	18.0	25.0
Max Q Clear Time (g_c+I1), s	10.8	2.4	12.9	15.3
Green Ext Time (p_c), s	3.4	0.0	2.0	1.8

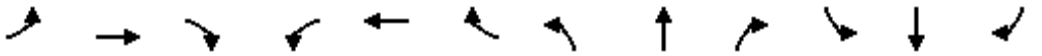
Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	922	9	160	1258	424	11	0	71	365	16	178
Future Volume (veh/h)	0	922	9	160	1258	424	11	0	71	365	16	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1098	11	190	1498	0	13	0	85	449	0	212
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1273	13	233	1950		124	0	111	665	0	296
Arrive On Green	0.00	0.35	0.35	0.13	0.55	0.00	0.07	0.00	0.07	0.19	0.00	0.19
Sat Flow, veh/h	0	3698	36	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	541	568	190	1498	0	13	0	85	449	0	212
Grp Sat Flow(s),veh/h/ln	0	1777	1864	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	19.6	19.6	7.2	22.8	0.0	0.5	0.0	3.7	8.1	0.0	8.7
Cycle Q Clear(g_c), s	0.0	19.6	19.6	7.2	22.8	0.0	0.5	0.0	3.7	8.1	0.0	8.7
Prop In Lane	0.00		0.02	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	627	658	233	1950		124	0	111	665	0	296
V/C Ratio(X)	0.00	0.86	0.86	0.82	0.77		0.10	0.00	0.77	0.68	0.00	0.72
Avail Cap(c_a), veh/h	0	679	713	296	2179		180	0	160	1388	0	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.8	20.9	29.3	12.2	0.0	30.2	0.0	31.7	26.2	0.0	26.5
Incr Delay (d2), s/veh	0.0	10.5	10.1	13.0	1.5	0.0	0.4	0.0	12.7	1.2	0.0	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.1	9.5	3.7	7.6	0.0	0.2	0.0	1.7	3.4	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.3	30.9	42.3	13.7	0.0	30.6	0.0	44.4	27.4	0.0	29.7
LnGrp LOS	A	C	C	D	B		C	A	D	C	A	C
Approach Vol, veh/h		1109			1688			98			661	
Approach Delay, s/veh		31.1			16.9			42.6			28.2	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	9.3	13.6	29.0	17.4	42.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.0	11.5	26.5	27.0	42.5
Max Q Clear Time (g_c+I1), s	5.7	9.2	21.6	10.7	24.8
Green Ext Time (p_c), s	0.0	0.1	2.8	2.2	10.4

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	252	13	28	199	36	29	16	35	42	32	19
Future Vol, veh/h	14	252	13	28	199	36	29	16	35	42	32	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	265	14	29	209	38	31	17	37	44	34	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	279	0	0	615	607	272	615	595	228
Stage 1	-	-	-	-	-	-	302	302	-	286	286	-
Stage 2	-	-	-	-	-	-	313	305	-	329	309	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1284	-	-	403	411	767	403	417	811
Stage 1	-	-	-	-	-	-	707	664	-	721	675	-
Stage 2	-	-	-	-	-	-	698	662	-	684	660	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1284	-	-	357	395	767	360	401	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	357	395	-	360	401	-
Stage 1	-	-	-	-	-	-	698	655	-	712	657	-
Stage 2	-	-	-	-	-	-	629	645	-	626	651	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	14.1	16.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	478	1319	-	-	1284	-	-	423
HCM Lane V/C Ratio	0.176	0.011	-	-	0.023	-	-	0.231
HCM Control Delay (s)	14.1	7.8	0	-	7.9	0	-	16.1
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.9

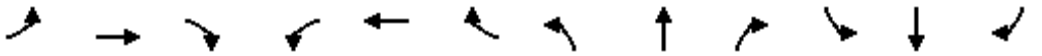
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	86	110	87	52	20	139	957	76	35	566	69
Future Volume (veh/h)	132	86	110	87	52	20	139	957	76	35	566	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	91	116	92	55	21	146	1007	80	37	596	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	405	161	205	193	101	26	195	1512	120	72	1226	150
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.11	0.45	0.45	0.04	0.38	0.38
Sat Flow, veh/h	1323	747	952	375	469	121	1781	3335	265	1781	3187	390
Grp Volume(v), veh/h	139	0	207	168	0	0	146	536	551	37	332	337
Grp Sat Flow(s),veh/h/ln	1323	0	1699	965	0	0	1781	1777	1823	1781	1777	1800
Q Serve(g_s), s	0.0	0.0	5.4	3.6	0.0	0.0	3.9	11.7	11.7	1.0	7.0	7.0
Cycle Q Clear(g_c), s	5.2	0.0	5.4	9.0	0.0	0.0	3.9	11.7	11.7	1.0	7.0	7.0
Prop In Lane	1.00		0.56	0.55		0.12	1.00		0.15	1.00		0.22
Lane Grp Cap(c), veh/h	405	0	365	320	0	0	195	806	827	72	683	692
V/C Ratio(X)	0.34	0.00	0.57	0.52	0.00	0.00	0.75	0.67	0.67	0.52	0.49	0.49
Avail Cap(c_a), veh/h	790	0	859	724	0	0	720	1437	1474	720	1437	1456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	0.0	17.4	19.1	0.0	0.0	21.4	10.6	10.6	23.3	11.5	11.5
Incr Delay (d2), s/veh	0.5	0.0	1.4	1.3	0.0	0.0	5.7	1.0	0.9	5.6	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	2.0	1.8	0.0	0.0	1.8	3.9	4.0	0.5	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	0.0	18.7	20.4	0.0	0.0	27.1	11.5	11.5	28.9	12.0	12.1
LnGrp LOS	B	A	B	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		346			168			1233			706	
Approach Delay, s/veh		18.3			20.4			13.4			12.9	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	27.5		15.2	10.1	24.1		15.2				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	3.0	13.7		7.4	5.9	9.0		11.0				
Green Ext Time (p_c), s	0.0	8.7		1.5	0.3	4.9		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	149	47	239	146	363	52	729	159	240	557	33
Future Volume (veh/h)	57	149	47	239	146	363	52	729	159	240	557	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	154	48	198	217	374	54	752	164	247	574	34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	178	212	368	387	571	70	1014	221	274	1581	93
Arrive On Green	0.13	0.13	0.13	0.21	0.21	0.21	0.04	0.35	0.35	0.15	0.46	0.46
Sat Flow, veh/h	511	1334	1585	1781	1870	1585	1781	2901	633	1781	3409	202
Grp Volume(v), veh/h	213	0	48	198	217	374	54	461	455	247	299	309
Grp Sat Flow(s),veh/h/ln	1845	0	1585	1781	1870	1585	1781	1777	1757	1781	1777	1834
Q Serve(g_s), s	13.7	0.0	3.3	12.0	12.6	23.9	3.6	27.5	27.5	16.5	13.1	13.1
Cycle Q Clear(g_c), s	13.7	0.0	3.3	12.0	12.6	23.9	3.6	27.5	27.5	16.5	13.1	13.1
Prop In Lane	0.28		1.00	1.00		1.00	1.00		0.36	1.00		0.11
Lane Grp Cap(c), veh/h	247	0	212	368	387	571	70	621	614	274	824	850
V/C Ratio(X)	0.86	0.00	0.23	0.54	0.56	0.65	0.77	0.74	0.74	0.90	0.36	0.36
Avail Cap(c_a), veh/h	305	0	262	368	387	571	295	882	872	295	882	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	46.8	42.8	43.0	32.4	57.5	34.5	34.5	50.3	20.9	20.9
Incr Delay (d2), s/veh	18.6	0.0	0.5	1.5	1.8	2.7	15.9	3.9	4.0	27.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	1.3	5.3	5.9	9.3	1.9	12.3	12.2	9.4	5.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	0.0	47.3	44.3	44.9	35.0	73.4	38.5	38.5	78.0	21.5	21.5
LnGrp LOS	E	A	D	D	D	D	E	D	D	E	C	C
Approach Vol, veh/h		261			789			970			855	
Approach Delay, s/veh		65.7			40.1			40.4			37.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.2	47.3		20.8	9.4	61.2		29.6				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		20.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	18.5	29.5		15.7	5.6	15.1		25.9				
Green Ext Time (p_c), s	0.1	12.7		0.5	0.1	8.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		41.8	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

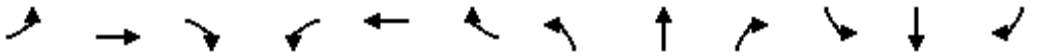
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	609	16	94	900	390	19	13	44	437	15	77
Future Volume (veh/h)	194	609	16	94	900	390	19	13	44	437	15	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	628	16	97	928	402	20	13	45	535	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1973	50	120	1765	1066	47	31	68	626	328	0
Arrive On Green	0.13	0.56	0.56	0.14	0.99	0.99	0.04	0.04	0.04	0.18	0.00	0.00
Sat Flow, veh/h	1781	3541	90	1781	3554	1585	1100	715	1585	3563	1870	0
Grp Volume(v), veh/h	200	315	329	97	928	402	33	0	45	535	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1854	1781	1777	1585	1815	0	1585	1781	1870	0
Q Serve(g_s), s	12.7	11.0	11.0	6.1	0.4	0.3	2.0	0.0	3.2	16.8	0.0	0.0
Cycle Q Clear(g_c), s	12.7	11.0	11.0	6.1	0.4	0.3	2.0	0.0	3.2	16.8	0.0	0.0
Prop In Lane	1.00		0.05	1.00		1.00	0.61		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	228	990	1033	120	1765	1066	78	0	68	626	328	0
V/C Ratio(X)	0.88	0.32	0.32	0.81	0.53	0.38	0.42	0.00	0.66	0.86	0.00	0.00
Avail Cap(c_a), veh/h	256	990	1033	192	1765	1066	284	0	248	867	455	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.67	0.67	0.67	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.2	13.7	13.7	49.0	0.2	0.1	53.6	0.0	54.2	46.0	0.0	0.0
Incr Delay (d2), s/veh	25.2	0.8	0.8	8.4	0.8	0.7	3.6	0.0	10.4	6.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	4.4	4.6	2.8	0.3	0.3	1.0	0.0	1.5	7.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.4	14.5	14.5	57.4	1.0	0.8	57.2	0.0	64.6	52.2	0.0	0.0
LnGrp LOS	E	B	B	E	A	A	E	A	E	D	A	A
Approach Vol, veh/h		844			1427			78			535	
Approach Delay, s/veh		28.7			4.7			61.5			52.2	
Approach LOS		C			A			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.4	12.3	68.6	24.7	19.3	61.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	12.4	38.6	28.0	16.5	34.5
Max Q Clear Time (g_c+I1), s	5.2	8.1	13.0	18.8	14.7	2.4
Green Ext Time (p_c), s	0.2	0.1	3.8	1.4	0.1	9.2

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	906	130	50	840	240	112	66	72	683	116	415
Future Volume (veh/h)	69	906	130	50	840	240	112	66	72	683	116	415
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	944	135	52	875	250	93	103	75	797	0	432
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1682	240	67	1894	845	143	150	127	666	0	296
Arrive On Green	0.04	0.54	0.54	0.04	0.53	0.53	0.08	0.08	0.08	0.19	0.00	0.19
Sat Flow, veh/h	1781	3121	446	1781	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	72	537	542	52	875	250	93	103	75	797	0	432
Grp Sat Flow(s),veh/h/ln	1781	1777	1790	1781	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	4.6	23.0	23.0	3.3	17.5	10.1	5.8	6.2	5.3	21.5	0.0	21.5
Cycle Q Clear(g_c), s	4.6	23.0	23.0	3.3	17.5	10.1	5.8	6.2	5.3	21.5	0.0	21.5
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	957	965	67	1894	845	143	150	127	666	0	296
V/C Ratio(X)	0.93	0.56	0.56	0.78	0.46	0.30	0.65	0.69	0.59	1.20	0.00	1.46
Avail Cap(c_a), veh/h	77	957	965	82	1894	845	527	553	469	666	0	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.8	17.5	17.5	54.9	16.6	14.9	51.3	51.5	51.1	46.8	0.0	46.8
Incr Delay (d2), s/veh	72.8	2.1	2.1	30.7	0.8	0.9	4.9	5.5	4.3	102.6	0.0	223.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.3	9.4	2.0	6.9	3.7	2.8	3.1	2.2	18.9	0.0	26.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.7	19.6	19.6	85.5	17.5	15.8	56.3	57.0	55.4	149.4	0.0	270.6
LnGrp LOS	F	B	B	F	B	B	E	E	E	F	A	F
Approach Vol, veh/h		1151			1177			271			1229	
Approach Delay, s/veh		26.4			20.1			56.3			192.0	
Approach LOS		C			C			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.7	8.8	66.5		26.0	9.5	65.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	5.3	36.2		21.5	5.0	36.5				
Max Q Clear Time (g_c+I1), s		8.2	5.3	25.0		23.5	6.6	19.5				
Green Ext Time (p_c), s		1.1	0.0	5.0		0.0	0.0	6.2				

Intersection Summary	
HCM 6th Ctrl Delay	79.7
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	51	33	137	73	363	21	655	98	194	462	30
Future Volume (veh/h)	54	51	33	137	73	363	21	655	98	194	462	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	54	35	146	78	386	22	697	104	206	491	32
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	136	115	288	154	613	43	912	136	254	1396	91
Arrive On Green	0.07	0.07	0.07	0.24	0.24	0.24	0.02	0.29	0.29	0.14	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	1181	631	1585	1781	3102	462	1781	3387	220
Grp Volume(v), veh/h	57	54	35	224	0	386	22	399	402	206	257	266
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1787	1781	1777	1831
Q Serve(g_s), s	2.4	2.2	1.7	8.4	0.0	15.6	1.0	16.2	16.2	8.9	7.9	7.9
Cycle Q Clear(g_c), s	2.4	2.2	1.7	8.4	0.0	15.6	1.0	16.2	16.2	8.9	7.9	7.9
Prop In Lane	1.00		1.00	0.65		1.00	1.00		0.26	1.00		0.12
Lane Grp Cap(c), veh/h	130	136	115	442	0	613	43	522	525	254	732	755
V/C Ratio(X)	0.44	0.40	0.30	0.51	0.00	0.63	0.51	0.76	0.77	0.81	0.35	0.35
Avail Cap(c_a), veh/h	451	473	401	573	0	727	451	899	905	676	899	927
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	35.0	34.7	25.8	0.0	19.7	38.1	25.4	25.4	32.9	16.0	16.0
Incr Delay (d2), s/veh	2.3	1.9	1.5	0.9	0.0	1.3	9.0	2.4	2.4	6.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.0	0.7	3.6	0.0	5.5	0.5	6.7	6.8	4.1	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	36.8	36.2	26.7	0.0	21.0	47.1	27.8	27.8	39.0	16.2	16.3
LnGrp LOS	D	D	D	C	A	C	D	C	C	D	B	B
Approach Vol, veh/h		146			610			823			729	
Approach Delay, s/veh		36.9			23.1			28.3			22.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	28.3		10.4	6.6	37.7		24.4				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	10.9	18.2		4.4	3.0	9.9		17.6				
Green Ext Time (p_c), s	0.5	5.0		0.4	0.0	3.2		1.7				

Intersection Summary			
HCM 6th Ctrl Delay		25.7	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	54	73	12	48	29	52	936	18	46	904	126
Future Volume (veh/h)	175	54	73	12	48	29	52	936	18	46	904	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	57	78	13	51	31	55	996	19	49	962	134
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	74	542	81	223	110	93	1243	24	86	1061	148
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.05	0.35	0.35	0.05	0.34	0.34
Sat Flow, veh/h	500	217	1585	10	652	321	1781	3567	68	1781	3133	436
Grp Volume(v), veh/h	243	0	78	95	0	0	55	496	519	49	546	550
Grp Sat Flow(s),veh/h/ln	717	0	1585	982	0	0	1781	1777	1858	1781	1777	1792
Q Serve(g_s), s	0.9	0.0	1.8	0.5	0.0	0.0	1.6	13.2	13.2	1.4	15.4	15.4
Cycle Q Clear(g_c), s	17.9	0.0	1.8	17.7	0.0	0.0	1.6	13.2	13.2	1.4	15.4	15.4
Prop In Lane	0.77		1.00	0.14		0.33	1.00		0.04	1.00		0.24
Lane Grp Cap(c), veh/h	366	0	542	414	0	0	93	619	647	86	602	607
V/C Ratio(X)	0.66	0.00	0.14	0.23	0.00	0.00	0.59	0.80	0.80	0.57	0.91	0.91
Avail Cap(c_a), veh/h	368	0	544	416	0	0	170	619	647	180	609	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	11.9	12.6	0.0	0.0	24.3	15.5	15.5	24.4	16.6	16.6
Incr Delay (d2), s/veh	4.4	0.0	0.1	0.3	0.0	0.0	5.8	7.5	7.2	5.8	17.1	17.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.6	0.7	0.0	0.0	0.8	6.0	6.2	0.7	8.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	12.1	12.9	0.0	0.0	30.1	22.9	22.6	30.2	33.7	33.7
LnGrp LOS	C	A	B	B	A	A	C	C	C	C	C	C
Approach Vol, veh/h		321			95			1070			1145	
Approach Delay, s/veh		19.3			12.9			23.1			33.5	
Approach LOS		B			B			C			C	

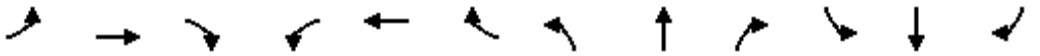
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	23.3		22.5	7.3	22.8		22.5				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	3.4	15.2		19.9	3.6	17.4		19.7				
Green Ext Time (p_c), s	0.0	1.7		0.0	0.0	0.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		26.8	
HCM 6th LOS		C	

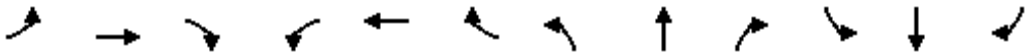
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

NEAR TERM (2030)
WITH PROJECT
AM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	8	6	19	11	19	5	552	24	56	734	10
Future Volume (veh/h)	10	8	6	19	11	19	5	552	24	56	734	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	9	6	20	12	20	5	587	26	60	781	11
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	95	63	319	57	95	106	2159	95	193	2067	28
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1377	1047	698	1398	630	1051	5	3383	149	122	3239	44
Grp Volume(v), veh/h	11	0	15	20	0	32	325	0	293	431	0	421
Grp Sat Flow(s),veh/h/ln	1377	0	1745	1398	0	1681	1861	0	1675	1711	0	1694
Q Serve(g_s), s	0.3	0.0	0.3	0.5	0.0	0.6	0.0	0.0	2.7	0.0	0.0	4.2
Cycle Q Clear(g_c), s	0.9	0.0	0.3	0.8	0.0	0.6	2.7	0.0	2.7	3.8	0.0	4.2
Prop In Lane	1.00		0.40	1.00		0.63	0.02		0.09	0.14		0.03
Lane Grp Cap(c), veh/h	304	0	158	319	0	153	1291	0	1069	1208	0	1081
V/C Ratio(X)	0.04	0.00	0.09	0.06	0.00	0.21	0.25	0.00	0.27	0.36	0.00	0.39
Avail Cap(c_a), veh/h	1345	0	1478	1376	0	1424	2186	0	1892	1984	0	1913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.3	0.0	14.8	15.1	0.0	14.9	2.8	0.0	2.8	3.0	0.0	3.1
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.1	0.0	0.7	0.4	0.0	0.5	0.7	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.1	0.0	0.2	0.5	0.0	0.5	0.7	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.4	0.0	15.0	15.2	0.0	15.6	3.2	0.0	3.3	3.7	0.0	3.9
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		26			52			618			852	
Approach Delay, s/veh		15.2			15.4			3.2			3.8	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.6		7.8		27.6		7.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		4.7		2.9		6.2		2.8				
Green Ext Time (p_c), s		11.2		0.1		16.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			4.2									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	10	10	21	15	49	8	529	24	105	645	19
Future Volume (veh/h)	6	10	10	21	15	49	8	529	24	105	645	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	11	11	22	16	52	9	563	26	112	686	20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	99	99	342	44	145	109	2086	95	319	1726	49
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.62	0.62	0.62	0.62	0.62	0.62
Sat Flow, veh/h	1333	858	858	1390	387	1257	12	3361	153	308	2782	79
Grp Volume(v), veh/h	6	0	22	22	0	68	314	0	284	391	0	427
Grp Sat Flow(s),veh/h/ln	1333	0	1716	1390	0	1644	1852	0	1674	1482	0	1688
Q Serve(g_s), s	0.2	0.0	0.4	0.5	0.0	1.4	0.0	0.0	2.8	0.0	0.0	4.7
Cycle Q Clear(g_c), s	1.5	0.0	0.4	0.9	0.0	1.4	2.8	0.0	2.8	3.6	0.0	4.7
Prop In Lane	1.00		0.50	1.00		0.76	0.03		0.09	0.29		0.05
Lane Grp Cap(c), veh/h	301	0	197	342	0	189	1251	0	1039	1047	0	1047
V/C Ratio(X)	0.02	0.00	0.11	0.06	0.00	0.36	0.25	0.00	0.27	0.37	0.00	0.41
Avail Cap(c_a), veh/h	1249	0	1418	1331	0	1359	2114	0	1845	1709	0	1860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	14.4	14.8	0.0	14.8	3.1	0.0	3.1	3.3	0.0	3.5
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.1	0.0	1.2	0.4	0.0	0.5	0.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.1	0.0	0.5	0.6	0.0	0.5	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	14.6	14.9	0.0	16.0	3.5	0.0	3.7	4.1	0.0	4.4
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		28			90			598			818	
Approach Delay, s/veh		14.8			15.7			3.6			4.3	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.5		8.8		27.5		8.8				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		4.8		3.5		6.7		3.4				
Green Ext Time (p_c), s		10.8		0.1		15.9		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			4.9									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	398	3	0	0	0	0	15	11	14	16	0
Future Vol, veh/h	31	398	3	0	0	0	0	15	11	14	16	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	423	3	0	0	0	0	16	12	15	17	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.5	7.9	8.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	13%	0%	47%
Vol Thru, %	58%	87%	99%	53%
Vol Right, %	42%	0%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	230	202	30
LT Vol	0	31	0	14
Through Vol	15	199	199	16
RT Vol	11	0	3	0
Lane Flow Rate	28	245	215	32
Geometry Grp	2	5	5	2
Degree of Util (X)	0.036	0.32	0.276	0.045
Departure Headway (Hd)	4.712	4.705	4.627	5.053
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	764	761	771	713
Service Time	2.715	2.459	2.381	3.055
HCM Lane V/C Ratio	0.037	0.322	0.279	0.045
HCM Control Delay	7.9	9.7	9.2	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.4	1.1	0.1

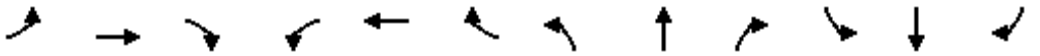
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	175	269	1	4	0	3	0	18	10	0	0	0
Future Vol, veh/h	175	269	1	4	0	3	0	18	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	286	1	4	0	3	0	19	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	659	287
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	384	752
Stage 1	-	-	-	0	461	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	752
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		10
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	752	-	-	-
HCM Lane V/C Ratio	0.04	-	-	-
HCM Control Delay (s)	10	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



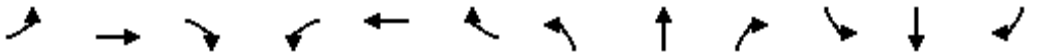
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	86	38	44	214	28	59	30	19	6	30	24
Future Volume (veh/h)	16	86	38	44	214	28	59	30	19	6	30	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	98	43	50	243	32	67	34	22	7	34	27
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	601	697	290	717	1103	144	380	160	381	129	234	164
Arrive On Green	0.05	0.28	0.28	0.11	0.35	0.35	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	2446	1018	1781	3162	412	868	663	1585	66	972	684
Grp Volume(v), veh/h	18	70	71	50	135	140	101	0	22	68	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1687	1781	1777	1796	1532	0	1585	1722	0	0
Q Serve(g_s), s	0.2	1.0	1.1	0.6	1.9	1.9	0.6	0.0	0.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	1.0	1.1	0.6	1.9	1.9	1.6	0.0	0.4	1.1	0.0	0.0
Prop In Lane	1.00		0.60	1.00		0.23	0.66		1.00	0.10		0.40
Lane Grp Cap(c), veh/h	601	506	481	717	620	627	539	0	381	527	0	0
V/C Ratio(X)	0.03	0.14	0.15	0.07	0.22	0.22	0.19	0.00	0.06	0.13	0.00	0.00
Avail Cap(c_a), veh/h	1027	1518	1442	1029	1518	1535	1280	0	1174	1513	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	9.3	9.4	6.5	8.1	8.1	10.7	0.0	10.3	10.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.3	0.2	0.5	0.5	0.5	0.0	0.1	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	9.4	9.4	6.5	8.1	8.1	11.0	0.0	10.4	10.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		159			325			123			68	
Approach Delay, s/veh		9.2			7.9			10.8			10.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	14.6		12.6	5.6	16.8		12.6				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.6	3.1		3.1	2.2	3.9		3.6				
Green Ext Time (p_c), s	0.0	0.5		0.4	0.0	1.0		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Notes

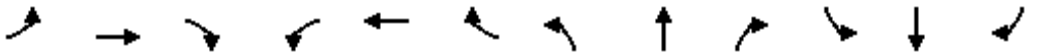
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	0	60	339	204	100	29	436	0	0	626	64
Future Volume (veh/h)	51	0	60	339	204	100	29	436	0	0	626	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	56	0	66	373	224	110	32	479	0	0	688	70
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	144	0	128	530	695	330	60	1404	0	0	950	97
Arrive On Green	0.08	0.00	0.08	0.30	0.30	0.30	0.03	0.39	0.00	0.00	0.29	0.29
Sat Flow, veh/h	1781	0	1585	1781	2339	1109	1781	3647	0	0	3350	331
Grp Volume(v), veh/h	56	0	66	373	168	166	32	479	0	0	375	383
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1671	1781	1777	0	0	1777	1811
Q Serve(g_s), s	2.0	0.0	2.6	12.3	4.9	5.1	1.2	6.2	0.0	0.0	12.5	12.6
Cycle Q Clear(g_c), s	2.0	0.0	2.6	12.3	4.9	5.1	1.2	6.2	0.0	0.0	12.5	12.6
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.00	0.00		0.18
Lane Grp Cap(c), veh/h	144	0	128	530	528	497	60	1404	0	0	519	528
V/C Ratio(X)	0.39	0.00	0.51	0.70	0.32	0.33	0.53	0.34	0.00	0.00	0.72	0.72
Avail Cap(c_a), veh/h	619	0	551	673	671	631	404	1611	0	0	618	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	0.0	29.2	20.7	18.0	18.1	31.5	14.0	0.0	0.0	21.0	21.0
Incr Delay (d2), s/veh	1.7	0.0	3.2	6.3	1.2	1.4	7.2	0.3	0.0	0.0	5.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.1	5.6	2.0	2.0	0.6	2.4	0.0	0.0	5.6	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	0.0	32.3	26.9	19.3	19.6	38.7	14.3	0.0	0.0	26.1	26.0
LnGrp LOS	C	A	C	C	B	B	D	B	A	A	C	C
Approach Vol, veh/h		122			707			511			758	
Approach Delay, s/veh		31.5			23.4			15.8			26.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		31.1		10.4	6.8	24.3		24.7				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	23.0		25.0				
Max Q Clear Time (g_c+I1), s		8.2		4.6	3.2	14.6		14.3				
Green Ext Time (p_c), s		5.8		0.4	0.0	4.7		5.4				

Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	26	599	33	10	29	0	0	15	26
Future Volume (veh/h)	0	0	0	26	599	33	10	29	0	0	15	26
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				28	637	35	11	31	0	0	16	28
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				70	1658	96	224	125	0	0	66	116
Arrive On Green				0.49	0.49	0.49	0.11	0.11	0.00	0.00	0.11	0.11
Sat Flow, veh/h				141	3363	194	348	1148	0	0	610	1068
Grp Volume(v), veh/h				369	0	331	42	0	0	0	0	44
Grp Sat Flow(s),veh/h/ln				1863	0	1835	1495	0	0	0	0	1678
Q Serve(g_s), s				3.0	0.0	2.7	0.3	0.0	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s				3.0	0.0	2.7	0.9	0.0	0.0	0.0	0.0	0.6
Prop In Lane				0.08		0.11	0.26		0.00	0.00		0.64
Lane Grp Cap(c), veh/h				918	0	905	349	0	0	0	0	182
V/C Ratio(X)				0.40	0.00	0.37	0.12	0.00	0.00	0.00	0.00	0.24
Avail Cap(c_a), veh/h				3061	0	3016	1424	0	0	0	0	1241
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				3.9	0.0	3.8	10.1	0.0	0.0	0.0	0.0	9.9
Incr Delay (d2), s/veh				0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.2	0.0	4.1	10.2	0.0	0.0	0.0	0.0	10.6
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					700			42			44	
Approach Delay, s/veh					4.1			10.2			10.6	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.2		17.1		7.2				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.6		5.0		2.9				
Green Ext Time (p_c), s				0.1		4.9		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		4.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	87	617	6	53	11	0	0	37	5
Future Vol, veh/h	0	0	0	87	617	6	53	11	0	0	37	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	104	735	7	63	13	0	0	44	6

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	598	950	-	-	947	371
Stage 1	-	-	-	0	0	-	-	947	-
Stage 2	-	-	-	598	950	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	386	259	0	0	260	626
Stage 1	-	-	-	-	-	0	0	338	-
Stage 2	-	-	-	456	337	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	333	259	-	-	260	626
Mov Cap-2 Maneuver	-	-	-	333	259	-	-	260	-
Stage 1	-	-	-	-	-	-	-	338	-
Stage 2	-	-	-	393	337	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		19.9	20.7
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	-	-	-	279
HCM Lane V/C Ratio	0.24	-	-	-	0.179
HCM Control Delay (s)	19.9	-	-	-	20.7
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.9	-	-	-	0.6

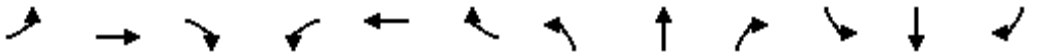
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	627	39	1	0	182	0	0	79
Future Vol, veh/h	0	0	0	0	627	39	1	0	182	0	0	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	774	48	1	0	225	0	0	98

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	411
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	590
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	590
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	12.3
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	590
HCM Lane V/C Ratio	-	-	0.165
HCM Control Delay (s)	-	-	12.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	152	2	203	628	229	28	80	364	320	97	12
Future Volume (veh/h)	25	152	2	203	628	229	28	80	364	320	97	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	188	2	251	775	283	35	99	449	265	302	15
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	985	10	210	1019	741	133	376	437	323	320	16
Arrive On Green	0.10	0.27	0.27	0.12	0.29	0.29	0.28	0.28	0.28	0.18	0.18	0.18
Sat Flow, veh/h	1781	3602	38	1781	3554	1585	482	1364	1585	1781	1767	88
Grp Volume(v), veh/h	31	93	97	251	775	283	134	0	449	265	0	317
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1585	1846	0	1585	1781	0	1855
Q Serve(g_s), s	2.0	5.1	5.1	15.0	25.3	14.7	7.2	0.0	35.0	18.2	0.0	21.4
Cycle Q Clear(g_c), s	2.0	5.1	5.1	15.0	25.3	14.7	7.2	0.0	35.0	18.2	0.0	21.4
Prop In Lane	1.00		0.02	1.00		1.00	0.26		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	187	486	509	210	1019	741	509	0	437	323	0	336
V/C Ratio(X)	0.17	0.19	0.19	1.19	0.76	0.38	0.26	0.00	1.03	0.82	0.00	0.94
Avail Cap(c_a), veh/h	421	560	587	210	1119	786	509	0	437	323	0	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	35.4	35.4	56.0	41.3	21.9	35.9	0.0	46.0	50.0	0.0	51.4
Incr Delay (d2), s/veh	0.3	0.9	0.8	124.0	4.7	1.2	0.4	0.0	50.4	16.1	0.0	34.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.3	2.5	14.0	11.7	7.9	3.4	0.0	19.9	9.6	0.0	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	36.3	36.2	180.0	46.0	23.1	36.3	0.0	96.4	66.1	0.0	86.3
LnGrp LOS	D	D	D	F	D	C	D	A	F	E	A	F
Approach Vol, veh/h		221			1309			583			582	
Approach Delay, s/veh		38.5			66.7			82.6			77.1	
Approach LOS		D			E			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	40.1		27.6	18.0	41.8		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	7.1		23.4	4.0	27.3		37.0				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	9.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		70.1
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	25	0	32	22	69	0	29	43	76	12	21
Future Vol, veh/h	4	25	0	32	22	69	0	29	43	76	12	21
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	27	0	34	23	73	0	31	46	81	13	22
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8	8	7.5	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	26%	70%
Vol Thru, %	40%	0%	100%	18%	11%
Vol Right, %	60%	0%	0%	56%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	4	25	123	109
LT Vol	0	4	0	32	76
Through Vol	29	0	25	22	12
RT Vol	43	0	0	69	21
Lane Flow Rate	77	4	27	131	116
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.087	0.007	0.037	0.153	0.142
Departure Headway (Hd)	4.069	5.571	5.068	4.218	4.403
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	883	644	708	852	818
Service Time	2.083	3.288	2.785	2.233	2.415
HCM Lane V/C Ratio	0.087	0.006	0.038	0.154	0.142
HCM Control Delay	7.5	8.3	8	8	8.1
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0	0.1	0.5	0.5

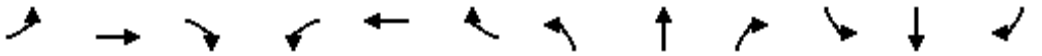
Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	119	38	45	132	25	71
Future Vol, veh/h	119	38	45	132	25	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	44	52	152	29	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	181	0	415	159
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1394	-	594	886
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1394	-	570	886
Mov Cap-2 Maneuver	-	-	-	-	570	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	774	-	-	1394	-
HCM Lane V/C Ratio	0.143	-	-	0.037	-
HCM Control Delay (s)	10.4	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	160	72	0	0	0	37	330	128	67	770	211
Future Volume (veh/h)	128	160	72	0	0	0	37	330	128	67	770	211
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	168	76				39	347	135	71	811	222
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	368	252	114				76	1099	421	115	1267	347
Arrive On Green	0.21	0.21	0.21				0.04	0.44	0.44	0.06	0.46	0.46
Sat Flow, veh/h	1781	1219	552				1781	2513	961	1781	2757	755
Grp Volume(v), veh/h	135	0	244				39	244	238	71	523	510
Grp Sat Flow(s),veh/h/ln	1781	0	1771				1781	1777	1697	1781	1777	1735
Q Serve(g_s), s	3.0	0.0	5.8				1.0	4.1	4.2	1.8	10.4	10.4
Cycle Q Clear(g_c), s	3.0	0.0	5.8				1.0	4.1	4.2	1.8	10.4	10.4
Prop In Lane	1.00		0.31				1.00		0.57	1.00		0.43
Lane Grp Cap(c), veh/h	368	0	366				76	777	743	115	817	797
V/C Ratio(X)	0.37	0.00	0.67				0.51	0.31	0.32	0.62	0.64	0.64
Avail Cap(c_a), veh/h	1045	0	1039				224	930	889	279	984	961
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	16.8				21.6	8.4	8.5	21.0	9.5	9.5
Incr Delay (d2), s/veh	0.6	0.0	2.1				5.3	0.5	0.5	5.2	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.3				0.5	1.4	1.4	0.9	3.6	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	0.0	18.9				26.8	8.9	9.0	26.2	11.4	11.5
LnGrp LOS	B	A	B				C	A	A	C	B	B
Approach Vol, veh/h		379						521			1104	
Approach Delay, s/veh		18.0						10.3			12.4	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	7.2	25.1		13.7	6.2	26.2
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	3.8	6.2		7.8	3.0	12.4
Green Ext Time (p_c), s	0.0	5.1		1.7	0.0	8.8

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	15	477	12	10	830
Future Vol, veh/h	12	15	477	12	10	830
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	15	487	12	10	847

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	937	250	0	0	499	0
Stage 1	493	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	263	750	-	-	1061	-
Stage 1	579	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	258	750	-	-	1061	-
Mov Cap-2 Maneuver	258	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	406	1061	-
HCM Lane V/C Ratio	-	-	0.068	0.01	-
HCM Control Delay (s)	-	-	14.5	8.4	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	4	88	13	15	71
Future Vol, veh/h	30	4	88	13	15	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	4	99	15	17	80

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	221	107	0	0	114	0
Stage 1	107	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	767	947	-	-	1475	-
Stage 1	917	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	758	947	-	-	1475	-
Mov Cap-2 Maneuver	758	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	900	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	776	1475	-
HCM Lane V/C Ratio	-	-	0.049	0.011	-
HCM Control Delay (s)	-	-	9.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	23	8	464	804	45
Future Vol, veh/h	7	23	8	464	804	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	24	9	494	855	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1144	452	903	0	-	0
Stage 1	879	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	193	555	749	-	-	-
Stage 1	366	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	555	749	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	360	-	-	-	-	-
Stage 2	755	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.3	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	749	-	383	-	-
HCM Lane V/C Ratio	0.011	-	0.083	-	-
HCM Control Delay (s)	9.9	0.1	15.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	39	49	112	44	41
Future Vol, veh/h	0	39	49	112	44	41
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	59	135	53	49
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.2	8.4	7.4
HCM LOS	A	A	A

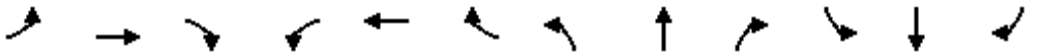
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	30%	0%	0%
Vol Thru, %	70%	0%	52%
Vol Right, %	0%	100%	48%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	161	39	85
LT Vol	49	0	0
Through Vol	112	0	44
RT Vol	0	39	41
Lane Flow Rate	194	47	102
Geometry Grp	1	1	1
Degree of Util (X)	0.224	0.052	0.11
Departure Headway (Hd)	4.155	3.967	3.873
Convergence, Y/N	Yes	Yes	Yes
Cap	861	908	916
Service Time	2.192	1.967	1.938
HCM Lane V/C Ratio	0.225	0.052	0.111
HCM Control Delay	8.4	7.2	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.2	0.4

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	64	17	5	31	52	7	72	10	43	30	6
Future Vol, veh/h	37	64	17	5	31	52	7	72	10	43	30	6
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	70	19	5	34	57	8	79	11	47	33	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	7.7	8.1	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	31%	6%	54%
Vol Thru, %	81%	54%	35%	38%
Vol Right, %	11%	14%	59%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	118	88	79
LT Vol	7	37	5	43
Through Vol	72	64	31	30
RT Vol	10	17	52	6
Lane Flow Rate	98	130	97	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.122	0.16	0.112	0.111
Departure Headway (Hd)	4.49	4.446	4.17	4.615
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	800	808	861	778
Service Time	2.51	2.464	2.188	2.637
HCM Lane V/C Ratio	0.122	0.161	0.113	0.112
HCM Control Delay	8.1	8.3	7.7	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.6	0.4	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	12	63	43	8	3	50	441	12	24	814	22
Future Volume (veh/h)	29	12	63	43	8	3	50	441	12	24	814	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	14	72	49	9	3	57	501	14	27	925	25
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	35	428	140	15	428	186	1514	42	96	1837	49
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	36	130	1585	39	57	1585	186	2786	78	40	3381	90
Grp Volume(v), veh/h	47	0	72	58	0	3	270	0	302	509	0	468
Grp Sat Flow(s),veh/h/ln	165	0	1585	96	0	1585	1362	0	1688	1825	0	1686
Q Serve(g_s), s	0.5	0.0	1.8	0.5	0.0	0.1	0.4	0.0	5.1	0.0	0.0	9.0
Cycle Q Clear(g_c), s	13.9	0.0	1.8	13.9	0.0	0.1	9.2	0.0	5.1	8.8	0.0	9.0
Prop In Lane	0.70		1.00	0.84		1.00	0.21		0.05	0.05		0.05
Lane Grp Cap(c), veh/h	164	0	428	155	0	428	825	0	917	1066	0	916
V/C Ratio(X)	0.29	0.00	0.17	0.37	0.00	0.01	0.33	0.00	0.33	0.48	0.00	0.51
Avail Cap(c_a), veh/h	345	0	617	320	0	617	1127	0	1314	1481	0	1313
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	14.3	22.5	0.0	13.7	6.3	0.0	6.5	7.4	0.0	7.4
Incr Delay (d2), s/veh	1.0	0.0	0.2	1.5	0.0	0.0	0.8	0.0	0.8	1.2	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.6	0.7	0.0	0.0	1.4	0.0	1.6	3.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	0.0	14.5	24.0	0.0	13.7	7.1	0.0	7.3	8.6	0.0	9.0
LnGrp LOS	B	A	B	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h		119			61			572			977	
Approach Delay, s/veh		15.8			23.5			7.2			8.8	
Approach LOS		B			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.0		18.9		33.0		18.9				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		11.2		15.9		11.0		15.9				
Green Ext Time (p_c), s		10.0		0.1		17.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			9.3									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	12	1	0	3	0	8	5	0	0
Future Vol, veh/h	0	3	0	12	1	0	3	0	8	5	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	0	13	1	0	3	0	9	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.2	6.6	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	0%	92%	100%
Vol Thru, %	0%	100%	8%	0%
Vol Right, %	73%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	3	13	5
LT Vol	3	0	12	5
Through Vol	0	3	1	0
RT Vol	8	0	0	0
Lane Flow Rate	12	3	14	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.012	0.004	0.016	0.006
Departure Headway (Hd)	3.586	3.973	4.151	4.172
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	1001	904	866	861
Service Time	1.596	1.983	2.157	2.183
HCM Lane V/C Ratio	0.012	0.003	0.016	0.006
HCM Control Delay	6.6	7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0	0

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	22	23	12	5	16	10	3	54	5	5	49	8
Future Vol, veh/h	22	23	12	5	16	10	3	54	5	5	49	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	28	15	6	20	12	4	66	6	6	60	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	43	0	0	163	134	36	164	135	26
Stage 1	-	-	-	-	-	-	90	90	-	38	38	-
Stage 2	-	-	-	-	-	-	73	44	-	126	97	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1580	-	-	1566	-	-	802	757	1037	801	756	1050
Stage 1	-	-	-	-	-	-	917	820	-	977	863	-
Stage 2	-	-	-	-	-	-	937	858	-	878	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1580	-	-	1566	-	-	733	740	1037	730	739	1050
Mov Cap-2 Maneuver	-	-	-	-	-	-	733	740	-	730	739	-
Stage 1	-	-	-	-	-	-	900	805	-	959	860	-
Stage 2	-	-	-	-	-	-	860	855	-	787	800	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	1.2	10.3	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	757	1580	-	-	1566	-	-	768
HCM Lane V/C Ratio	0.1	0.017	-	-	0.004	-	-	0.098
HCM Control Delay (s)	10.3	7.3	0	-	7.3	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.5

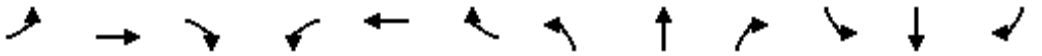
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	11	1	18	19	1	12	20	483	23	12	910	8
Future Vol, veh/h	11	1	18	19	1	12	20	483	23	12	910	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	1	20	21	1	13	22	537	26	13	1011	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1355	1649	510	1126	1640	282	1020	0	0	563	0	0
Stage 1	1042	1042	-	594	594	-	-	-	-	-	-	-
Stage 2	313	607	-	532	1046	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	108	98	509	160	99	715	676	-	-	1005	-	-
Stage 1	246	305	-	458	491	-	-	-	-	-	-	-
Stage 2	672	485	-	499	304	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	99	90	509	143	91	715	676	-	-	1005	-	-
Mov Cap-2 Maneuver	99	90	-	143	91	-	-	-	-	-	-	-
Stage 1	234	296	-	436	467	-	-	-	-	-	-	-
Stage 2	626	462	-	463	295	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.9	27	0.6	0.2
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	676	-	-	190	199	1005	-	-
HCM Lane V/C Ratio	0.033	-	-	0.175	0.179	0.013	-	-
HCM Control Delay (s)	10.5	0.2	-	27.9	27	8.6	0.1	-
HCM Lane LOS	B	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.6	0	-	-

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	23	154	449	14	212	64	208	482	119	280	7
Future Volume (veh/h)	11	23	154	449	14	212	64	208	482	119	280	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	24	0	473	0	0	66	214	0	123	289	7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	352		1079	0		140	485		222	559	14
Arrive On Green	0.24	0.24	0.00	0.24	0.00	0.00	0.17	0.17	0.00	0.22	0.22	0.22
Sat Flow, veh/h	322	1445	0	2774	0	1585	808	2798	1585	1027	2586	65
Grp Volume(v), veh/h	35	0	0	473	0	0	149	131	0	218	0	201
Grp Sat Flow(s),veh/h/ln	1767	0	0	1387	0	1585	1830	1777	1585	1819	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	5.0	0.0	0.0	2.7	2.4	0.0	3.9	0.0	3.5
Cycle Q Clear(g_c), s	0.5	0.0	0.0	5.5	0.0	0.0	2.7	2.4	0.0	3.9	0.0	3.5
Prop In Lane	0.31		0.00	1.00		1.00	0.44		1.00	0.56		0.03
Lane Grp Cap(c), veh/h	559	0		1079	0		317	308		393	0	402
V/C Ratio(X)	0.06	0.00		0.44	0.00		0.47	0.42		0.55	0.00	0.50
Avail Cap(c_a), veh/h	977	0		2288	0		1418	1377		890	0	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	12.6	0.0	0.0	13.7	13.6	0.0	12.8	0.0	12.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.1	0.9	0.0	1.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	1.1	0.0	0.0	1.0	0.9	0.0	1.5	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	0.0	0.0	12.8	0.0	0.0	14.8	14.5	0.0	14.1	0.0	13.6
LnGrp LOS	B	A		B	A		B	B		B	A	B
Approach Vol, veh/h		35			473			280			419	
Approach Delay, s/veh		10.8			12.8			14.6			13.9	
Approach LOS		B			B			B			B	

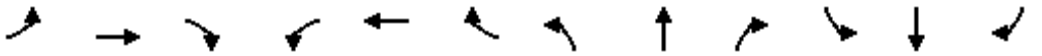
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		10.9		13.5		12.4		13.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		18.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		4.7		2.5		5.9		7.5				
Green Ext Time (p_c), s		1.7		0.1		2.0		1.5				

Intersection Summary												
HCM 6th Ctrl Delay			13.6									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	721	33	216	967	645	29	0	216	106	78	78
Future Volume (veh/h)	0	721	33	216	967	645	29	0	216	106	78	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	858	39	257	1151	0	35	0	257	110	116	93
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1018	46	307	1905		262	0	233	193	202	171
Arrive On Green	0.00	0.29	0.29	0.17	0.54	0.00	0.15	0.00	0.15	0.11	0.11	0.11
Sat Flow, veh/h	0	3555	157	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	440	457	257	1151	0	35	0	257	110	116	93
Grp Sat Flow(s),veh/h/ln	0	1777	1842	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	15.0	15.0	9.0	14.4	0.0	1.1	0.0	9.5	3.8	3.8	3.6
Cycle Q Clear(g_c), s	0.0	15.0	15.0	9.0	14.4	0.0	1.1	0.0	9.5	3.8	3.8	3.6
Prop In Lane	0.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	522	542	307	1905		262	0	233	193	202	171
V/C Ratio(X)	0.00	0.84	0.84	0.84	0.60		0.13	0.00	1.10	0.57	0.57	0.54
Avail Cap(c_a), veh/h	0	577	598	399	2198		262	0	233	744	781	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.4	21.4	25.9	10.3	0.0	24.0	0.0	27.6	27.4	27.4	27.3
Incr Delay (d2), s/veh	0.0	10.2	9.9	11.4	0.4	0.0	0.2	0.0	89.5	2.7	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	7.3	4.5	4.5	0.0	0.5	0.0	9.2	1.7	1.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.6	31.3	37.3	10.7	0.0	24.2	0.0	117.1	30.1	30.0	30.0
LnGrp LOS	A	C	C	D	B		C	A	F	C	C	C
Approach Vol, veh/h		897			1408			292			319	
Approach Delay, s/veh		31.4			15.5			106.0			30.0	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	2	3	4		6		8					
Phs Duration (G+Y+Rc), s	14.0	15.7	23.5		11.5		39.2					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s	9.5	14.5	21.0		27.0		40.0					
Max Q Clear Time (g_c+I1), s	11.5	11.0	17.0		5.8		16.4					
Green Ext Time (p_c), s	0.0	0.2	2.0		1.2		9.0					

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

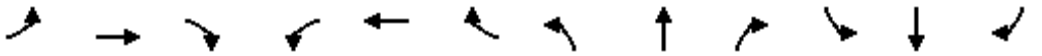
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	14	156	12	21	163	53	3	15	28	51	19	13
Future Vol, veh/h	14	156	12	21	163	53	3	15	28	51	19	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	164	13	22	172	56	3	16	29	54	20	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	228	0	0	177	0	0	462	473	171	467	451	200
Stage 1	-	-	-	-	-	-	201	201	-	244	244	-
Stage 2	-	-	-	-	-	-	261	272	-	223	207	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1340	-	-	1399	-	-	510	490	873	506	504	841
Stage 1	-	-	-	-	-	-	801	735	-	760	704	-
Stage 2	-	-	-	-	-	-	744	685	-	780	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1340	-	-	1399	-	-	475	475	873	466	489	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	475	475	-	466	489	-
Stage 1	-	-	-	-	-	-	791	726	-	751	691	-
Stage 2	-	-	-	-	-	-	698	673	-	728	722	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.7	10.9	13.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	657	1340	-	-	1399	-	-	507
HCM Lane V/C Ratio	0.074	0.011	-	-	0.016	-	-	0.172
HCM Control Delay (s)	10.9	7.7	0	-	7.6	0	-	13.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6



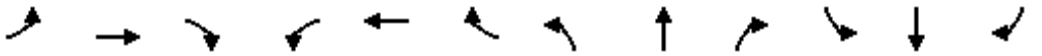
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	38	128	93	51	29	118	507	65	28	686	89
Future Volume (veh/h)	66	38	128	93	51	29	118	507	65	28	686	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	40	135	98	54	31	124	534	68	29	722	94
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	80	270	214	103	39	166	1364	173	60	1173	153
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.09	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1313	375	1267	423	486	185	1781	3172	403	1781	3162	411
Grp Volume(v), veh/h	69	0	175	183	0	0	124	298	304	29	406	410
Grp Sat Flow(s),veh/h/ln	1313	0	1642	1094	0	0	1781	1777	1798	1781	1777	1796
Q Serve(g_s), s	0.0	0.0	4.2	3.5	0.0	0.0	3.0	5.1	5.2	0.7	8.3	8.3
Cycle Q Clear(g_c), s	2.1	0.0	4.2	7.7	0.0	0.0	3.0	5.1	5.2	0.7	8.3	8.3
Prop In Lane	1.00		0.77	0.54		0.17	1.00		0.22	1.00		0.23
Lane Grp Cap(c), veh/h	429	0	349	357	0	0	166	764	773	60	659	666
V/C Ratio(X)	0.16	0.00	0.50	0.51	0.00	0.00	0.75	0.39	0.39	0.48	0.62	0.62
Avail Cap(c_a), veh/h	887	0	922	850	0	0	800	1596	1615	800	1596	1614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	15.4	17.0	0.0	0.0	19.7	8.7	8.7	21.1	11.4	11.4
Incr Delay (d2), s/veh	0.2	0.0	1.1	1.1	0.0	0.0	6.6	0.3	0.3	5.8	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.4	1.7	0.0	0.0	1.4	1.6	1.7	0.4	2.9	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	0.0	16.6	18.1	0.0	0.0	26.3	9.0	9.0	27.0	12.4	12.4
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	B	B
Approach Vol, veh/h		244			183			726			845	
Approach Delay, s/veh		16.1			18.1			12.0			12.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	24.2		14.1	8.8	21.6		14.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.7	7.2		6.2	5.0	10.3		9.7				
Green Ext Time (p_c), s	0.0	4.3		1.2	0.3	6.2		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		13.4	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



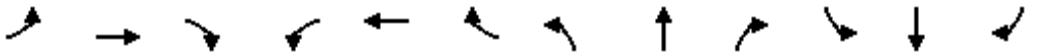
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	86	56	209	103	181	29	435	100	262	645	61
Future Volume (veh/h)	29	86	56	209	103	181	29	435	100	262	645	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	89	58	160	182	187	30	448	103	270	665	63
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	137	157	268	281	528	57	806	184	325	1415	134
Arrive On Green	0.10	0.10	0.10	0.15	0.15	0.15	0.03	0.28	0.28	0.18	0.43	0.43
Sat Flow, veh/h	466	1381	1585	1781	1870	1585	1781	2873	656	1781	3281	310
Grp Volume(v), veh/h	119	0	58	160	182	187	30	276	275	270	360	368
Grp Sat Flow(s),veh/h/ln	1847	0	1585	1781	1870	1585	1781	1777	1752	1781	1777	1814
Q Serve(g_s), s	4.1	0.0	2.3	5.5	6.0	5.9	1.1	8.7	8.8	9.6	9.5	9.5
Cycle Q Clear(g_c), s	4.1	0.0	2.3	5.5	6.0	5.9	1.1	8.7	8.8	9.6	9.5	9.5
Prop In Lane	0.25		1.00	1.00		1.00	1.00		0.37	1.00		0.17
Lane Grp Cap(c), veh/h	184	0	157	268	281	528	57	498	492	325	766	782
V/C Ratio(X)	0.65	0.00	0.37	0.60	0.65	0.35	0.53	0.55	0.56	0.83	0.47	0.47
Avail Cap(c_a), veh/h	701	0	602	676	710	891	541	1619	1597	541	1619	1654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	27.7	26.1	26.3	16.6	31.4	20.2	20.2	25.9	13.4	13.4
Incr Delay (d2), s/veh	3.8	0.0	1.4	2.1	2.5	0.4	7.3	2.0	2.1	5.4	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.9	2.3	2.7	1.9	0.6	3.6	3.6	4.3	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	0.0	29.1	28.2	28.8	17.0	38.7	22.2	22.3	31.4	14.3	14.3
LnGrp LOS	C	A	C	C	C	B	D	C	C	C	B	B
Approach Vol, veh/h		177			529			581			998	
Approach Delay, s/veh		31.3			24.5			23.1			18.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.6	23.6		11.1	6.7	33.5		14.5				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	11.6	10.8		6.1	3.1	11.5		8.0				
Green Ext Time (p_c), s	0.5	7.6		0.7	0.0	10.8		1.9				

Intersection Summary			
HCM 6th Ctrl Delay		22.2	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	604	14	43	684	481	23	44	65	297	5	82
Future Volume (veh/h)	228	604	14	43	684	481	23	44	65	297	5	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	235	623	14	44	705	496	24	45	67	198	156	85
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	2082	47	58	1680	1008	39	73	97	291	186	101
Arrive On Green	0.15	0.59	0.59	0.04	0.63	0.63	0.06	0.06	0.06	0.16	0.16	0.16
Sat Flow, veh/h	1781	3553	80	1781	3554	1585	639	1199	1585	1781	1138	620
Grp Volume(v), veh/h	235	311	326	44	705	496	69	0	67	198	0	241
Grp Sat Flow(s),veh/h/ln	1781	1777	1856	1781	1777	1585	1838	0	1585	1781	0	1759
Q Serve(g_s), s	14.9	10.1	10.1	2.8	11.5	15.8	4.2	0.0	4.8	12.0	0.0	15.3
Cycle Q Clear(g_c), s	14.9	10.1	10.1	2.8	11.5	15.8	4.2	0.0	4.8	12.0	0.0	15.3
Prop In Lane	1.00		0.04	1.00		1.00	0.35		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	260	1041	1088	58	1680	1008	112	0	97	291	0	288
V/C Ratio(X)	0.90	0.30	0.30	0.75	0.42	0.49	0.61	0.00	0.69	0.68	0.00	0.84
Avail Cap(c_a), veh/h	260	1041	1088	107	1680	1008	288	0	248	434	0	428
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.3	12.0	12.0	54.5	13.4	7.4	52.7	0.0	52.9	45.3	0.0	46.6
Incr Delay (d2), s/veh	31.7	0.7	0.7	14.4	0.6	1.4	5.3	0.0	8.5	2.8	0.0	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	3.9	4.1	1.5	4.0	6.7	2.1	0.0	2.1	5.5	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.0	12.7	12.7	68.9	14.0	8.8	58.0	0.0	61.4	48.0	0.0	55.7
LnGrp LOS	E	B	B	E	B	A	E	A	E	D	A	E
Approach Vol, veh/h		872			1245			136			439	
Approach Delay, s/veh		30.8			13.9			59.7			52.2	
Approach LOS		C			B			E			D	

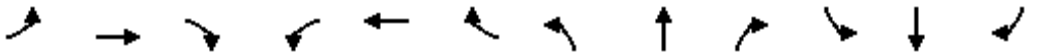
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.5	8.3	71.9		23.3	21.3	58.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	6.9	44.1		28.0	16.8	34.2				
Max Q Clear Time (g_c+I1), s		6.8	4.8	12.1		17.3	16.9	17.8				
Green Ext Time (p_c), s		0.4	0.0	3.9		1.5	0.0	6.0				

Intersection Summary												
HCM 6th Ctrl Delay			27.9									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	732	134	44	851	265	131	79	41	353	119	227
Future Volume (veh/h)	91	732	134	44	851	265	131	79	41	353	119	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	762	140	46	886	276	109	120	43	246	295	236
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1652	303	60	1846	823	159	167	141	302	317	269
Arrive On Green	0.07	0.55	0.55	0.03	0.52	0.52	0.09	0.09	0.09	0.17	0.17	0.17
Sat Flow, veh/h	1781	2997	551	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	95	452	450	46	886	276	109	120	43	246	295	236
Grp Sat Flow(s),veh/h/ln	1781	1777	1771	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.1	17.6	17.6	2.9	18.4	11.7	6.8	7.2	2.9	15.3	17.9	16.7
Cycle Q Clear(g_c), s	6.1	17.6	17.6	2.9	18.4	11.7	6.8	7.2	2.9	15.3	17.9	16.7
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	979	976	60	1846	823	159	167	141	302	317	269
V/C Ratio(X)	0.82	0.46	0.46	0.77	0.48	0.34	0.69	0.72	0.30	0.81	0.93	0.88
Avail Cap(c_a), veh/h	116	979	976	108	1846	823	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	15.5	15.5	55.1	17.7	16.1	50.8	51.0	49.0	46.0	47.1	46.6
Incr Delay (d2), s/veh	32.7	1.4	1.4	18.6	0.9	1.1	5.1	5.7	1.2	15.6	32.9	26.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	7.1	7.0	1.6	7.3	4.3	3.3	3.6	1.2	8.1	11.2	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.7	17.0	17.0	73.8	18.6	17.2	55.9	56.7	50.2	61.6	80.0	72.9
LnGrp LOS	F	B	B	E	B	B	E	E	D	E	E	E
Approach Vol, veh/h		997			1208			272			777	
Approach Delay, s/veh		23.5			20.4			55.4			72.0	
Approach LOS		C			C			E			E	

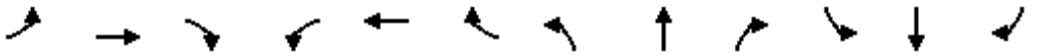
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.8	8.3	67.9		24.0	12.0	64.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	7.0	36.5		19.5	7.5	36.0				
Max Q Clear Time (g_c+I1), s		9.2	4.9	19.6		19.9	8.1	20.4				
Green Ext Time (p_c), s		1.1	0.0	5.1		0.0	0.0	6.2				

Intersection Summary												
HCM 6th Ctrl Delay			36.6									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	56	30	186	37	251	10	229	46	253	529	45
Future Volume (veh/h)	22	56	30	186	37	251	10	229	46	253	529	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	60	32	198	39	267	11	244	49	269	563	48
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	153	130	284	56	595	25	698	138	331	1352	115
Arrive On Green	0.08	0.08	0.08	0.19	0.19	0.19	0.01	0.24	0.24	0.19	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	1500	295	1585	1781	2958	584	1781	3314	282
Grp Volume(v), veh/h	23	60	32	237	0	267	11	145	148	269	301	310
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1795	0	1585	1781	1777	1765	1781	1777	1820
Q Serve(g_s), s	0.8	1.9	1.2	7.8	0.0	8.0	0.4	4.3	4.4	9.2	7.7	7.7
Cycle Q Clear(g_c), s	0.8	1.9	1.2	7.8	0.0	8.0	0.4	4.3	4.4	9.2	7.7	7.7
Prop In Lane	1.00		1.00	0.84		1.00	1.00		0.33	1.00		0.15
Lane Grp Cap(c), veh/h	146	153	130	340	0	595	25	419	416	331	725	742
V/C Ratio(X)	0.16	0.39	0.25	0.70	0.00	0.45	0.44	0.35	0.36	0.81	0.42	0.42
Avail Cap(c_a), veh/h	560	588	499	706	0	918	560	1118	1110	840	1118	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	27.7	27.3	24.1	0.0	14.9	31.1	20.2	20.3	24.8	13.4	13.4
Incr Delay (d2), s/veh	0.5	1.6	1.0	2.6	0.0	0.5	12.0	0.5	0.5	4.8	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.5	3.3	0.0	2.6	0.2	1.7	1.7	4.0	2.7	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	29.3	28.3	26.6	0.0	15.4	43.1	20.7	20.8	29.6	13.8	13.8
LnGrp LOS	C	C	C	C	A	B	D	C	C	C	B	B
Approach Vol, veh/h		115			504			304			880	
Approach Delay, s/veh		28.7			20.7			21.5			18.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.5	20.1		9.8	5.6	31.0		17.2				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	11.2	6.4		3.9	2.4	9.7		10.0				
Green Ext Time (p_c), s	0.7	1.7		0.3	0.0	3.9		2.0				

Intersection Summary			
HCM 6th Ctrl Delay		20.3	
HCM 6th LOS		C	

Notes

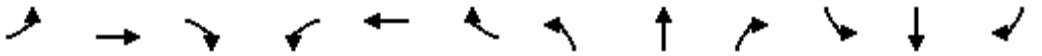
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Future Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	0	13	0	34	0	27	21	18	2	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	6.9	7	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	27%	89%
Vol Thru, %	56%	0%	0%	11%
Vol Right, %	44%	0%	73%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	15	44	19
LT Vol	0	15	12	17
Through Vol	25	0	0	2
RT Vol	20	0	32	0
Lane Flow Rate	48	16	47	20
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.019	0.048	0.024
Departure Headway (Hd)	3.792	4.289	3.683	4.259
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	944	834	970	840
Service Time	1.818	2.32	1.712	2.287
HCM Lane V/C Ratio	0.051	0.019	0.048	0.024
HCM Control Delay	7	7.4	6.9	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.2	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	12	33	6	23	46	31	558	14	18	800	69
Future Volume (veh/h)	121	12	33	6	23	46	31	558	14	18	800	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	13	35	6	24	49	33	594	15	19	851	73
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	22	255	124	91	166	70	1461	37	43	1286	110
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.41	0.41	0.02	0.39	0.39
Sat Flow, veh/h	1347	136	1585	62	569	1031	1781	3542	89	1781	3312	284
Grp Volume(v), veh/h	142	0	35	79	0	0	33	298	311	19	457	467
Grp Sat Flow(s),veh/h/ln	1483	0	1585	1661	0	0	1781	1777	1854	1781	1777	1819
Q Serve(g_s), s	1.2	0.0	0.6	0.0	0.0	0.0	0.6	4.0	4.0	0.4	7.2	7.2
Cycle Q Clear(g_c), s	2.8	0.0	0.6	1.4	0.0	0.0	0.6	4.0	4.0	0.4	7.2	7.2
Prop In Lane	0.91		1.00	0.08		0.62	1.00		0.05	1.00		0.16
Lane Grp Cap(c), veh/h	440	0	255	381	0	0	70	733	765	43	690	707
V/C Ratio(X)	0.32	0.00	0.14	0.21	0.00	0.00	0.47	0.41	0.41	0.44	0.66	0.66
Avail Cap(c_a), veh/h	943	0	839	985	0	0	262	940	981	278	940	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	12.3	12.6	0.0	0.0	16.0	7.1	7.1	16.4	8.6	8.6
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.3	0.0	0.0	4.8	0.4	0.3	7.0	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.4	0.0	0.0	0.3	1.1	1.1	0.2	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	0.0	12.5	12.8	0.0	0.0	20.8	7.4	7.4	23.3	9.7	9.6
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		177			79			642			943	
Approach Delay, s/veh		13.3			12.8			8.1			9.9	
Approach LOS		B			B			A			A	

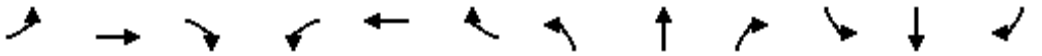
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	19.0		10.0	5.8	18.2		10.0				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.4	6.0		4.8	2.6	9.2		3.4				
Green Ext Time (p_c), s	0.0	3.1		0.7	0.0	4.0		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		9.7	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

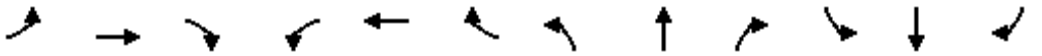
NEAR TERM (2030)
WITH PROJECT
PM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	31	25	31	37	70	21	984	57	39	941	24
Future Volume (veh/h)	28	31	25	31	37	70	21	984	57	39	941	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	33	27	33	39	74	22	1047	61	41	1001	26
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	124	101	291	75	143	97	2157	124	123	2151	55
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1280	952	779	1343	577	1096	23	3271	188	58	3262	83
Grp Volume(v), veh/h	30	0	60	33	0	113	589	0	541	540	0	528
Grp Sat Flow(s),veh/h/ln	1280	0	1730	1343	0	1673	1814	0	1668	1715	0	1687
Q Serve(g_s), s	1.0	0.0	1.4	1.0	0.0	2.9	0.0	0.0	7.4	0.0	0.0	7.1
Cycle Q Clear(g_c), s	3.9	0.0	1.4	2.5	0.0	2.9	7.2	0.0	7.4	6.3	0.0	7.1
Prop In Lane	1.00		0.45	1.00		0.65	0.04		0.11	0.08		0.05
Lane Grp Cap(c), veh/h	244	0	225	291	0	218	1278	0	1100	1216	0	1113
V/C Ratio(X)	0.12	0.00	0.27	0.11	0.00	0.52	0.46	0.00	0.49	0.44	0.00	0.47
Avail Cap(c_a), veh/h	918	0	1137	998	0	1100	1650	0	1462	1553	0	1478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	17.9	19.0	0.0	18.5	3.9	0.0	3.9	3.7	0.0	3.8
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.2	0.0	1.9	0.9	0.0	1.2	0.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.5	0.3	0.0	1.1	1.8	0.0	1.7	1.6	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	18.5	19.2	0.0	20.4	4.8	0.0	5.1	4.6	0.0	5.0
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h		90			146			1130			1068	
Approach Delay, s/veh		19.2			20.1			5.0			4.8	
Approach LOS		B			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.1		10.5		35.1		10.5				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		9.4		5.9		9.1		4.9				
Green Ext Time (p_c), s		20.7		0.4		19.9		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			6.3									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	32	45	38	32	84	35	1023	76	105	815	78
Future Volume (veh/h)	41	32	45	38	32	84	35	1023	76	105	815	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	34	48	40	34	89	37	1088	81	112	867	83
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	105	148	287	69	179	108	2064	151	216	1563	151
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1268	702	990	1316	457	1197	47	3150	231	190	2386	230
Grp Volume(v), veh/h	44	0	82	40	0	123	624	0	582	463	0	599
Grp Sat Flow(s),veh/h/ln	1268	0	1692	1316	0	1655	1768	0	1660	1146	0	1661
Q Serve(g_s), s	1.6	0.0	2.1	1.4	0.0	3.4	0.0	0.0	9.2	2.2	0.0	9.6
Cycle Q Clear(g_c), s	5.0	0.0	2.1	3.5	0.0	3.4	8.5	0.0	9.2	11.3	0.0	9.6
Prop In Lane	1.00		0.59	1.00		0.72	0.06		0.14	0.24		0.14
Lane Grp Cap(c), veh/h	250	0	254	287	0	248	1236	0	1088	842	0	1088
V/C Ratio(X)	0.18	0.00	0.32	0.14	0.00	0.50	0.50	0.00	0.54	0.55	0.00	0.55
Avail Cap(c_a), veh/h	832	0	1031	891	0	1008	1497	0	1349	1015	0	1349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	18.7	20.3	0.0	19.2	4.4	0.0	4.5	4.0	0.0	4.6
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.2	0.0	1.5	1.2	0.0	1.5	2.0	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.8	0.4	0.0	1.3	2.3	0.0	2.3	1.7	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	19.4	20.5	0.0	20.8	5.6	0.0	6.0	6.1	0.0	6.2
LnGrp LOS	C	A	B	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		126			163			1206			1062	
Approach Delay, s/veh		20.3			20.7			5.8			6.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.3		12.0		37.3		12.0				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		11.2		7.0		13.3		5.5				
Green Ext Time (p_c), s		21.1		0.5		18.7		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			7.6									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	440	17	0	0	0	0	22	37	36	45	0
Future Vol, veh/h	117	440	17	0	0	0	0	22	37	36	45	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	124	468	18	0	0	0	0	23	39	38	48	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	11.8	8.5	9.2
HCM LOS	B	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	35%	0%	44%
Vol Thru, %	37%	65%	93%	56%
Vol Right, %	63%	0%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	337	237	81
LT Vol	0	117	0	36
Through Vol	22	220	220	45
RT Vol	37	0	17	0
Lane Flow Rate	63	359	252	86
Geometry Grp	2	5	5	2
Degree of Util (X)	0.087	0.507	0.341	0.129
Departure Headway (Hd)	4.98	5.092	4.868	5.404
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	706	739	664
Service Time	3.015	2.825	2.6	3.438
HCM Lane V/C Ratio	0.088	0.508	0.341	0.13
HCM Control Delay	8.5	13	10.1	9.2
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.3	2.9	1.5	0.4

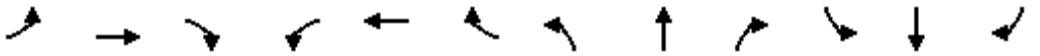
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	229	271	21	6	0	4	0	8	8	0	0	0
Future Vol, veh/h	229	271	21	6	0	4	0	8	8	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	244	288	22	6	0	4	0	9	9	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	787	299
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	324	741
Stage 1	-	-	-	0	403	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	741
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		10
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	741	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-
HCM Control Delay (s)	10	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



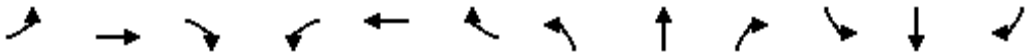
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	218	74	131	234	193	62	58	73	46	72	44
Future Volume (veh/h)	40	218	74	131	234	193	62	58	73	46	72	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	248	84	149	266	219	70	66	83	52	82	50
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	563	641	212	702	650	517	294	235	387	184	220	109
Arrive On Green	0.10	0.24	0.24	0.20	0.35	0.35	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	2624	867	1781	1882	1496	658	964	1585	293	902	446
Grp Volume(v), veh/h	45	166	166	149	251	234	136	0	83	184	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1714	1781	1777	1601	1622	0	1585	1641	0	0
Q Serve(g_s), s	0.7	3.2	3.3	1.9	4.4	4.6	0.0	0.0	1.7	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.7	3.2	3.3	1.9	4.4	4.6	2.4	0.0	1.7	3.6	0.0	0.0
Prop In Lane	1.00		0.51	1.00		0.93	0.51		1.00	0.28		0.27
Lane Grp Cap(c), veh/h	563	434	418	702	614	553	529	0	387	513	0	0
V/C Ratio(X)	0.08	0.38	0.40	0.21	0.41	0.42	0.26	0.00	0.21	0.36	0.00	0.00
Avail Cap(c_a), veh/h	823	1301	1255	781	1301	1172	1113	0	1006	1240	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	12.9	13.0	6.2	10.2	10.3	12.6	0.0	12.3	13.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.1	0.2	0.2	0.4	0.0	0.4	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.1	1.1	0.5	1.4	1.3	0.9	0.0	0.5	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	13.1	13.2	6.2	10.4	10.5	13.0	0.0	12.7	13.7	0.0	0.0
LnGrp LOS	A	B	B	A	B	B	B	A	B	B	A	A
Approach Vol, veh/h		377			634			219			184	
Approach Delay, s/veh		12.7			9.4			12.9			13.7	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.2	14.6		14.2	8.0	18.8		14.2				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.9	5.3		5.6	2.7	6.6		4.4				
Green Ext Time (p_c), s	0.1	1.3		1.5	0.0	2.0		1.4				

Intersection Summary			
HCM 6th Ctrl Delay		11.4	
HCM 6th LOS		B	

Notes

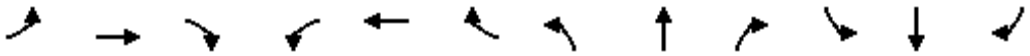
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	0	163	356	265	164	85	845	0	0	739	198
Future Volume (veh/h)	161	0	163	356	265	164	85	845	0	0	739	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	177	0	179	391	291	180	93	929	0	0	812	218
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	247	0	219	412	494	297	119	1746	0	0	1058	284
Arrive On Green	0.14	0.00	0.14	0.23	0.23	0.23	0.07	0.49	0.00	0.00	0.38	0.38
Sat Flow, veh/h	1781	0	1585	1781	2133	1283	1781	3647	0	0	2863	744
Grp Volume(v), veh/h	177	0	179	391	241	230	93	929	0	0	521	509
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1639	1781	1777	0	0	1777	1737
Q Serve(g_s), s	10.3	0.0	11.8	23.3	13.0	13.5	5.6	19.4	0.0	0.0	27.7	27.7
Cycle Q Clear(g_c), s	10.3	0.0	11.8	23.3	13.0	13.5	5.6	19.4	0.0	0.0	27.7	27.7
Prop In Lane	1.00		1.00	1.00		0.78	1.00		0.00	0.00		0.43
Lane Grp Cap(c), veh/h	247	0	219	412	411	379	119	1746	0	0	679	663
V/C Ratio(X)	0.72	0.00	0.82	0.95	0.59	0.61	0.78	0.53	0.00	0.00	0.77	0.77
Avail Cap(c_a), veh/h	379	0	338	412	411	379	247	1746	0	0	679	663
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	0.91	0.91	0.91	0.71	0.71	0.00	0.00	0.81	0.81
Uniform Delay (d), s/veh	44.5	0.0	45.2	40.9	36.9	37.1	49.6	18.9	0.0	0.0	29.2	29.2
Incr Delay (d2), s/veh	3.7	0.0	8.3	30.7	4.5	5.4	7.8	0.8	0.0	0.0	6.7	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	5.1	13.6	6.1	6.0	2.7	8.1	0.0	0.0	13.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	0.0	53.5	71.6	41.4	42.5	57.5	19.8	0.0	0.0	35.8	36.0
LnGrp LOS	D	A	D	E	D	D	E	B	A	A	D	D
Approach Vol, veh/h		356			862			1022			1030	
Approach Delay, s/veh		50.9			55.4			23.2			35.9	
Approach LOS		D			E			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		58.0		20.0	11.8	46.3		30.0				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		21.4		13.8	7.6	29.7		25.3				
Green Ext Time (p_c), s		5.8		1.1	0.1	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			38.7									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	58	712	52	18	121	0	0	29	23
Future Volume (veh/h)	0	0	0	58	712	52	18	121	0	0	29	23
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				62	757	55	19	129	0	0	31	24
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				120	1530	117	172	285	0	0	167	129
Arrive On Green				0.48	0.48	0.48	0.17	0.17	0.00	0.00	0.17	0.17
Sat Flow, veh/h				250	3191	243	148	1665	0	0	977	757
Grp Volume(v), veh/h				461	0	413	148	0	0	0	0	55
Grp Sat Flow(s),veh/h/ln				1858	0	1827	1813	0	0	0	0	1734
Q Serve(g_s), s				4.8	0.0	4.2	0.3	0.0	0.0	0.0	0.0	0.8
Cycle Q Clear(g_c), s				4.8	0.0	4.2	2.0	0.0	0.0	0.0	0.0	0.8
Prop In Lane				0.13		0.13	0.13		0.00	0.00		0.44
Lane Grp Cap(c), veh/h				891	0	876	456	0	0	0	0	297
V/C Ratio(X)				0.52	0.00	0.47	0.32	0.00	0.00	0.00	0.00	0.19
Avail Cap(c_a), veh/h				2678	0	2633	1307	0	0	0	0	1125
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				5.0	0.0	4.9	10.4	0.0	0.0	0.0	0.0	9.8
Incr Delay (d2), s/veh				0.5	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				5.5	0.0	5.3	10.8	0.0	0.0	0.0	0.0	10.1
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					874			148			55	
Approach Delay, s/veh					5.4			10.8			10.1	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				9.3		18.4		9.3				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.8		6.8		4.0				
Green Ext Time (p_c), s				0.2		6.5		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		6.4
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	89	804	5	33	11	0	0	64	11
Future Vol, veh/h	0	0	0	89	804	5	33	11	0	0	64	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	106	957	6	39	13	0	0	76	13

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	729	1175	-	-	1172	482
Stage 1	-	-	-	0	0	-	-	1172	-
Stage 2	-	-	-	729	1175	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	311	190	0	0	191	530
Stage 1	-	-	-	-	-	0	0	264	-
Stage 2	-	-	-	380	264	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	209	190	-	-	191	530
Mov Cap-2 Maneuver	-	-	-	209	190	-	-	191	-
Stage 1	-	-	-	-	-	-	-	264	-
Stage 2	-	-	-	264	264	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		28.6	34
HCM LOS		D	D

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	204	-	-	-	211
HCM Lane V/C Ratio	0.257	-	-	-	0.423
HCM Control Delay (s)	28.6	-	-	-	34
HCM Lane LOS	D	-	-	-	D
HCM 95th %tile Q(veh)	1	-	-	-	2

Intersection	
Int Delay, s/veh	0.5

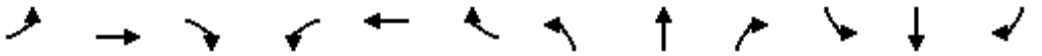
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	854	69	3	0	156	0	0	37
Future Vol, veh/h	0	0	0	0	854	69	3	0	156	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	1054	85	4	0	193	0	0	46

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	570
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	465
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	465
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	13.6
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	465
HCM Lane V/C Ratio	-	-	0.098
HCM Control Delay (s)	-	-	13.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	160	1	201	833	274	63	62	410	599	54	18
Future Volume (veh/h)	3	160	1	201	833	274	63	62	410	599	54	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	198	1	248	1028	338	78	77	506	808	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	818	4	224	1175	830	270	266	465	688	361	0
Arrive On Green	0.02	0.23	0.23	0.13	0.33	0.33	0.29	0.29	0.29	0.19	0.00	0.00
Sat Flow, veh/h	1781	3626	18	1781	3554	1585	918	906	1585	3563	1870	0
Grp Volume(v), veh/h	4	97	102	248	1028	338	155	0	506	808	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1585	1824	0	1585	1781	1870	0
Q Serve(g_s), s	0.3	5.3	5.3	15.0	32.5	15.4	7.8	0.0	35.0	23.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	5.3	5.3	15.0	32.5	15.4	7.8	0.0	35.0	23.0	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.50		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	37	401	421	224	1175	830	536	0	465	688	361	0
V/C Ratio(X)	0.11	0.24	0.24	1.11	0.88	0.41	0.29	0.00	1.09	1.18	0.00	0.00
Avail Cap(c_a), veh/h	448	596	627	224	1193	838	536	0	465	688	361	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	57.3	37.8	37.8	52.1	37.6	17.2	32.5	0.0	42.1	48.1	0.0	0.0
Incr Delay (d2), s/veh	0.9	1.4	1.4	91.5	8.7	1.2	0.4	0.0	67.3	93.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.6	12.4	15.4	8.6	3.6	0.0	22.4	19.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	39.2	39.2	143.6	46.3	18.4	32.9	0.0	109.4	141.7	0.0	0.0
LnGrp LOS	E	D	D	F	D	B	C	A	F	F	A	A
Approach Vol, veh/h		203			1614			661			808	
Approach Delay, s/veh		39.6			55.4			91.4			141.7	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	32.3		27.6	7.2	44.8		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	7.3		25.0	2.3	34.5		37.0				
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	4.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		82.9
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	89	0	29	144	138	0	17	56	129	32	120
Future Vol, veh/h	31	89	0	29	144	138	0	17	56	129	32	120
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	95	0	31	153	147	0	18	60	137	34	128
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	9.7	12.3	8.9	11.9
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	9%	46%
Vol Thru, %	23%	0%	100%	46%	11%
Vol Right, %	77%	0%	0%	44%	43%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	31	89	311	281
LT Vol	0	31	0	29	129
Through Vol	17	0	89	144	32
RT Vol	56	0	0	138	120
Lane Flow Rate	78	33	95	331	299
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.112	0.059	0.157	0.461	0.426
Departure Headway (Hd)	5.179	6.466	5.958	5.012	5.136
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	690	554	602	718	705
Service Time	3.221	4.204	3.696	3.042	3.136
HCM Lane V/C Ratio	0.113	0.06	0.158	0.461	0.424
HCM Control Delay	8.9	9.6	9.8	12.3	11.9
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.4	0.2	0.6	2.4	2.1

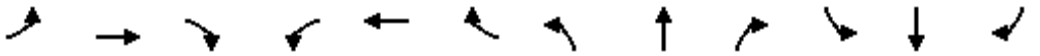
Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	244	37	78	273	63	83
Future Vol, veh/h	244	37	78	273	63	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	280	43	90	314	72	95

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	323	0	796	302
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	494	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1237	-	356	738
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	613	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1237	-	325	738
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	559	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	477	-	-	1237	-
HCM Lane V/C Ratio	0.352	-	-	0.072	-
HCM Control Delay (s)	16.6	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	175	82	0	0	0	130	778	242	129	731	380
Future Volume (veh/h)	153	175	82	0	0	0	130	778	242	129	731	380
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	161	184	86				137	819	255	136	769	400
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	352	238	111				143	1389	432	171	1212	628
Arrive On Green	0.20	0.20	0.20				0.08	0.52	0.52	0.10	0.54	0.54
Sat Flow, veh/h	1781	1206	563				1781	2668	830	1781	2263	1173
Grp Volume(v), veh/h	161	0	270				137	545	529	136	603	566
Grp Sat Flow(s),veh/h/ln	1781	0	1769				1781	1777	1721	1781	1777	1659
Q Serve(g_s), s	5.7	0.0	10.4				5.5	15.3	15.3	5.4	17.2	17.3
Cycle Q Clear(g_c), s	5.7	0.0	10.4				5.5	15.3	15.3	5.4	17.2	17.3
Prop In Lane	1.00		0.32				1.00		0.48	1.00		0.71
Lane Grp Cap(c), veh/h	352	0	349				143	925	896	171	952	889
V/C Ratio(X)	0.46	0.00	0.77				0.95	0.59	0.59	0.80	0.63	0.64
Avail Cap(c_a), veh/h	668	0	663				143	925	896	178	952	889
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.30	0.30	0.30
Uniform Delay (d), s/veh	25.5	0.0	27.4				33.0	11.9	11.9	31.9	11.7	11.8
Incr Delay (d2), s/veh	0.9	0.0	3.6				61.3	2.8	2.8	7.3	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	4.5				4.8	6.2	6.0	2.6	6.3	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	0.0	31.0				94.3	14.7	14.8	39.1	12.7	12.8
LnGrp LOS	C	A	C				F	B	B	D	B	B
Approach Vol, veh/h		431						1211			1305	
Approach Delay, s/veh		29.3						23.7			15.5	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	11.1	42.5		18.4	10.0	43.6
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	7.4	17.3		12.4	7.5	19.3
Green Ext Time (p_c), s	0.0	5.2		1.8	0.0	5.0

Intersection Summary		
HCM 6th Ctrl Delay		20.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	34	1002	16	9	952
Future Vol, veh/h	9	34	1002	16	9	952
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	35	1022	16	9	971

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1534	519	0	0	1038	0
Stage 1	1030	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	107	502	-	-	665	-
Stage 1	305	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	104	502	-	-	665	-
Mov Cap-2 Maneuver	104	-	-	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	555	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	279	665	-
HCM Lane V/C Ratio	-	-	0.157	0.014	-
HCM Control Delay (s)	-	-	20.3	10.5	0.1
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	17	129	17	16	87
Future Vol, veh/h	41	17	129	17	16	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	19	145	19	18	98

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	289	155	0	0	164	0
Stage 1	155	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	702	891	-	-	1414	-
Stage 1	873	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	693	891	-	-	1414	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	741	1414	-
HCM Lane V/C Ratio	-	-	0.088	0.013	-
HCM Control Delay (s)	-	-	10.3	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	11	17	1000	904	59
Future Vol, veh/h	12	11	17	1000	904	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	12	18	1064	962	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1562	513	1025	0	-	0
Stage 1	994	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	103	506	673	-	-	-
Stage 1	319	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	96	506	673	-	-	-
Mov Cap-2 Maneuver	96	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	530	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.1	0.5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	673	-	157	-	-
HCM Lane V/C Ratio	0.027	-	0.156	-	-
HCM Control Delay (s)	10.5	0.3	32.1	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	68	73	116	104	52
Future Vol, veh/h	3	68	73	116	104	52
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	82	88	140	125	63
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.8	9	8.3
HCM LOS	A	A	A

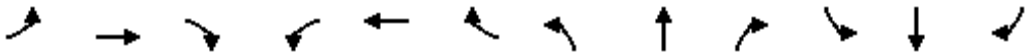
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	39%	4%	0%
Vol Thru, %	61%	0%	67%
Vol Right, %	0%	96%	33%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	189	71	156
LT Vol	73	3	0
Through Vol	116	0	104
RT Vol	0	68	52
Lane Flow Rate	228	86	188
Geometry Grp	1	1	1
Degree of Util (X)	0.272	0.101	0.217
Departure Headway (Hd)	4.306	4.27	4.162
Convergence, Y/N	Yes	Yes	Yes
Cap	822	843	866
Service Time	2.401	2.278	2.171
HCM Lane V/C Ratio	0.277	0.102	0.217
HCM Control Delay	9	7.8	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.3	0.8

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	93	11	12	57	70	13	92	17	68	79	18
Future Vol, veh/h	33	93	11	12	57	70	13	92	17	68	79	18
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	102	12	13	63	77	14	101	19	75	87	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	8.8	8.9	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	24%	9%	41%
Vol Thru, %	75%	68%	41%	48%
Vol Right, %	14%	8%	50%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	137	139	165
LT Vol	13	33	12	68
Through Vol	92	93	57	79
RT Vol	17	11	70	18
Lane Flow Rate	134	151	153	181
Geometry Grp	1	1	1	1
Degree of Util (X)	0.179	0.204	0.195	0.244
Departure Headway (Hd)	4.82	4.883	4.604	4.836
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	740	732	774	738
Service Time	2.881	2.94	2.662	2.893
HCM Lane V/C Ratio	0.181	0.206	0.198	0.245
HCM Control Delay	8.9	9.2	8.8	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.8	0.7	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	27	94	40	19	19	86	887	28	25	713	36
Future Volume (veh/h)	68	27	94	40	19	19	86	887	28	25	713	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	31	107	45	22	22	98	1008	32	28	810	41
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	23	486	92	28	486	164	1529	49	85	1758	88
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	0	75	1585	0	91	1585	181	2799	90	48	3218	160
Grp Volume(v), veh/h	108	0	107	67	0	22	539	0	599	451	0	428
Grp Sat Flow(s),veh/h/ln	75	0	1585	91	0	1585	1384	0	1686	1753	0	1673
Q Serve(g_s), s	0.0	0.0	3.3	0.0	0.0	0.6	8.9	0.0	16.3	0.0	0.0	10.2
Cycle Q Clear(g_c), s	20.0	0.0	3.3	20.0	0.0	0.6	19.1	0.0	16.3	9.4	0.0	10.2
Prop In Lane	0.71		1.00	0.67		1.00	0.18		0.05	0.06		0.10
Lane Grp Cap(c), veh/h	118	0	486	120	0	486	821	0	921	1016	0	914
V/C Ratio(X)	0.92	0.00	0.22	0.56	0.00	0.05	0.66	0.00	0.65	0.44	0.00	0.47
Avail Cap(c_a), veh/h	118	0	486	120	0	486	914	0	1034	1125	0	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	0.0	16.8	24.5	0.0	15.9	10.5	0.0	10.4	8.8	0.0	9.0
Incr Delay (d2), s/veh	58.1	0.0	0.2	5.6	0.0	0.0	3.4	0.0	2.9	1.1	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	1.1	1.2	0.0	0.2	5.7	0.0	5.9	3.6	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	0.0	17.0	30.1	0.0	15.9	13.9	0.0	13.3	10.0	0.0	10.4
LnGrp LOS	F	A	B	C	A	B	B	A	B	A	A	B
Approach Vol, veh/h		215			89			1138			879	
Approach Delay, s/veh		52.0			26.6			13.6			10.2	
Approach LOS		D			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.6		24.6		40.6		24.6				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		21.1		22.0		12.2		22.0				
Green Ext Time (p_c), s		14.6		0.0		15.2		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	2	10	0	0	1	0	8	5	0	0
Future Vol, veh/h	0	1	2	10	0	0	1	0	8	5	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	2	11	0	0	1	0	9	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.6	7.2	6.5	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	100%	100%
Vol Thru, %	0%	33%	0%	0%
Vol Right, %	89%	67%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	3	10	5
LT Vol	1	0	10	5
Through Vol	0	1	0	0
RT Vol	8	2	0	0
Lane Flow Rate	10	3	11	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.009	0.003	0.012	0.006
Departure Headway (Hd)	3.45	3.569	4.164	4.165
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	1042	1008	864	863
Service Time	1.457	1.573	2.166	2.171
HCM Lane V/C Ratio	0.01	0.003	0.013	0.006
HCM Control Delay	6.5	6.6	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0	0

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	24	5	6	30	13	5	100	12	9	72	16
Future Vol, veh/h	10	24	5	6	30	13	5	100	12	9	72	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	29	6	7	37	16	6	122	15	11	88	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	53	0	0	35	0	0	169	123	32	184	118	45
Stage 1	-	-	-	-	-	-	56	56	-	59	59	-
Stage 2	-	-	-	-	-	-	113	67	-	125	59	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1553	-	-	1576	-	-	795	767	1042	777	772	1025
Stage 1	-	-	-	-	-	-	956	848	-	953	846	-
Stage 2	-	-	-	-	-	-	892	839	-	879	846	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1553	-	-	1576	-	-	704	757	1042	665	762	1025
Mov Cap-2 Maneuver	-	-	-	-	-	-	704	757	-	665	762	-
Stage 1	-	-	-	-	-	-	948	841	-	945	842	-
Stage 2	-	-	-	-	-	-	780	835	-	735	839	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.9	10.7	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	776	1553	-	-	1576	-	-	785
HCM Lane V/C Ratio	0.184	0.008	-	-	0.005	-	-	0.151
HCM Control Delay (s)	10.7	7.3	0	-	7.3	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	2.2

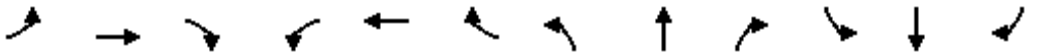
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	9	3	39	10	2	17	25	991	29	12	817	22
Future Vol, veh/h	9	3	39	10	2	17	25	991	29	12	817	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	3	43	11	2	19	28	1101	32	13	908	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1554	2135	466	1655	2131	567	932	0	0	1133	0	0
Stage 1	946	946	-	1173	1173	-	-	-	-	-	-	-
Stage 2	608	1189	-	482	958	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	77	49	543	64	49	467	730	-	-	612	-	-
Stage 1	281	338	-	204	264	-	-	-	-	-	-	-
Stage 2	450	260	-	534	334	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	63	42	543	49	42	467	730	-	-	612	-	-
Mov Cap-2 Maneuver	63	42	-	49	42	-	-	-	-	-	-	-
Stage 1	251	323	-	183	236	-	-	-	-	-	-	-
Stage 2	383	233	-	465	319	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.4	56.5	0.7	0.3
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	730	-	-	178	101	612	-	-
HCM Lane V/C Ratio	0.038	-	-	0.318	0.319	0.022	-	-
HCM Control Delay (s)	10.1	0.5	-	34.4	56.5	11	0.2	-
HCM Lane LOS	B	A	-	D	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	1.2	0.1	-	-

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	11	72	672	25	201	141	424	542	225	456	12
Future Volume (veh/h)	5	11	72	672	25	201	141	424	542	225	456	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	11	0	712	0	0	145	437	0	232	470	12
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	393		1063	0		206	661		284	617	16
Arrive On Green	0.30	0.30	0.00	0.30	0.00	0.00	0.24	0.24	0.00	0.25	0.25	0.25
Sat Flow, veh/h	410	1329	0	2807	0	1585	857	2748	1585	1138	2469	65
Grp Volume(v), veh/h	16	0	0	712	0	0	309	273	0	370	0	344
Grp Sat Flow(s),veh/h/ln	1739	0	0	1404	0	1585	1828	1777	1585	1813	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	14.6	0.0	0.0	9.8	8.7	0.0	12.1	0.0	10.8
Cycle Q Clear(g_c), s	0.4	0.0	0.0	15.0	0.0	0.0	9.8	8.7	0.0	12.1	0.0	10.8
Prop In Lane	0.31		0.00	1.00		1.00	0.47		1.00	0.63		0.03
Lane Grp Cap(c), veh/h	589	0		1063	0		440	428		453	0	464
V/C Ratio(X)	0.03	0.00		0.67	0.00		0.70	0.64		0.82	0.00	0.74
Avail Cap(c_a), veh/h	759	0		1343	0		824	801		516	0	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	0.0	20.9	0.0	0.0	21.9	21.5	0.0	22.3	0.0	21.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	0.0	2.1	1.6	0.0	8.8	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	4.1	0.0	0.0	4.2	3.6	0.0	6.0	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	0.0	21.8	0.0	0.0	24.0	23.1	0.0	31.2	0.0	26.7
LnGrp LOS	B	A		C	A		C	C		C	A	C
Approach Vol, veh/h		16			712			582			714	
Approach Delay, s/veh		15.8			21.8			23.6			29.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.7		23.2		20.3		23.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		11.8		2.4		14.1		17.0				
Green Ext Time (p_c), s		3.4		0.0		1.6		1.7				

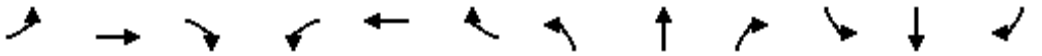
Intersection Summary		
HCM 6th Ctrl Delay	24.8	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	970	9	160	1313	424	11	0	71	365	16	178
Future Volume (veh/h)	0	970	9	160	1313	424	11	0	71	365	16	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1155	11	190	1563	0	13	0	85	449	0	212
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1296	12	232	1967		124	0	111	661	0	294
Arrive On Green	0.00	0.36	0.36	0.13	0.55	0.00	0.07	0.00	0.07	0.19	0.00	0.19
Sat Flow, veh/h	0	3700	34	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	569	597	190	1563	0	13	0	85	449	0	212
Grp Sat Flow(s),veh/h/ln	0	1777	1864	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	21.3	21.3	7.3	24.7	0.0	0.5	0.0	3.7	8.3	0.0	8.9
Cycle Q Clear(g_c), s	0.0	21.3	21.3	7.3	24.7	0.0	0.5	0.0	3.7	8.3	0.0	8.9
Prop In Lane	0.00		0.02	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	638	670	232	1967		124	0	111	661	0	294
V/C Ratio(X)	0.00	0.89	0.89	0.82	0.79		0.10	0.00	0.77	0.68	0.00	0.72
Avail Cap(c_a), veh/h	0	667	700	290	2140		177	0	157	1363	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	21.3	21.3	29.9	12.6	0.0	30.8	0.0	32.3	26.8	0.0	27.0
Incr Delay (d2), s/veh	0.0	13.8	13.3	13.7	2.0	0.0	0.4	0.0	13.5	1.2	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.4	10.8	3.8	8.4	0.0	0.2	0.0	1.8	3.5	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.2	34.6	43.5	14.6	0.0	31.1	0.0	45.7	28.0	0.0	30.4
LnGrp LOS	A	D	C	D	B		C	A	D	C	A	C
Approach Vol, veh/h		1166			1753			98			661	
Approach Delay, s/veh		34.9			17.7			43.8			28.8	
Approach LOS		C			B			D			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		9.4	13.7	29.9		17.6		43.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		7.0	11.5	26.5		27.0		42.5				
Max Q Clear Time (g_c+I1), s		5.7	9.3	23.3		10.9		26.7				
Green Ext Time (p_c), s		0.0	0.1	2.1		2.2		10.1				

Intersection Summary												
HCM 6th Ctrl Delay			25.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

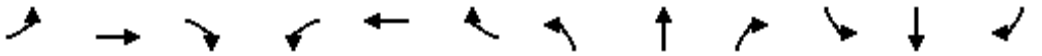
Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	252	13	28	199	84	29	19	35	81	35	22
Future Vol, veh/h	17	252	13	28	199	84	29	19	35	81	35	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	265	14	29	209	88	31	20	37	85	37	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	297	0	0	279	0	0	649	663	272	648	626	253
Stage 1	-	-	-	-	-	-	308	308	-	311	311	-
Stage 2	-	-	-	-	-	-	341	355	-	337	315	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1264	-	-	1284	-	-	383	382	767	383	401	786
Stage 1	-	-	-	-	-	-	702	660	-	699	658	-
Stage 2	-	-	-	-	-	-	674	630	-	677	656	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1264	-	-	1284	-	-	333	365	767	338	383	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	365	-	338	383	-
Stage 1	-	-	-	-	-	-	690	649	-	687	640	-
Stage 2	-	-	-	-	-	-	600	613	-	614	645	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	14.9	20
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	449	1264	-	-	1284	-	-	384
HCM Lane V/C Ratio	0.195	0.014	-	-	0.023	-	-	0.378
HCM Control Delay (s)	14.9	7.9	0	-	7.9	0	-	20
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	1.7



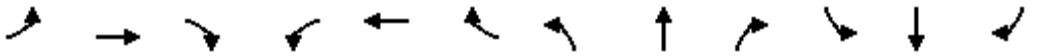
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	86	149	87	52	26	187	1034	76	41	636	69
Future Volume (veh/h)	132	86	149	87	52	26	187	1034	76	41	636	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	91	157	92	55	27	197	1088	80	43	669	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	150	259	179	97	33	254	1536	113	77	1158	126
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.14	0.46	0.46	0.04	0.36	0.36
Sat Flow, veh/h	1316	616	1063	333	397	134	1781	3356	247	1781	3232	352
Grp Volume(v), veh/h	139	0	248	174	0	0	197	576	592	43	368	374
Grp Sat Flow(s),veh/h/ln	1316	0	1679	865	0	0	1781	1777	1826	1781	1777	1807
Q Serve(g_s), s	0.0	0.0	7.4	4.6	0.0	0.0	6.0	14.7	14.7	1.3	9.5	9.5
Cycle Q Clear(g_c), s	6.3	0.0	7.4	12.0	0.0	0.0	6.0	14.7	14.7	1.3	9.5	9.5
Prop In Lane	1.00		0.63	0.53		0.16	1.00		0.14	1.00		0.19
Lane Grp Cap(c), veh/h	397	0	410	308	0	0	254	813	836	77	637	648
V/C Ratio(X)	0.35	0.00	0.61	0.56	0.00	0.00	0.78	0.71	0.71	0.56	0.58	0.58
Avail Cap(c_a), veh/h	659	0	743	579	0	0	631	1258	1293	631	1258	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	18.9	21.4	0.0	0.0	23.3	12.3	12.3	26.5	14.7	14.7
Incr Delay (d2), s/veh	0.5	0.0	1.4	1.6	0.0	0.0	5.0	1.1	1.1	6.1	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	2.8	2.2	0.0	0.0	2.7	5.2	5.4	0.7	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	0.0	20.4	23.0	0.0	0.0	28.4	13.4	13.4	32.6	15.5	15.5
LnGrp LOS	B	A	C	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		387			174			1365			785	
Approach Delay, s/veh		19.9			23.0			15.6			16.4	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	31.0		18.4	12.8	25.3		18.4				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	3.3	16.7		9.4	8.0	11.5		14.0				
Green Ext Time (p_c), s	0.1	9.2		1.7	0.4	5.4		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		16.9	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	149	47	239	146	401	52	806	159	274	624	36
Future Volume (veh/h)	60	149	47	239	146	401	52	806	159	274	624	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	154	48	198	217	413	54	831	164	282	643	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	180	217	347	365	556	70	1079	213	278	1644	95
Arrive On Green	0.14	0.14	0.14	0.20	0.20	0.20	0.04	0.36	0.36	0.16	0.48	0.48
Sat Flow, veh/h	529	1315	1585	1781	1870	1585	1781	2958	584	1781	3415	196
Grp Volume(v), veh/h	216	0	48	198	217	413	54	499	496	282	334	346
Grp Sat Flow(s),veh/h/ln	1844	0	1585	1781	1870	1585	1781	1777	1765	1781	1777	1835
Q Serve(g_s), s	14.7	0.0	3.5	12.9	13.5	25.0	3.8	31.8	31.8	20.0	15.4	15.4
Cycle Q Clear(g_c), s	14.7	0.0	3.5	12.9	13.5	25.0	3.8	31.8	31.8	20.0	15.4	15.4
Prop In Lane	0.29		1.00	1.00		1.00	1.00		0.33	1.00		0.11
Lane Grp Cap(c), veh/h	252	0	217	347	365	556	70	648	644	278	855	883
V/C Ratio(X)	0.86	0.00	0.22	0.57	0.59	0.74	0.77	0.77	0.77	1.01	0.39	0.39
Avail Cap(c_a), veh/h	360	0	309	347	365	556	278	832	826	278	855	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	0.0	49.3	46.7	47.0	36.5	61.0	36.0	36.0	54.1	21.2	21.2
Incr Delay (d2), s/veh	13.3	0.0	0.5	2.2	2.6	5.3	15.9	5.0	5.1	57.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	1.4	5.9	6.5	11.9	2.0	14.5	14.4	13.3	6.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	0.0	49.8	48.9	49.6	41.8	76.9	41.0	41.0	111.9	21.8	21.8
LnGrp LOS	E	A	D	D	D	D	E	D	D	F	C	C
Approach Vol, veh/h		264			828			1049			962	
Approach Delay, s/veh		64.2			45.5			42.9			48.2	
Approach LOS		E			D			D			D	

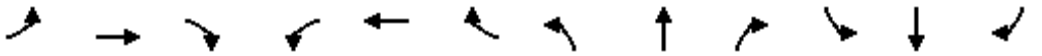
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.6	51.9		22.1	9.7	66.8		29.6				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	22.0	33.8		16.7	5.8	17.4		27.0				
Green Ext Time (p_c), s	0.0	13.0		0.8	0.1	9.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		47.1	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	631	16	94	938	390	19	13	44	437	15	77
Future Volume (veh/h)	205	631	16	94	938	390	19	13	44	437	15	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	651	16	97	967	402	20	13	45	535	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	1975	49	120	1744	1056	47	31	68	626	328	0
Arrive On Green	0.13	0.56	0.56	0.14	0.98	0.98	0.04	0.04	0.04	0.18	0.00	0.00
Sat Flow, veh/h	1781	3544	87	1781	3554	1585	1100	715	1585	3563	1870	0
Grp Volume(v), veh/h	211	326	341	97	967	402	33	0	45	535	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1781	1777	1585	1815	0	1585	1781	1870	0
Q Serve(g_s), s	13.4	11.4	11.5	6.1	1.3	0.7	2.0	0.0	3.2	16.8	0.0	0.0
Cycle Q Clear(g_c), s	13.4	11.4	11.5	6.1	1.3	0.7	2.0	0.0	3.2	16.8	0.0	0.0
Prop In Lane	1.00		0.05	1.00		1.00	0.61		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	239	990	1034	120	1744	1056	78	0	68	626	328	0
V/C Ratio(X)	0.88	0.33	0.33	0.81	0.55	0.38	0.42	0.00	0.66	0.86	0.00	0.00
Avail Cap(c_a), veh/h	256	990	1034	192	1744	1056	284	0	248	867	455	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	48.9	13.8	13.8	49.0	0.6	0.2	53.6	0.0	54.2	46.0	0.0	0.0
Incr Delay (d2), s/veh	27.2	0.9	0.9	8.2	0.8	0.7	3.6	0.0	10.4	6.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	4.6	4.8	2.8	0.4	0.4	1.0	0.0	1.5	7.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.1	14.7	14.7	57.2	1.4	0.9	57.2	0.0	64.6	52.2	0.0	0.0
LnGrp LOS	E	B	B	E	A	A	E	A	E	D	A	A
Approach Vol, veh/h		878			1466			78			535	
Approach Delay, s/veh		29.4			5.0			61.5			52.2	
Approach LOS		C			A			E			D	

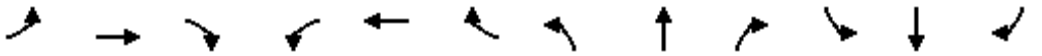
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.4	12.3	68.6		24.7	19.9	60.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	12.4	38.6		28.0	16.5	34.5				
Max Q Clear Time (g_c+I1), s		5.2	8.1	13.5		18.8	15.4	3.3				
Green Ext Time (p_c), s		0.2	0.1	3.9		1.4	0.1	9.5				

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	923	136	50	859	240	118	66	72	683	116	428
Future Volume (veh/h)	69	923	136	50	859	240	118	66	72	683	116	428
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	961	142	52	895	250	96	107	75	797	0	446
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1666	246	67	1885	841	147	154	131	666	0	296
Arrive On Green	0.04	0.54	0.54	0.04	0.53	0.53	0.08	0.08	0.08	0.19	0.00	0.19
Sat Flow, veh/h	1781	3106	459	1781	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	72	550	553	52	895	250	96	107	75	797	0	446
Grp Sat Flow(s),veh/h/ln	1781	1777	1788	1781	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	4.6	23.9	23.9	3.3	18.2	10.1	6.0	6.4	5.2	21.5	0.0	21.5
Cycle Q Clear(g_c), s	4.6	23.9	23.9	3.3	18.2	10.1	6.0	6.4	5.2	21.5	0.0	21.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	953	959	67	1885	841	147	154	131	666	0	296
V/C Ratio(X)	0.93	0.58	0.58	0.78	0.47	0.30	0.65	0.69	0.57	1.20	0.00	1.51
Avail Cap(c_a), veh/h	77	953	959	82	1885	841	527	553	469	666	0	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.8	17.9	17.9	54.9	16.9	15.0	51.2	51.3	50.8	46.8	0.0	46.8
Incr Delay (d2), s/veh	72.4	2.2	2.2	30.7	0.9	0.9	4.8	5.5	3.9	102.6	0.0	244.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.7	9.8	2.0	7.2	3.7	2.9	3.2	2.2	18.9	0.0	28.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.2	20.1	20.1	85.5	17.8	15.9	56.0	56.8	54.7	149.4	0.0	290.9
LnGrp LOS	F	C	C	F	B	B	E	E	D	F	A	F
Approach Vol, veh/h		1175			1197			278			1243	
Approach Delay, s/veh		26.7			20.4			56.0			200.2	
Approach LOS		C			C			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.0	8.8	66.2		26.0	9.5	65.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	5.3	36.2		21.5	5.0	36.5				
Max Q Clear Time (g_c+I1), s		8.4	5.3	25.9		23.5	6.6	20.2				
Green Ext Time (p_c), s		1.1	0.0	4.9		0.0	0.0	6.3				

Intersection Summary	
HCM 6th Ctrl Delay	82.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	51	33	137	73	399	21	684	98	225	487	30
Future Volume (veh/h)	54	51	33	137	73	399	21	684	98	225	487	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	54	35	146	78	424	22	728	104	239	518	32
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	126	106	298	159	653	42	924	132	284	1468	91
Arrive On Green	0.07	0.07	0.07	0.25	0.25	0.25	0.02	0.30	0.30	0.16	0.43	0.43
Sat Flow, veh/h	1781	1870	1585	1181	631	1585	1781	3121	446	1781	3400	210
Grp Volume(v), veh/h	57	54	35	224	0	424	22	414	418	239	270	280
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1790	1781	1777	1833
Q Serve(g_s), s	2.7	2.4	1.8	9.1	0.0	18.6	1.1	18.5	18.6	11.3	8.8	8.9
Cycle Q Clear(g_c), s	2.7	2.4	1.8	9.1	0.0	18.6	1.1	18.5	18.6	11.3	8.8	8.9
Prop In Lane	1.00		1.00	0.65		1.00	1.00		0.25	1.00		0.11
Lane Grp Cap(c), veh/h	120	126	106	457	0	653	42	526	530	284	767	791
V/C Ratio(X)	0.48	0.43	0.33	0.49	0.00	0.65	0.52	0.79	0.79	0.84	0.35	0.35
Avail Cap(c_a), veh/h	411	432	366	523	0	710	411	820	826	617	820	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	38.8	38.6	27.6	0.0	20.5	41.8	28.0	28.0	35.3	16.5	16.5
Incr Delay (d2), s/veh	2.9	2.3	1.8	0.8	0.0	1.9	9.6	2.8	2.8	6.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.2	0.7	3.9	0.0	6.7	0.6	7.9	7.9	5.2	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.9	41.1	40.3	28.5	0.0	22.3	51.4	30.8	30.8	41.9	16.8	16.8
LnGrp LOS	D	D	D	C	A	C	D	C	C	D	B	B
Approach Vol, veh/h		146			648			854			789	
Approach Delay, s/veh		41.2			24.4			31.3			24.4	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.5	30.7		10.4	6.8	42.5		27.0				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	13.3	20.6		4.7	3.1	10.9		20.6				
Green Ext Time (p_c), s	0.6	5.1		0.4	0.0	3.4		1.2				

Intersection Summary			
HCM 6th Ctrl Delay		27.8	
HCM 6th LOS		C	

Notes

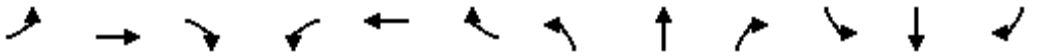
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Future Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	0	45	0	37	0	6	15	54	3	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.4	6.9	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	55%	76%
Vol Thru, %	30%	0%	0%	4%
Vol Right, %	70%	0%	45%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	3	77	67
LT Vol	0	3	42	51
Through Vol	6	0	0	3
RT Vol	14	0	35	13
Lane Flow Rate	21	3	82	71
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.004	0.089	0.082
Departure Headway (Hd)	3.717	4.358	3.933	4.135
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	956	815	907	864
Service Time	1.767	2.415	1.976	2.171
HCM Lane V/C Ratio	0.022	0.004	0.09	0.082
HCM Control Delay	6.9	7.4	7.4	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.3	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	54	73	12	48	29	52	992	18	46	969	126
Future Volume (veh/h)	175	54	73	12	48	29	52	992	18	46	969	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	57	78	13	51	31	55	1055	19	49	1031	134
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	70	541	78	211	102	93	1253	23	86	1079	140
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.05	0.35	0.35	0.05	0.34	0.34
Sat Flow, veh/h	458	204	1585	1	618	300	1781	3571	64	1781	3163	411
Grp Volume(v), veh/h	243	0	78	95	0	0	55	525	549	49	579	586
Grp Sat Flow(s),veh/h/ln	662	0	1585	920	0	0	1781	1777	1859	1781	1777	1796
Q Serve(g_s), s	0.2	0.0	1.8	0.1	0.0	0.0	1.6	14.4	14.4	1.4	16.8	16.8
Cycle Q Clear(g_c), s	18.0	0.0	1.8	18.0	0.0	0.0	1.6	14.4	14.4	1.4	16.8	16.8
Prop In Lane	0.77		1.00	0.14		0.33	1.00		0.03	1.00		0.23
Lane Grp Cap(c), veh/h	346	0	541	391	0	0	93	623	652	86	606	613
V/C Ratio(X)	0.70	0.00	0.14	0.24	0.00	0.00	0.59	0.84	0.84	0.57	0.95	0.96
Avail Cap(c_a), veh/h	346	0	541	392	0	0	169	623	652	179	606	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	12.0	12.8	0.0	0.0	24.4	15.8	15.8	24.6	17.0	17.0
Incr Delay (d2), s/veh	6.2	0.0	0.1	0.3	0.0	0.0	5.8	10.1	9.8	5.7	25.7	25.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.6	0.7	0.0	0.0	0.8	6.9	7.1	0.7	10.3	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	12.2	13.1	0.0	0.0	30.2	25.9	25.5	30.3	42.7	42.9
LnGrp LOS	C	A	B	B	A	A	C	C	C	C	D	D
Approach Vol, veh/h		321			95			1129			1214	
Approach Delay, s/veh		21.0			13.1			25.9			42.3	
Approach LOS		C			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	23.5		22.5	7.3	23.0		22.5				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	3.4	16.4		20.0	3.6	18.8		20.0				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		32.1	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

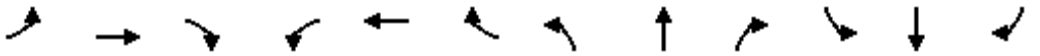
2050 BUILDOUT WITHOUT PROJECT
AM PEAK HOUR

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	45	40	40	55	55	90	320	130	115	390	100
Future Volume (veh/h)	30	45	40	40	55	55	90	320	130	115	390	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	49	43	43	60	60	98	348	141	125	424	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	152	133	367	142	142	337	1054	416	378	1134	288
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1272	919	806	1304	858	858	354	1913	755	418	2058	522
Grp Volume(v), veh/h	33	0	92	43	0	120	294	0	293	322	0	336
Grp Sat Flow(s),veh/h/ln	1272	0	1725	1304	0	1716	1455	0	1566	1390	0	1608
Q Serve(g_s), s	0.8	0.0	1.6	1.0	0.0	2.1	0.0	0.0	3.5	0.2	0.0	4.0
Cycle Q Clear(g_c), s	2.9	0.0	1.6	2.6	0.0	2.1	4.0	0.0	3.5	3.7	0.0	4.0
Prop In Lane	1.00		0.47	1.00		0.50	0.33		0.48	0.39		0.32
Lane Grp Cap(c), veh/h	343	0	286	367	0	284	943	0	863	913	0	886
V/C Ratio(X)	0.10	0.00	0.32	0.12	0.00	0.42	0.31	0.00	0.34	0.35	0.00	0.38
Avail Cap(c_a), veh/h	1261	0	1530	1308	0	1522	1798	0	1852	1750	0	1901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	12.4	13.6	0.0	12.7	4.1	0.0	4.2	4.1	0.0	4.3
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.1	0.0	1.0	0.7	0.0	0.8	0.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.3	0.0	0.7	0.7	0.0	0.8	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	0.0	13.1	13.7	0.0	13.7	4.7	0.0	5.0	5.0	0.0	5.3
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		125			163			587			658	
Approach Delay, s/veh		13.4			13.7			4.9			5.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		23.6		10.2		23.6		10.2				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		6.0		4.9		6.0		4.6				
Green Ext Time (p_c), s		11.1		0.6		12.6		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	60	40	55	60	55	140	590	180	120	520	120
Future Volume (veh/h)	40	60	40	55	60	55	140	590	180	120	520	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	65	43	60	65	60	152	641	196	130	565	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	166	110	283	141	130	306	1219	378	289	1220	292
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1266	1050	695	1286	895	826	321	1903	591	291	1905	456
Grp Volume(v), veh/h	43	0	108	60	0	125	460	0	529	363	0	462
Grp Sat Flow(s),veh/h/ln	1266	0	1745	1286	0	1722	1219	0	1596	1032	0	1620
Q Serve(g_s), s	1.5	0.0	2.6	2.1	0.0	3.1	4.3	0.0	8.5	3.4	0.0	6.8
Cycle Q Clear(g_c), s	4.7	0.0	2.6	4.7	0.0	3.1	11.2	0.0	8.5	11.9	0.0	6.8
Prop In Lane	1.00		0.40	1.00		0.48	0.33		0.37	0.36		0.28
Lane Grp Cap(c), veh/h	267	0	275	283	0	271	882	0	1022	764	0	1038
V/C Ratio(X)	0.16	0.00	0.39	0.21	0.00	0.46	0.52	0.00	0.52	0.48	0.00	0.45
Avail Cap(c_a), veh/h	866	0	1100	890	0	1085	1132	0	1341	989	0	1361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	18.0	20.1	0.0	18.2	4.7	0.0	4.6	4.5	0.0	4.3
Incr Delay (d2), s/veh	0.3	0.0	0.9	0.4	0.0	1.2	1.7	0.0	1.5	1.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	0.6	0.0	1.2	1.7	0.0	2.1	1.3	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	18.9	20.5	0.0	19.4	6.4	0.0	6.1	6.2	0.0	5.4
LnGrp LOS	C	A	B	C	A	B	A	A	A	A	A	A
Approach Vol, veh/h		151			185			989			825	
Approach Delay, s/veh		19.4			19.8			6.2			5.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.5		12.1		35.5		12.1				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		13.2		6.7		13.9		6.7				
Green Ext Time (p_c), s		17.3		0.7		14.5		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			8.1									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	365	5	0	0	0	0	15	10	15	100	0
Future Vol, veh/h	20	365	5	0	0	0	0	15	10	15	100	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	397	5	0	0	0	0	16	11	16	109	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.7	8	9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	13%
Vol Thru, %	60%	90%	97%	87%
Vol Right, %	40%	0%	3%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	203	188	115
LT Vol	0	20	0	15
Through Vol	15	183	183	100
RT Vol	10	0	5	0
Lane Flow Rate	27	220	204	125
Geometry Grp	2	5	5	2
Degree of Util (X)	0.036	0.303	0.277	0.172
Departure Headway (Hd)	4.808	4.963	4.894	4.943
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	724	736	727
Service Time	2.84	2.688	2.619	2.965
HCM Lane V/C Ratio	0.036	0.304	0.277	0.172
HCM Control Delay	8	9.8	9.5	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.3	1.1	0.6

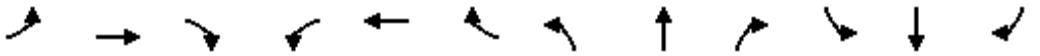
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	225	5	5	0	5	0	20	10	0	0	0
Future Vol, veh/h	150	225	5	5	0	5	0	20	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	163	245	5	5	0	5	0	22	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	574	248
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	429	791
Stage 1	-	-	-	0	503	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	791
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.7
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	791	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-
HCM Control Delay (s)	9.7	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	110	30	40	170	30	20	20	15	15	30	35
Future Volume (veh/h)	20	110	30	40	170	30	20	20	15	15	30	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	120	33	43	185	33	22	22	16	16	33	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	659	827	220	717	1031	181	291	233	352	160	178	163
Arrive On Green	0.06	0.30	0.30	0.10	0.34	0.34	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	2776	739	1781	3022	529	584	1048	1585	149	799	735
Grp Volume(v), veh/h	22	75	78	43	107	111	44	0	16	87	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1737	1781	1777	1775	1633	0	1585	1683	0	0
Q Serve(g_s), s	0.3	1.0	1.1	0.5	1.4	1.5	0.0	0.0	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.0	1.1	0.5	1.4	1.5	0.6	0.0	0.3	1.4	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.30	0.50		1.00	0.18		0.44
Lane Grp Cap(c), veh/h	659	529	518	717	606	605	524	0	352	501	0	0
V/C Ratio(X)	0.03	0.14	0.15	0.06	0.18	0.18	0.08	0.00	0.05	0.17	0.00	0.00
Avail Cap(c_a), veh/h	1091	1588	1553	1072	1588	1587	1382	0	1228	1549	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.1	8.6	8.7	6.3	7.8	7.8	10.4	0.0	10.3	10.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.3	0.1	0.4	0.4	0.2	0.0	0.1	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	8.7	8.7	6.3	7.8	7.8	10.5	0.0	10.3	10.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		175			261			60			87	
Approach Delay, s/veh		8.5			7.6			10.4			10.9	
Approach LOS		A			A			B			B	

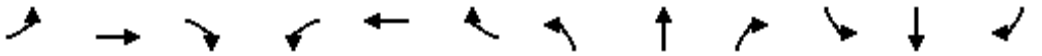
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	14.6		11.7	5.9	16.0		11.7				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.5	3.1		3.4	2.3	3.5		2.6				
Green Ext Time (p_c), s	0.0	0.5		0.6	0.0	0.8		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

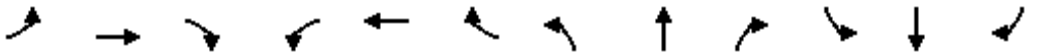


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	80	155	210	70	50	290	0	0	410	50
Future Volume (veh/h)	60	0	80	155	210	70	50	290	0	0	410	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	65	0	87	168	228	76	54	315	0	0	446	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	188	0	167	405	600	195	94	1303	0	0	708	85
Arrive On Green	0.11	0.00	0.11	0.23	0.23	0.23	0.05	0.37	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	0	1585	1781	2637	856	1781	3647	0	0	3287	385
Grp Volume(v), veh/h	65	0	87	168	152	152	54	315	0	0	247	253
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1716	1781	1777	0	0	1777	1801
Q Serve(g_s), s	1.7	0.0	2.6	4.0	3.6	3.8	1.5	3.1	0.0	0.0	6.3	6.3
Cycle Q Clear(g_c), s	1.7	0.0	2.6	4.0	3.6	3.8	1.5	3.1	0.0	0.0	6.3	6.3
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.00	0.00		0.21
Lane Grp Cap(c), veh/h	188	0	167	405	404	390	94	1303	0	0	394	399
V/C Ratio(X)	0.35	0.00	0.52	0.41	0.38	0.39	0.57	0.24	0.00	0.00	0.63	0.63
Avail Cap(c_a), veh/h	820	0	730	892	890	859	535	2135	0	0	818	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	0.0	21.1	16.5	16.3	16.4	23.1	11.0	0.0	0.0	17.6	17.6
Incr Delay (d2), s/veh	1.1	0.0	2.5	2.5	2.1	2.3	5.4	0.2	0.0	0.0	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.0	1.7	1.5	1.6	0.7	1.1	0.0	0.0	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	23.6	18.9	18.4	18.7	28.5	11.2	0.0	0.0	19.2	19.3
LnGrp LOS	C	A	C	B	B	B	C	B	A	A	B	B
Approach Vol, veh/h		152			472			369			500	
Approach Delay, s/veh		22.9			18.7			13.7			19.2	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		23.3		10.3	7.2	16.1		16.4				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	23.0		25.0				
Max Q Clear Time (g_c+I1), s		5.1		4.6	3.5	8.3		6.0				
Green Ext Time (p_c), s		3.9		0.6	0.1	2.7		5.4				

Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	430	75	10	20	0	0	20	30
Future Volume (veh/h)	0	0	0	95	430	75	10	20	0	0	20	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				103	467	82	11	22	0	0	22	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				270	1279	235	241	110	0	0	75	112
Arrive On Green				0.49	0.49	0.49	0.11	0.11	0.00	0.00	0.11	0.11
Sat Flow, veh/h				549	2600	478	402	998	0	0	675	1013
Grp Volume(v), veh/h				346	0	306	33	0	0	0	0	55
Grp Sat Flow(s),veh/h/ln				1843	0	1784	1401	0	0	0	0	1688
Q Serve(g_s), s				2.9	0.0	2.6	0.1	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				2.9	0.0	2.6	0.9	0.0	0.0	0.0	0.0	0.7
Prop In Lane				0.30		0.27	0.33		0.00	0.00		0.60
Lane Grp Cap(c), veh/h				907	0	878	351	0	0	0	0	186
V/C Ratio(X)				0.38	0.00	0.35	0.09	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				3022	0	2926	1391	0	0	0	0	1246
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				3.9	0.0	3.8	9.9	0.0	0.0	0.0	0.0	10.0
Incr Delay (d2), s/veh				0.3	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.1	0.0	4.0	10.1	0.0	0.0	0.0	0.0	10.8
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					652			33			55	
Approach Delay, s/veh					4.1			10.1			10.8	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.3		17.1		7.3				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.7		4.9		2.9				
Green Ext Time (p_c), s				0.2		4.6		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		4.9
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	105	450	40	15	10	0	0	25	10
Future Vol, veh/h	0	0	0	105	450	40	15	10	0	0	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	114	489	43	16	11	0	0	27	11

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	486	760	-	-	739	266
Stage 1	-	-	-	0	0	-	-	739	-
Stage 2	-	-	-	486	760	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	464	334	0	0	344	732
Stage 1	-	-	-	-	-	0	0	422	-
Stage 2	-	-	-	531	413	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	430	334	-	-	344	732
Mov Cap-2 Maneuver	-	-	-	430	334	-	-	344	-
Stage 1	-	-	-	-	-	-	-	422	-
Stage 2	-	-	-	489	413	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		15	14.8
HCM LOS		C	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	386	-	-	-	405
HCM Lane V/C Ratio	0.07	-	-	-	0.094
HCM Control Delay (s)	15	-	-	-	14.8
HCM Lane LOS	C	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	520	70	0	0	165	0	0	10
Future Vol, veh/h	0	0	0	0	520	70	0	0	165	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	565	76	0	0	179	0	0	11

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	321
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	675
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	675
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	10.4
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	675
HCM Lane V/C Ratio	-	-	0.016
HCM Control Delay (s)	-	-	10.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	130	60	245	590	305	50	85	275	285	100	45
Future Volume (veh/h)	35	130	60	245	590	305	50	85	275	285	100	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	141	65	266	641	332	54	92	299	234	215	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	668	294	252	1040	743	151	258	353	313	259	59
Arrive On Green	0.13	0.28	0.28	0.14	0.29	0.29	0.22	0.22	0.22	0.18	0.18	0.18
Sat Flow, veh/h	1781	2402	1055	1781	3554	1585	679	1157	1585	1781	1474	336
Grp Volume(v), veh/h	38	103	103	266	641	332	146	0	299	234	0	264
Grp Sat Flow(s),veh/h/ln	1781	1777	1680	1781	1777	1585	1836	0	1585	1781	0	1810
Q Serve(g_s), s	2.0	4.7	5.0	15.0	16.5	14.9	7.1	0.0	19.2	13.2	0.0	14.9
Cycle Q Clear(g_c), s	2.0	4.7	5.0	15.0	16.5	14.9	7.1	0.0	19.2	13.2	0.0	14.9
Prop In Lane	1.00		0.63	1.00		1.00	0.37		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	226	494	467	252	1040	743	409	0	353	313	0	318
V/C Ratio(X)	0.17	0.21	0.22	1.06	0.62	0.45	0.36	0.00	0.85	0.75	0.00	0.83
Avail Cap(c_a), veh/h	504	670	634	252	1340	877	606	0	523	386	0	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	29.3	29.4	45.5	32.4	19.0	34.8	0.0	39.5	41.5	0.0	42.2
Incr Delay (d2), s/veh	0.3	1.0	1.1	72.1	2.2	1.5	0.8	0.0	10.1	7.3	0.0	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	2.2	11.6	7.3	7.9	3.3	0.0	8.4	6.5	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.5	30.3	30.5	117.7	34.5	20.5	35.6	0.0	49.6	48.7	0.0	55.1
LnGrp LOS	D	C	C	F	C	C	D	A	D	D	A	E
Approach Vol, veh/h		244			1239			445			498	
Approach Delay, s/veh		32.1			48.6			45.0			52.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	34.9		23.2	18.2	36.4		28.2				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	7.0		16.9	4.0	18.5		21.2				
Green Ext Time (p_c), s	0.0	4.6		1.7	0.0	12.5		2.4				

Intersection Summary			
HCM 6th Ctrl Delay		47.0	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	40	10	15	35	40	0	0	15	60	15	30
Future Vol, veh/h	10	40	10	15	35	40	0	0	15	60	15	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	43	11	16	38	43	0	0	16	65	16	33
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	8	8.4	7.1	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%	17%	57%
Vol Thru, %	100%	0%	0%	80%	39%	14%
Vol Right, %	0%	100%	0%	20%	44%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	15	10	50	90	105
LT Vol	0	0	10	0	15	60
Through Vol	0	0	0	40	35	15
RT Vol	0	15	0	10	40	30
Lane Flow Rate	0	16	11	54	98	114
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0	0.02	0.016	0.073	0.128	0.155
Departure Headway (Hd)	5.041	4.338	5.451	4.809	4.713	4.896
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	827	659	747	763	735
Service Time	2.756	2.053	3.164	2.522	2.725	2.908
HCM Lane V/C Ratio	0	0.019	0.017	0.072	0.128	0.155
HCM Control Delay	7.8	7.1	8.3	7.9	8.4	8.8
HCM Lane LOS	N	A	A	A	A	A
HCM 95th-tile Q	0	0.1	0	0.2	0.4	0.5

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	90	30	30	90	25	30
Future Vol, veh/h	90	30	30	90	25	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	33	33	98	27	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	131	0	279	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1454	-	711	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1454	-	694	937
Mov Cap-2 Maneuver	-	-	-	-	694	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	808	-	-	1454	-
HCM Lane V/C Ratio	0.074	-	-	0.022	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	60	35	0	0	0	80	395	130	195	550	200
Future Volume (veh/h)	30	60	35	0	0	0	80	395	130	195	550	200
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	65	38				87	429	141	212	598	217
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	214	133	78				141	991	323	269	1144	415
Arrive On Green	0.12	0.12	0.12				0.08	0.38	0.38	0.15	0.45	0.45
Sat Flow, veh/h	1781	1107	647				1781	2635	858	1781	2555	926
Grp Volume(v), veh/h	33	0	103				87	288	282	212	416	399
Grp Sat Flow(s),veh/h/ln	1781	0	1754				1781	1777	1716	1781	1777	1704
Q Serve(g_s), s	0.6	0.0	2.1				1.8	4.6	4.7	4.4	6.4	6.4
Cycle Q Clear(g_c), s	0.6	0.0	2.1				1.8	4.6	4.7	4.4	6.4	6.4
Prop In Lane	1.00		0.37				1.00		0.50	1.00		0.54
Lane Grp Cap(c), veh/h	214	0	211				141	668	645	269	796	763
V/C Ratio(X)	0.15	0.00	0.49				0.62	0.43	0.44	0.79	0.52	0.52
Avail Cap(c_a), veh/h	1266	0	1247				272	1127	1089	338	1193	1144
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	15.6				16.9	8.8	8.8	15.5	7.6	7.6
Incr Delay (d2), s/veh	0.3	0.0	1.7				4.4	0.9	1.0	9.5	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.8				0.8	1.5	1.5	2.2	2.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	0.0	17.4				21.3	9.8	9.8	25.1	8.7	8.8
LnGrp LOS	B	A	B				C	A	A	C	A	A
Approach Vol, veh/h		136						657			1027	
Approach Delay, s/veh		16.9						11.3			12.1	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	9.9	19.3		8.8	7.2	22.0
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	6.4	6.7		4.1	3.8	8.4
Green Ext Time (p_c), s	0.1	6.0		0.6	0.0	8.6

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	15	555	15	10	645
Future Vol, veh/h	15	15	555	15	10	645
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	603	16	11	701

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	984	310	0	0	619	0
Stage 1	611	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	246	686	-	-	957	-
Stage 1	504	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	686	-	-	957	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	357	957	-
HCM Lane V/C Ratio	-	-	0.091	0.011	-
HCM Control Delay (s)	-	-	16.1	8.8	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	0	10	0	5	0	35	10	5	60	0
Future Vol, veh/h	10	5	0	10	0	5	0	35	10	5	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	0	11	0	5	0	38	11	5	65	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	121	124	65	122	119	44	-	0	0	49	0	0
Stage 1	75	75	-	44	44	-	-	-	-	-	-	-
Stage 2	46	49	-	78	75	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	854	766	999	853	771	1026	0	-	-	1558	-	0
Stage 1	934	833	-	970	858	-	0	-	-	-	-	0
Stage 2	968	854	-	931	833	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	847	764	999	846	769	1026	-	-	-	1558	-	-
Mov Cap-2 Maneuver	847	764	-	846	769	-	-	-	-	-	-	-
Stage 1	934	831	-	970	858	-	-	-	-	-	-	-
Stage 2	963	854	-	922	831	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.1	0	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	847	764	899	1558	-
HCM Lane V/C Ratio	-	-	0.013	0.007	0.018	0.003	-
HCM Control Delay (s)	-	-	9.3	9.7	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	10	10	480	640	20
Future Vol, veh/h	5	10	10	480	640	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	11	522	696	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	990	359	718	0	-	0
Stage 1	707	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	243	638	879	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	239	638	879	-	-	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	740	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	879	-	410	-	-
HCM Lane V/C Ratio	0.012	-	0.04	-	-
HCM Control Delay (s)	9.1	0.1	14.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	40	0	5	20	10	5	25	10	10	20	5
Future Vol, veh/h	5	40	0	5	20	10	5	25	10	10	20	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	43	0	5	22	11	5	27	11	11	22	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.2	7.2	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	11%	14%	29%
Vol Thru, %	62%	89%	57%	57%
Vol Right, %	25%	0%	29%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	45	35	35
LT Vol	5	5	5	10
Through Vol	25	40	20	20
RT Vol	10	0	10	5
Lane Flow Rate	43	49	38	38
Geometry Grp	1	1	1	1
Degree of Util (X)	0.048	0.056	0.042	0.043
Departure Headway (Hd)	3.988	4.128	3.97	4.089
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	864	897	870
Service Time	2.037	2.17	2.017	2.138
HCM Lane V/C Ratio	0.048	0.057	0.042	0.044
HCM Control Delay	7.2	7.4	7.2	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	40	45	50	15	10	45	350	50	75	535	80
Future Volume (veh/h)	70	40	45	50	15	10	45	350	50	75	535	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	43	49	54	16	11	49	380	54	82	582	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	40	592	120	21	592	165	1153	164	189	1183	172
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1	106	1585	1	56	1585	187	2581	366	241	2647	384
Grp Volume(v), veh/h	119	0	49	70	0	11	242	0	241	381	0	370
Grp Sat Flow(s),veh/h/ln	107	0	1585	57	0	1585	1498	0	1636	1639	0	1633
Q Serve(g_s), s	0.0	0.0	1.1	0.0	0.0	0.2	0.3	0.0	5.1	1.2	0.0	8.7
Cycle Q Clear(g_c), s	20.0	0.0	1.1	20.0	0.0	0.2	8.9	0.0	5.1	7.8	0.0	8.7
Prop In Lane	0.64		1.00	0.77		1.00	0.20		0.22	0.21		0.24
Lane Grp Cap(c), veh/h	150	0	592	140	0	592	750	0	731	814	0	730
V/C Ratio(X)	0.79	0.00	0.08	0.50	0.00	0.02	0.32	0.00	0.33	0.47	0.00	0.51
Avail Cap(c_a), veh/h	150	0	592	140	0	592	1186	0	1223	1281	0	1221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	10.8	20.9	0.0	10.6	9.4	0.0	9.6	10.3	0.0	10.6
Incr Delay (d2), s/veh	24.3	0.0	0.1	2.7	0.0	0.0	0.9	0.0	1.0	1.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.3	0.9	0.0	0.1	1.7	0.0	1.8	3.0	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	10.9	23.6	0.0	10.6	10.3	0.0	10.6	11.8	0.0	12.6
LnGrp LOS	D	A	B	C	A	B	B	A	B	B	A	B
Approach Vol, veh/h		168			81			483			751	
Approach Delay, s/veh		34.8			21.9			10.4			12.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.9		24.6		28.9		24.6				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		10.9		22.0		10.7		22.0				
Green Ext Time (p_c), s		8.2		0.0		13.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			14.7									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	15	5	5	10
Future Vol, veh/h	5	0	15	5	5	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	16	5	5	11
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7	7.2	6.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	33%	0%	75%
Vol Thru, %	0%	100%	25%
Vol Right, %	67%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	15	5	20
LT Vol	5	0	15
Through Vol	0	5	5
RT Vol	10	0	0
Lane Flow Rate	16	5	22
Geometry Grp	1	1	1
Degree of Util (X)	0.017	0.006	0.025
Departure Headway (Hd)	3.647	3.978	4.116
Convergence, Y/N	Yes	Yes	Yes
Cap	984	903	873
Service Time	1.661	1.989	2.123
HCM Lane V/C Ratio	0.016	0.006	0.025
HCM Control Delay	6.7	7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.1

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	10	5	5	10	5	5	30	5	5	15	5
Future Vol, veh/h	5	10	5	5	10	5	5	30	5	5	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	11	5	5	11	5	5	33	5	5	16	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	16	0	0	16	0	0	58	50	14	67	50	14
Stage 1	-	-	-	-	-	-	24	24	-	24	24	-
Stage 2	-	-	-	-	-	-	34	26	-	43	26	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1602	-	-	1602	-	-	939	841	1066	926	841	1066
Stage 1	-	-	-	-	-	-	994	875	-	994	875	-
Stage 2	-	-	-	-	-	-	982	874	-	971	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1602	-	-	1602	-	-	916	836	1066	890	836	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	916	836	-	890	836	-
Stage 1	-	-	-	-	-	-	991	872	-	991	872	-
Stage 2	-	-	-	-	-	-	956	871	-	927	871	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	1.8	9.4	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	869	1602	-	-	1602	-	-	885
HCM Lane V/C Ratio	0.05	0.003	-	-	0.003	-	-	0.031
HCM Control Delay (s)	9.4	7.3	0	-	7.3	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	10	5	5	20	5	15	10	425	25	15	570	10
Future Vol, veh/h	10	5	5	20	5	15	10	425	25	15	570	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	5	22	5	16	11	462	27	16	620	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	914	1169	316	843	1161	245	631	0	0	489	0	0
Stage 1	658	658	-	498	498	-	-	-	-	-	-	-
Stage 2	256	511	-	345	663	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	228	192	680	257	194	755	947	-	-	1070	-	-
Stage 1	420	459	-	523	543	-	-	-	-	-	-	-
Stage 2	726	535	-	644	457	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	212	185	680	242	186	755	947	-	-	1070	-	-
Mov Cap-2 Maneuver	212	185	-	242	186	-	-	-	-	-	-	-
Stage 1	413	448	-	515	534	-	-	-	-	-	-	-
Stage 2	692	526	-	617	446	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.1	18.5	0.3	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	947	-	-	245	309	1070	-	-
HCM Lane V/C Ratio	0.011	-	-	0.089	0.141	0.015	-	-
HCM Control Delay (s)	8.8	0.1	-	21.1	18.5	8.4	0.1	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.5	0	-	-

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	70	470	60	280	85	250	460	100	150	40
Future Volume (veh/h)	0	0	70	470	60	280	85	250	460	100	150	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	557	0	0	92	272	0	109	163	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	451		1254	0		182	574		214	338	92
Arrive On Green	0.00	0.00	0.00	0.24	0.00	0.00	0.21	0.21	0.00	0.18	0.18	0.18
Sat Flow, veh/h	0	1870	0	3563	0	1585	867	2737	1585	1191	1886	512
Grp Volume(v), veh/h	0	0	0	557	0	0	194	170	0	166	0	149
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1827	1777	1585	1811	0	1778
Q Serve(g_s), s	0.0	0.0	0.0	5.1	0.0	0.0	3.4	3.1	0.0	3.0	0.0	2.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.1	0.0	0.0	3.4	3.1	0.0	3.0	0.0	2.7
Prop In Lane	0.00		0.00	1.00		1.00	0.47		1.00	0.66		0.29
Lane Grp Cap(c), veh/h	0	451		1254	0		383	373		325	0	319
V/C Ratio(X)	0.00	0.00		0.44	0.00		0.51	0.46		0.51	0.00	0.47
Avail Cap(c_a), veh/h	0	1281		2834	0		1426	1387		893	0	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.5	0.0	0.0	12.8	12.6	0.0	13.5	0.0	13.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	1.0	0.9	0.0	1.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.3	0.0	0.0	1.3	1.1	0.0	1.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	12.7	0.0	0.0	13.8	13.5	0.0	14.8	0.0	14.5
LnGrp LOS	A	A		B	A		B	B		B	A	B
Approach Vol, veh/h		0			557			364			315	
Approach Delay, s/veh		0.0			12.7			13.6			14.6	
Approach LOS					B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	12.2	13.3	11.0	13.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	25.0	18.0	25.0
Max Q Clear Time (g_c+I1), s	5.4	0.0	5.0	7.1
Green Ext Time (p_c), s	2.2	0.0	1.5	1.7

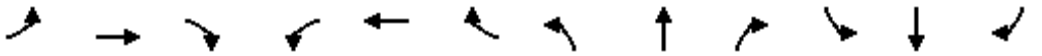
Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	530	40	270	910	750	50	0	250	120	100	110
Future Volume (veh/h)	0	530	40	270	910	750	50	0	250	120	100	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	576	43	293	989	0	54	0	272	120	124	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	779	58	345	1776		275	0	245	225	236	200
Arrive On Green	0.00	0.23	0.23	0.19	0.50	0.00	0.15	0.00	0.15	0.13	0.13	0.13
Sat Flow, veh/h	0	3446	250	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	305	314	293	989	0	54	0	272	120	124	120
Grp Sat Flow(s),veh/h/ln	0	1777	1825	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	9.8	9.8	9.8	11.9	0.0	1.6	0.0	9.5	3.9	3.8	4.4
Cycle Q Clear(g_c), s	0.0	9.8	9.8	9.8	11.9	0.0	1.6	0.0	9.5	3.9	3.8	4.4
Prop In Lane	0.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	413	424	345	1776		275	0	245	225	236	200
V/C Ratio(X)	0.00	0.74	0.74	0.85	0.56		0.20	0.00	1.11	0.53	0.53	0.60
Avail Cap(c_a), veh/h	0	607	624	420	2313		275	0	245	783	822	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.9	21.9	23.9	10.7	0.0	22.6	0.0	26.0	25.2	25.1	25.4
Incr Delay (d2), s/veh	0.0	2.6	2.6	12.9	0.3	0.0	0.3	0.0	90.2	2.0	1.8	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.0	4.1	5.0	3.8	0.0	0.7	0.0	9.5	1.7	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.5	24.5	36.8	10.9	0.0	23.0	0.0	116.2	27.1	26.9	28.3
LnGrp LOS	A	C	C	D	B		C	A	F	C	C	C
Approach Vol, veh/h		619			1282			326			364	
Approach Delay, s/veh		24.5			16.8			100.8			27.4	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	14.0	16.4	18.8	12.3	35.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	14.5	21.0	27.0	40.0
Max Q Clear Time (g_c+I1), s	11.5	11.8	11.8	6.4	13.9
Green Ext Time (p_c), s	0.0	0.2	2.5	1.4	7.7

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	135	15	20	110	25	5	15	30	15	15	10
Future Vol, veh/h	15	135	15	20	110	25	5	15	30	15	15	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	147	16	22	120	27	5	16	33	16	16	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	147	0	0	163	0	0	378	378	155	390	373	134
Stage 1	-	-	-	-	-	-	187	187	-	178	178	-
Stage 2	-	-	-	-	-	-	191	191	-	212	195	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1435	-	-	1416	-	-	580	554	891	569	557	915
Stage 1	-	-	-	-	-	-	815	745	-	824	752	-
Stage 2	-	-	-	-	-	-	811	742	-	790	739	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1435	-	-	1416	-	-	548	538	891	524	541	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	548	538	-	524	541	-
Stage 1	-	-	-	-	-	-	805	736	-	814	739	-
Stage 2	-	-	-	-	-	-	770	729	-	735	730	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	10.5	11.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	707	1435	-	-	1416	-	-	595
HCM Lane V/C Ratio	0.077	0.011	-	-	0.015	-	-	0.073
HCM Control Delay (s)	10.5	7.5	0	-	7.6	0	-	11.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	35	85	90	50	25	80	440	60	20	445	50
Future Volume (veh/h)	50	35	85	90	50	25	80	440	60	20	445	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	38	92	98	54	27	87	478	65	22	484	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	499	94	229	265	97	35	147	1105	150	49	955	106
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.35	0.35	0.03	0.30	0.30
Sat Flow, veh/h	1317	485	1174	514	497	180	1781	3145	426	1781	3224	358
Grp Volume(v), veh/h	54	0	130	179	0	0	87	269	274	22	266	272
Grp Sat Flow(s),veh/h/ln	1317	0	1659	1191	0	0	1781	1777	1794	1781	1777	1806
Q Serve(g_s), s	0.0	0.0	2.3	2.9	0.0	0.0	1.6	3.9	3.9	0.4	4.2	4.2
Cycle Q Clear(g_c), s	1.0	0.0	2.3	5.2	0.0	0.0	1.6	3.9	3.9	0.4	4.2	4.2
Prop In Lane	1.00		0.71	0.55		0.15	1.00		0.24	1.00		0.20
Lane Grp Cap(c), veh/h	499	0	323	397	0	0	147	624	630	49	527	535
V/C Ratio(X)	0.11	0.00	0.40	0.45	0.00	0.00	0.59	0.43	0.43	0.45	0.50	0.51
Avail Cap(c_a), veh/h	1217	0	1228	1186	0	0	1055	2104	2124	1055	2104	2138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.4	0.0	11.9	13.2	0.0	0.0	14.9	8.4	8.4	16.2	9.8	9.8
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.8	0.0	0.0	3.8	0.5	0.5	6.2	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.7	1.1	0.0	0.0	0.7	1.2	1.2	0.2	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	12.7	14.0	0.0	0.0	18.7	8.8	8.9	22.4	10.6	10.6
LnGrp LOS	B	A	B	B	A	A	B	A	A	C	B	B
Approach Vol, veh/h		184			179			630			560	
Approach Delay, s/veh		12.3			14.0			10.2			11.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	17.0		11.2	7.5	15.1		11.2				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.4	5.9		4.3	3.6	6.2		7.2				
Green Ext Time (p_c), s	0.0	3.8		0.8	0.2	3.8		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		11.2
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	170	120	200	190	180	110	360	110	150	395	50
Future Volume (veh/h)	50	170	120	200	190	180	110	360	110	150	395	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	185	130	212	214	196	120	391	120	163	429	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	245	271	308	324	460	157	699	212	209	919	115
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.09	0.26	0.26	0.12	0.29	0.29
Sat Flow, veh/h	418	1432	1585	1781	1870	1585	1781	2686	815	1781	3178	398
Grp Volume(v), veh/h	239	0	130	212	214	196	120	257	254	163	239	244
Grp Sat Flow(s),veh/h/ln	1849	0	1585	1781	1870	1585	1781	1777	1724	1781	1777	1799
Q Serve(g_s), s	8.4	0.0	5.0	7.6	7.3	6.8	4.5	8.5	8.7	6.0	7.5	7.6
Cycle Q Clear(g_c), s	8.4	0.0	5.0	7.6	7.3	6.8	4.5	8.5	8.7	6.0	7.5	7.6
Prop In Lane	0.23		1.00	1.00		1.00	1.00		0.47	1.00		0.22
Lane Grp Cap(c), veh/h	316	0	271	308	324	460	157	463	449	209	514	520
V/C Ratio(X)	0.76	0.00	0.48	0.69	0.66	0.43	0.76	0.56	0.57	0.78	0.46	0.47
Avail Cap(c_a), veh/h	545	0	467	656	689	769	525	1570	1523	525	1570	1589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	25.4	26.4	26.2	19.5	30.3	21.7	21.8	29.1	19.8	19.8
Incr Delay (d2), s/veh	3.7	0.0	1.3	2.7	2.3	0.6	7.4	2.2	2.4	6.2	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	1.8	3.2	3.2	2.3	2.1	3.5	3.5	2.8	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	0.0	26.7	29.1	28.5	20.1	37.7	23.9	24.2	35.3	21.2	21.2
LnGrp LOS	C	A	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		369			622			631			646	
Approach Delay, s/veh		29.2			26.1			26.7			24.8	
Approach LOS		C			C			C			C	

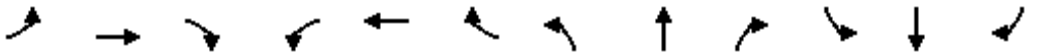
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	22.8		16.2	10.6	24.7		16.4				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		20.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	8.0	10.7		10.4	6.5	9.6		9.6				
Green Ext Time (p_c), s	0.3	7.0		1.3	0.2	6.5		2.2				

Intersection Summary			
HCM 6th Ctrl Delay		26.4	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



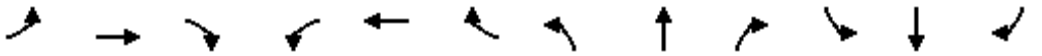
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	525	165	600	740	600	35	55	75	315	45	110
Future Volume (veh/h)	260	525	165	600	740	600	35	55	75	315	45	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	283	571	179	652	804	652	38	60	82	256	170	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1378	431	107	1532	989	52	83	117	343	197	139
Arrive On Green	0.15	0.52	0.52	0.08	0.57	0.57	0.07	0.07	0.07	0.19	0.19	0.19
Sat Flow, veh/h	1781	2664	833	1781	3554	1585	711	1123	1585	1781	1020	720
Grp Volume(v), veh/h	283	380	370	652	804	652	98	0	82	256	0	290
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1781	1777	1585	1835	0	1585	1781	0	1741
Q Serve(g_s), s	16.8	15.1	15.2	6.9	15.9	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Cycle Q Clear(g_c), s	16.8	15.1	15.2	6.9	15.9	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Prop In Lane	1.00		0.48	1.00		1.00	0.39		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	260	919	890	107	1532	989	135	0	117	343	0	335
V/C Ratio(X)	1.09	0.41	0.42	6.10	0.52	0.66	0.72	0.00	0.70	0.75	0.00	0.86
Avail Cap(c_a), veh/h	260	919	890	107	1532	989	287	0	248	434	0	424
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.57	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	17.1	17.1	52.9	17.3	10.3	52.1	0.0	52.0	43.8	0.0	45.0
Incr Delay (d2), s/veh	81.1	1.4	1.4	2306.6	0.7	2.0	7.1	0.0	7.4	5.3	0.0	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	6.2	6.1	71.4	5.5	13.8	3.0	0.0	2.5	7.4	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.2	18.4	18.5	2359.5	18.1	12.3	59.3	0.0	59.4	49.0	0.0	59.1
LnGrp LOS	F	B	B	F	B	B	E	A	E	D	A	E
Approach Vol, veh/h		1033			2108			180			546	
Approach Delay, s/veh		49.1			740.5			59.3			54.4	
Approach LOS		D			F			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	13.0	11.4	64.0	26.7	21.3	54.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	6.9	44.1	28.0	16.8	34.2
Max Q Clear Time (g_c+I1), s	8.0	8.9	17.2	20.6	18.8	31.5
Green Ext Time (p_c), s	0.5	0.0	4.8	1.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	427.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	675	230	150	865	355	145	100	65	395	180	270
Future Volume (veh/h)	155	675	230	150	865	355	145	100	65	395	180	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	734	250	163	940	386	134	143	71	312	359	293
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1325	451	108	1795	800	185	194	164	302	317	269
Arrive On Green	0.07	0.51	0.51	0.06	0.51	0.51	0.10	0.10	0.10	0.17	0.17	0.17
Sat Flow, veh/h	1781	2602	886	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	168	501	483	163	940	386	134	143	71	312	359	293
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.5	22.2	22.2	7.0	20.5	18.3	8.4	8.5	4.8	19.5	19.5	19.5
Cycle Q Clear(g_c), s	7.5	22.2	22.2	7.0	20.5	18.3	8.4	8.5	4.8	19.5	19.5	19.5
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	905	871	108	1795	800	185	194	164	302	317	269
V/C Ratio(X)	1.45	0.55	0.55	1.50	0.52	0.48	0.73	0.74	0.43	1.03	1.13	1.09
Avail Cap(c_a), veh/h	116	905	871	108	1795	800	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	19.3	19.3	54.0	19.2	18.6	50.0	50.0	48.4	47.7	47.8	47.8
Incr Delay (d2), s/veh	233.6	1.9	1.9	268.3	1.1	2.1	5.3	5.4	1.8	60.6	91.1	81.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	9.1	8.8	11.2	8.3	6.8	4.0	4.3	2.0	13.7	17.0	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	287.3	21.1	21.2	322.3	20.3	20.7	55.3	55.4	50.1	108.3	138.9	128.8
LnGrp LOS	F	C	C	F	C	C	E	E	D	F	F	F
Approach Vol, veh/h		1152			1489			348			964	
Approach Delay, s/veh		60.0			53.4			54.3			125.9	
Approach LOS		E			D			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.4	11.5	63.1		24.0	12.0	62.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	7.0	36.5		19.5	7.5	36.0				
Max Q Clear Time (g_c+I1), s		10.5	9.0	24.2		21.5	9.5	22.5				
Green Ext Time (p_c), s		1.4	0.0	4.9		0.0	0.0	6.4				

Intersection Summary	
HCM 6th Ctrl Delay	73.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	90	60	215	80	240	50	200	100	180	470	100
Future Volume (veh/h)	60	90	60	215	80	240	50	200	100	180	470	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	98	65	234	87	261	54	217	109	196	511	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	171	145	306	114	592	86	540	261	251	949	201
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.05	0.23	0.23	0.14	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1315	489	1585	1781	2322	1123	1781	2917	619
Grp Volume(v), veh/h	65	98	65	321	0	261	54	164	162	196	310	310
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1805	0	1585	1781	1777	1668	1781	1777	1759
Q Serve(g_s), s	2.2	3.2	2.5	10.7	0.0	8.0	1.9	5.0	5.3	6.8	9.2	9.3
Cycle Q Clear(g_c), s	2.2	3.2	2.5	10.7	0.0	8.0	1.9	5.0	5.3	6.8	9.2	9.3
Prop In Lane	1.00		1.00	0.73		1.00	1.00		0.67	1.00		0.35
Lane Grp Cap(c), veh/h	163	171	145	420	0	592	86	413	388	251	578	572
V/C Ratio(X)	0.40	0.57	0.45	0.77	0.00	0.44	0.63	0.40	0.42	0.78	0.54	0.54
Avail Cap(c_a), veh/h	553	580	492	700	0	838	553	1103	1035	829	1103	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	28.1	27.7	23.1	0.0	15.2	30.1	20.9	21.0	26.7	17.8	17.8
Incr Delay (d2), s/veh	1.6	3.0	2.2	2.9	0.0	0.5	7.4	0.6	0.7	5.3	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.5	1.0	4.5	0.0	2.6	1.0	2.0	2.0	3.1	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	31.1	29.9	26.0	0.0	15.7	37.5	21.5	21.7	32.0	18.5	18.6
LnGrp LOS	C	C	C	C	A	B	D	C	C	C	B	B
Approach Vol, veh/h		228			582			380			816	
Approach Delay, s/veh		30.2			21.4			23.9			21.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.8	20.1		10.5	7.8	26.1		20.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	8.8	7.3		5.2	3.9	11.3		12.7				
Green Ext Time (p_c), s	0.5	2.0		0.7	0.1	4.0		2.3				

Intersection Summary			
HCM 6th Ctrl Delay		23.0	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	15	35	10	25	45	30	470	15	20	585	65
Future Volume (veh/h)	115	15	35	10	25	45	30	470	15	20	585	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	16	38	11	27	49	33	511	16	22	636	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	445	36	274	149	106	161	71	1266	40	50	1091	122
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.36	0.36	0.03	0.34	0.34
Sat Flow, veh/h	1311	210	1585	112	610	931	1781	3517	110	1781	3223	359
Grp Volume(v), veh/h	141	0	38	87	0	0	33	258	269	22	350	357
Grp Sat Flow(s),veh/h/ln	1521	0	1585	1653	0	0	1781	1777	1851	1781	1777	1806
Q Serve(g_s), s	0.4	0.0	0.6	0.0	0.0	0.0	0.6	3.4	3.4	0.4	5.1	5.1
Cycle Q Clear(g_c), s	2.3	0.0	0.6	2.5	0.0	0.0	0.6	3.4	3.4	0.4	5.1	5.1
Prop In Lane	0.89		1.00	0.13		0.56	1.00		0.06	1.00		0.20
Lane Grp Cap(c), veh/h	481	0	274	416	0	0	71	640	666	50	601	611
V/C Ratio(X)	0.29	0.00	0.14	0.21	0.00	0.00	0.46	0.40	0.40	0.44	0.58	0.58
Avail Cap(c_a), veh/h	1034	0	914	1073	0	0	285	1025	1068	303	1025	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	10.9	11.2	0.0	0.0	14.7	7.5	7.5	14.9	8.5	8.5
Incr Delay (d2), s/veh	0.3	0.0	0.2	0.2	0.0	0.0	4.7	0.4	0.4	6.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.4	0.0	0.0	0.3	0.9	1.0	0.2	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	11.2	11.5	0.0	0.0	19.3	7.9	7.9	21.0	9.4	9.4
LnGrp LOS	B	A	B	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		179			87			560			729	
Approach Delay, s/veh		11.8			11.5			8.6			9.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	16.2		9.9	5.7	15.6		9.9				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.4	5.4		4.3	2.6	7.1		4.5				
Green Ext Time (p_c), s	0.0	2.7		0.7	0.0	3.5		0.3				

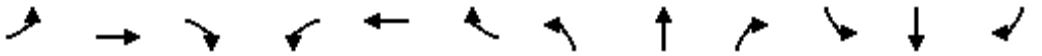
Intersection Summary		
HCM 6th Ctrl Delay		9.6
HCM 6th LOS		A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2050 BUILDOUT WITHOUT PROJECT
PM PEAK HOUR

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	90	60	50	85	95	165	725	205	200	930	215
Future Volume (veh/h)	60	90	60	50	85	95	165	725	205	200	930	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	98	65	54	92	103	179	788	223	217	1011	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	214	142	264	164	184	155	922	307	201	1034	278
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1188	1049	696	1223	806	902	114	1436	478	190	1611	433
Grp Volume(v), veh/h	65	0	163	54	0	195	436	0	754	583	0	879
Grp Sat Flow(s),veh/h/ln	1188	0	1745	1223	0	1708	412	0	1616	609	0	1624
Q Serve(g_s), s	3.2	0.0	5.1	2.5	0.0	6.4	13.7	0.0	19.5	20.5	0.0	26.3
Cycle Q Clear(g_c), s	9.6	0.0	5.1	7.6	0.0	6.4	40.0	0.0	19.5	40.0	0.0	26.3
Prop In Lane	1.00		0.40	1.00		0.53	0.41		0.30	0.37		0.27
Lane Grp Cap(c), veh/h	236	0	355	264	0	348	346	0	1038	470	0	1043
V/C Ratio(X)	0.28	0.00	0.46	0.20	0.00	0.56	1.26	0.00	0.73	1.24	0.00	0.84
Avail Cap(c_a), veh/h	566	0	841	604	0	823	346	0	1038	470	0	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	21.8	25.1	0.0	22.3	18.0	0.0	7.5	18.8	0.0	8.7
Incr Delay (d2), s/veh	0.6	0.0	0.9	0.4	0.0	1.4	137.6	0.0	4.0	125.1	0.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.0	0.7	0.0	2.5	16.8	0.0	6.1	23.2	0.0	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	0.0	22.7	25.5	0.0	23.7	155.6	0.0	11.4	143.9	0.0	16.4
LnGrp LOS	C	A	C	C	A	C	F	A	B	F	A	B
Approach Vol, veh/h		228			249			1190			1462	
Approach Delay, s/veh		24.0			24.1			64.2			67.3	
Approach LOS		C			C			E			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		17.3		45.0		17.3				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		42.0		11.6		42.0		9.6				
Green Ext Time (p_c), s		0.0		1.1		0.0		1.3				

Intersection Summary												
HCM 6th Ctrl Delay			59.5									
HCM 6th LOS			E									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	25	25	35	35	65	275	100	60	260	55
Future Volume (veh/h)	20	25	25	25	35	35	65	275	100	60	260	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	27	27	27	38	38	71	299	109	65	283	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	141	141	450	141	141	305	1048	364	321	1157	238
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1323	858	858	1350	858	858	279	2177	756	306	2403	494
Grp Volume(v), veh/h	22	0	54	27	0	76	253	0	226	212	0	196
Grp Sat Flow(s),veh/h/ln	1323	0	1716	1350	0	1716	1646	0	1566	1590	0	1613
Q Serve(g_s), s	0.4	0.0	0.7	0.5	0.0	1.0	0.0	0.0	2.4	0.0	0.0	1.9
Cycle Q Clear(g_c), s	1.4	0.0	0.7	1.2	0.0	1.0	2.2	0.0	2.4	1.8	0.0	1.9
Prop In Lane	1.00		0.50	1.00		0.50	0.28		0.48	0.31		0.31
Lane Grp Cap(c), veh/h	432	0	281	450	0	281	963	0	754	940	0	777
V/C Ratio(X)	0.05	0.00	0.19	0.06	0.00	0.27	0.26	0.00	0.30	0.23	0.00	0.25
Avail Cap(c_a), veh/h	1681	0	1901	1725	0	1901	2483	0	2313	2394	0	2382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	9.8	10.3	0.0	9.9	4.2	0.0	4.3	4.1	0.0	4.1
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.1	0.0	0.5	0.5	0.0	0.8	0.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.1	0.0	0.3	0.5	0.0	0.5	0.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	0.0	10.1	10.4	0.0	10.4	4.7	0.0	5.1	4.5	0.0	4.8
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		76			103			479			408	
Approach Delay, s/veh		10.2			10.4			4.9			4.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.0		9.0		18.0		9.0				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		4.4		3.4		3.9		3.2				
Green Ext Time (p_c), s		8.7		0.3		7.3		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			5.7									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	535	20	0	0	0	0	20	35	35	145	0
Future Vol, veh/h	30	535	20	0	0	0	0	20	35	35	145	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	582	22	0	0	0	0	22	38	38	158	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	12.4	8.8	10.7
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	19%
Vol Thru, %	36%	90%	93%	81%
Vol Right, %	64%	0%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	298	288	180
LT Vol	0	30	0	35
Through Vol	20	268	268	145
RT Vol	35	0	20	0
Lane Flow Rate	60	323	312	196
Geometry Grp	2	5	5	2
Degree of Util (X)	0.086	0.472	0.447	0.293
Departure Headway (Hd)	5.191	5.253	5.154	5.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	682	697	663
Service Time	3.264	3.011	2.912	3.452
HCM Lane V/C Ratio	0.088	0.474	0.448	0.296
HCM Control Delay	8.8	12.7	12.1	10.7
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.3	2.5	2.3	1.2

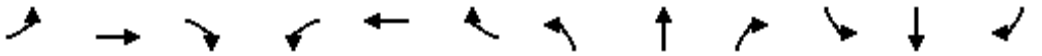
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	190	365	20	10	0	5	0	10	10	0	0	0
Future Vol, veh/h	190	365	20	10	0	5	0	10	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	207	397	22	11	0	5	0	11	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	822	408
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	309	643
Stage 1	-	-	-	0	388	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	643
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		10.8
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	643	-	-	-
HCM Lane V/C Ratio	0.034	-	-	-
HCM Control Delay (s)	10.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



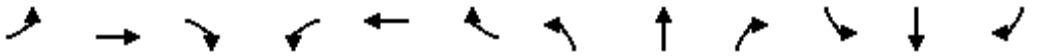
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	245	65	120	355	190	60	65	75	60	70	55
Future Volume (veh/h)	55	245	65	120	355	190	60	65	75	60	70	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	266	71	130	386	207	65	71	82	65	76	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	536	690	181	691	710	376	279	258	389	204	190	117
Arrive On Green	0.12	0.25	0.25	0.19	0.32	0.32	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	2786	730	1781	2246	1188	600	1052	1585	351	774	479
Grp Volume(v), veh/h	60	168	169	130	304	289	136	0	82	201	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1739	1781	1777	1657	1652	0	1585	1603	0	0
Q Serve(g_s), s	0.9	3.2	3.3	1.7	5.7	5.8	0.0	0.0	1.7	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.2	3.3	1.7	5.7	5.8	2.4	0.0	1.7	4.1	0.0	0.0
Prop In Lane	1.00		0.42	1.00		0.72	0.48		1.00	0.32		0.30
Lane Grp Cap(c), veh/h	536	440	431	691	562	524	537	0	389	511	0	0
V/C Ratio(X)	0.11	0.38	0.39	0.19	0.54	0.55	0.25	0.00	0.21	0.39	0.00	0.00
Avail Cap(c_a), veh/h	761	1320	1292	793	1320	1231	1140	0	1021	1236	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	12.6	12.7	6.7	11.4	11.4	12.4	0.0	12.1	13.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.3	0.3	0.3	0.0	0.4	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.0	1.1	0.5	1.8	1.7	0.9	0.0	0.5	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	12.8	12.9	6.7	11.7	11.8	12.7	0.0	12.5	13.7	0.0	0.0
LnGrp LOS	A	B	B	A	B	B	B	A	B	B	A	A
Approach Vol, veh/h		397			723			218			201	
Approach Delay, s/veh		12.2			10.8			12.7			13.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	14.6		14.1	8.9	17.4		14.1				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.7	5.3		6.1	2.9	7.8		4.4				
Green Ext Time (p_c), s	0.1	1.3		1.6	0.0	2.5		1.4				

Intersection Summary		
HCM 6th Ctrl Delay		11.8
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

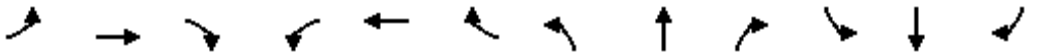


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	0	190	215	385	155	100	600	0	0	610	345
Future Volume (veh/h)	205	0	190	215	385	155	100	600	0	0	610	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	223	0	207	234	418	168	109	652	0	0	663	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	278	0	248	381	531	211	137	1744	0	0	812	459
Arrive On Green	0.16	0.00	0.16	0.21	0.21	0.21	0.08	0.49	0.00	0.00	0.37	0.37
Sat Flow, veh/h	1781	0	1585	1781	2483	987	1781	3647	0	0	2281	1237
Grp Volume(v), veh/h	223	0	207	234	298	288	109	652	0	0	538	500
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1693	1781	1777	0	0	1777	1648
Q Serve(g_s), s	13.0	0.0	13.7	12.8	17.1	17.4	6.5	12.4	0.0	0.0	29.5	29.5
Cycle Q Clear(g_c), s	13.0	0.0	13.7	12.8	17.1	17.4	6.5	12.4	0.0	0.0	29.5	29.5
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.00	0.00		0.75
Lane Grp Cap(c), veh/h	278	0	248	381	380	362	137	1744	0	0	660	612
V/C Ratio(X)	0.80	0.00	0.84	0.61	0.78	0.80	0.80	0.37	0.00	0.00	0.82	0.82
Avail Cap(c_a), veh/h	379	0	338	412	411	392	247	1744	0	0	660	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.98	0.95	0.95	0.95	0.51	0.51	0.00	0.00	0.99	0.99
Uniform Delay (d), s/veh	43.9	0.0	44.2	38.4	40.1	40.2	49.0	17.2	0.0	0.0	30.6	30.6
Incr Delay (d2), s/veh	8.3	0.0	12.2	5.6	12.7	14.1	5.4	0.3	0.0	0.0	10.6	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	6.2	6.2	8.7	8.6	3.1	5.1	0.0	0.0	14.4	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	0.0	56.4	44.0	52.7	54.3	54.4	17.5	0.0	0.0	41.2	42.0
LnGrp LOS	D	A	E	D	D	D	D	B	A	A	D	D
Approach Vol, veh/h		430			820			761			1038	
Approach Delay, s/veh		54.2			50.8			22.8			41.6	
Approach LOS		D			D			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		58.0		21.9	12.9	45.1		28.1				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		14.4		15.7	8.5	31.5		19.4				
Green Ext Time (p_c), s		6.7		1.2	0.1	0.0		3.7				

Intersection Summary												
HCM 6th Ctrl Delay			41.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	545	145	20	40	0	0	35	30
Future Volume (veh/h)	0	0	0	150	545	145	20	40	0	0	35	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				163	592	158	22	43	0	0	38	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				311	1180	331	233	176	0	0	130	113
Arrive On Green				0.51	0.51	0.51	0.14	0.14	0.00	0.00	0.14	0.14
Sat Flow, veh/h				613	2326	653	411	1252	0	0	924	802
Grp Volume(v), veh/h				489	0	424	65	0	0	0	0	71
Grp Sat Flow(s),veh/h/ln				1840	0	1753	1663	0	0	0	0	1726
Q Serve(g_s), s				4.9	0.0	4.3	0.0	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s				4.9	0.0	4.3	1.0	0.0	0.0	0.0	0.0	1.0
Prop In Lane				0.33		0.37	0.34		0.00	0.00		0.46
Lane Grp Cap(c), veh/h				933	0	889	409	0	0	0	0	243
V/C Ratio(X)				0.52	0.00	0.48	0.16	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				2669	0	2543	1251	0	0	0	0	1127
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				4.6	0.0	4.4	10.5	0.0	0.0	0.0	0.0	10.6
Incr Delay (d2), s/veh				0.5	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.7	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				5.0	0.0	4.8	10.7	0.0	0.0	0.0	0.0	11.3
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					913			65			71	
Approach Delay, s/veh					4.9			10.7			11.3	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				8.5		19.1		8.5				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				3.0		6.9		3.0				
Green Ext Time (p_c), s				0.2		7.1		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		5.7
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	95	600	45	15	15	0	0	25	15
Future Vol, veh/h	0	0	0	95	600	45	15	15	0	0	25	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	103	652	49	16	16	0	0	27	16

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	546	907	-	-	883	351
Stage 1	-	-	-	0	0	-	-	883	-
Stage 2	-	-	-	546	907	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	421	274	0	0	283	645
Stage 1	-	-	-	-	-	0	0	362	-
Stage 2	-	-	-	490	353	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	380	274	-	-	283	645
Mov Cap-2 Maneuver	-	-	-	380	274	-	-	283	-
Stage 1	-	-	-	-	-	-	-	362	-
Stage 2	-	-	-	442	353	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		17.6	16.4
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	-	-	-	358
HCM Lane V/C Ratio	0.103	-	-	-	0.121
HCM Control Delay (s)	17.6	-	-	-	16.4
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	640	45	0	0	120	0	0	25
Future Vol, veh/h	0	0	0	0	640	45	0	0	120	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	696	49	0	0	130	0	0	27

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	373
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	624
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	624
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	11
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	624
HCM Lane V/C Ratio	-	-	0.044
HCM Control Delay (s)	-	-	11
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	65	260	655	350	75	115	510	690	140	90
Future Volume (veh/h)	25	165	65	260	655	350	75	115	510	690	140	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	179	71	283	712	380	82	125	554	500	502	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	653	250	214	1005	741	204	311	445	328	280	55
Arrive On Green	0.10	0.26	0.26	0.12	0.28	0.28	0.28	0.28	0.28	0.18	0.18	0.18
Sat Flow, veh/h	1781	2513	961	1781	3554	1585	727	1108	1585	1781	1520	297
Grp Volume(v), veh/h	27	125	125	283	712	380	207	0	554	500	0	600
Grp Sat Flow(s),veh/h/ln	1781	1777	1697	1781	1777	1585	1834	0	1585	1781	0	1817
Q Serve(g_s), s	1.7	7.0	7.4	15.0	22.4	21.0	11.4	0.0	35.0	23.0	0.0	23.0
Cycle Q Clear(g_c), s	1.7	7.0	7.4	15.0	22.4	21.0	11.4	0.0	35.0	23.0	0.0	23.0
Prop In Lane	1.00		0.57	1.00		1.00	0.40		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	174	462	441	214	1005	741	515	0	445	328	0	335
V/C Ratio(X)	0.16	0.27	0.28	1.32	0.71	0.51	0.40	0.00	1.25	1.52	0.00	1.79
Avail Cap(c_a), veh/h	428	570	544	214	1140	801	515	0	445	328	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.6	36.7	36.9	54.9	40.1	23.3	36.4	0.0	44.9	50.9	0.0	50.9
Incr Delay (d2), s/veh	0.3	1.4	1.6	173.3	3.6	2.0	0.7	0.0	128.2	250.0	0.0	367.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.2	3.3	17.0	10.3	11.4	5.3	0.0	29.6	33.1	0.0	44.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	38.2	38.5	228.1	43.7	25.3	37.1	0.0	173.0	300.8	0.0	418.5
LnGrp LOS	D	D	D	F	D	C	D	A	F	F	A	F
Approach Vol, veh/h		277			1375			761			1100	
Approach Delay, s/veh		39.6			76.6			136.1			365.0	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	37.8		27.6	16.9	40.7		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	9.4		25.0	3.7	24.4		37.0				
Green Ext Time (p_c), s	0.0	5.5		0.0	0.0	10.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		176.9
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	95	30	35	160	120	5	15	15	120	40	135
Future Vol, veh/h	50	95	30	35	160	120	5	15	15	120	40	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	103	33	38	174	130	5	16	16	130	43	147
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	10.4	15.7	9.5	15.5
HCM LOS	B	C	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	25%	0%	100%	0%	11%	41%
Vol Thru, %	75%	0%	0%	76%	51%	14%
Vol Right, %	0%	100%	0%	24%	38%	46%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	15	50	125	315	295
LT Vol	5	0	50	0	35	120
Through Vol	15	0	0	95	160	40
RT Vol	0	15	0	30	120	135
Lane Flow Rate	22	16	54	136	342	321
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0.041	0.027	0.101	0.226	0.549	0.53
Departure Headway (Hd)	6.798	5.957	6.68	6.001	5.777	5.95
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	525	598	536	598	623	606
Service Time	4.56	3.718	4.428	3.749	3.816	3.99
HCM Lane V/C Ratio	0.042	0.027	0.101	0.227	0.549	0.53
HCM Control Delay	9.9	8.9	10.2	10.5	15.7	15.5
HCM Lane LOS	A	A	B	B	C	C
HCM 95th-tile Q	0.1	0.1	0.3	0.9	3.3	3.1

Intersection	
Int Delay, s/veh	3.1

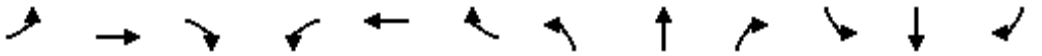
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	55	55	235	60	60
Future Vol, veh/h	200	55	55	235	60	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	217	60	60	255	65	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	277	0	622	247
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1286	-	450	792
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1286	-	426	792
Mov Cap-2 Maneuver	-	-	-	-	426	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	554	-	-	1286	-
HCM Lane V/C Ratio	0.235	-	-	0.046	-
HCM Control Delay (s)	13.5	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	135	70	0	0	0	200	740	230	220	780	240
Future Volume (veh/h)	70	135	70	0	0	0	200	740	230	220	780	240
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	147	76				217	804	250	239	848	261
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	297	194	100				143	1460	454	178	1516	466
Arrive On Green	0.17	0.17	0.17				0.08	0.55	0.55	0.10	0.57	0.57
Sat Flow, veh/h	1781	1162	601				1781	2668	829	1781	2676	823
Grp Volume(v), veh/h	76	0	223				217	535	519	239	563	546
Grp Sat Flow(s),veh/h/ln	1781	0	1762				1781	1777	1721	1781	1777	1722
Q Serve(g_s), s	2.7	0.0	8.7				5.8	14.1	14.1	7.2	14.5	14.5
Cycle Q Clear(g_c), s	2.7	0.0	8.7				5.8	14.1	14.1	7.2	14.5	14.5
Prop In Lane	1.00		0.34				1.00		0.48	1.00		0.48
Lane Grp Cap(c), veh/h	297	0	294				143	972	942	178	1007	976
V/C Ratio(X)	0.26	0.00	0.76				1.51	0.55	0.55	1.34	0.56	0.56
Avail Cap(c_a), veh/h	668	0	661				143	972	942	178	1007	976
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.35	0.35	0.35
Uniform Delay (d), s/veh	26.1	0.0	28.6				33.1	10.6	10.6	32.4	9.9	9.9
Incr Delay (d2), s/veh	0.4	0.0	4.0				263.0	2.2	2.3	166.6	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	3.8				12.9	5.5	5.4	11.3	5.2	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	32.6				296.1	12.8	12.9	199.0	10.7	10.7
LnGrp LOS	C	A	C				F	B	B	F	B	B
Approach Vol, veh/h		299						1271			1348	
Approach Delay, s/veh		31.1						61.2			44.1	
Approach LOS		C						E			D	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	11.4	44.4		16.2	10.0	45.8
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	9.2	16.1		10.7	7.8	16.5
Green Ext Time (p_c), s	0.0	5.9		1.3	0.0	6.8

Intersection Summary		
HCM 6th Ctrl Delay		50.2
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	30	1060	15	10	985
Future Vol, veh/h	10	30	1060	15	10	985
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	33	1152	16	11	1071

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1718	584	0	0	1168	0
Stage 1	1160	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	81	455	-	-	594	-
Stage 1	260	-	-	-	-	-
Stage 2	537	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	77	455	-	-	594	-
Mov Cap-2 Maneuver	77	-	-	-	-	-
Stage 1	260	-	-	-	-	-
Stage 2	512	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.4	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	204	594	-
HCM Lane V/C Ratio	-	-	0.213	0.018	-
HCM Control Delay (s)	-	-	27.4	11.2	0.3
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	5	15	0	20	0	80	10	10	90	0
Future Vol, veh/h	5	5	5	15	0	20	0	80	10	10	90	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	16	0	22	0	87	11	11	98	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	224	218	98	218	213	93	-	0	0	98	0	0
Stage 1	120	120	-	93	93	-	-	-	-	-	-	-
Stage 2	104	98	-	125	120	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	732	680	958	738	684	964	0	-	-	1495	-	0
Stage 1	884	796	-	914	818	-	0	-	-	-	-	0
Stage 2	902	814	-	879	796	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	711	675	958	725	679	964	-	-	-	1495	-	-
Mov Cap-2 Maneuver	711	675	-	725	679	-	-	-	-	-	-	-
Stage 1	884	790	-	914	818	-	-	-	-	-	-	-
Stage 2	882	814	-	861	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.5	0	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	711	792	845	1495	-
HCM Lane V/C Ratio	-	-	0.008	0.014	0.045	0.007	-
HCM Control Delay (s)	-	-	10.1	9.6	9.5	7.4	0
HCM Lane LOS	-	-	B	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	20	1010	1090	30
Future Vol, veh/h	5	5	20	1010	1090	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	22	1098	1185	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1795	609	1218	0	-	0
Stage 1	1202	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	72	438	568	-	-	-
Stage 1	247	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	65	438	568	-	-	-
Mov Cap-2 Maneuver	65	-	-	-	-	-
Stage 1	223	-	-	-	-	-
Stage 2	515	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	40.2	0.8	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	568	-	113	-	-
HCM Lane V/C Ratio	0.038	-	0.096	-	-
HCM Control Delay (s)	11.6	0.6	40.2	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	80	5	15	10	15	5	65	20	5	50	5
Future Vol, veh/h	10	80	5	15	10	15	5	65	20	5	50	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	87	5	16	11	16	5	71	22	5	54	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.5	7.8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	11%	38%	8%
Vol Thru, %	72%	84%	25%	83%
Vol Right, %	22%	5%	38%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	95	40	60
LT Vol	5	10	15	5
Through Vol	65	80	10	50
RT Vol	20	5	15	5
Lane Flow Rate	98	103	43	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.112	0.124	0.051	0.079
Departure Headway (Hd)	4.222	4.339	4.261	4.336
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	831	844	830
Service Time	2.222	2.339	2.266	2.342
HCM Lane V/C Ratio	0.115	0.124	0.051	0.078
HCM Control Delay	7.8	8	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.2	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	110	115	100	65	35	105	800	115	125	955	125
Future Volume (veh/h)	120	110	115	100	65	35	105	800	115	125	955	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	130	120	125	109	71	38	114	870	125	136	1038	136
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	44	455	83	35	455	126	1128	187	152	1189	176
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	0	152	1585	0	122	1585	108	1962	326	154	2069	307
Grp Volume(v), veh/h	250	0	125	180	0	38	479	0	630	581	0	729
Grp Sat Flow(s),veh/h/ln	152	0	1585	122	0	1585	753	0	1643	883	0	1647
Q Serve(g_s), s	0.0	0.0	4.2	0.0	0.0	1.2	16.5	0.0	18.4	21.6	0.0	23.5
Cycle Q Clear(g_c), s	20.0	0.0	4.2	20.0	0.0	1.2	40.0	0.0	18.4	40.0	0.0	23.5
Prop In Lane	0.52		1.00	0.61		1.00	0.24		0.20	0.23		0.19
Lane Grp Cap(c), veh/h	122	0	455	118	0	455	497	0	944	571	0	946
V/C Ratio(X)	2.04	0.00	0.27	1.52	0.00	0.08	0.96	0.00	0.67	1.02	0.00	0.77
Avail Cap(c_a), veh/h	122	0	455	118	0	455	497	0	944	571	0	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.9	0.0	19.2	29.1	0.0	18.1	17.1	0.0	10.2	19.1	0.0	11.3
Incr Delay (d2), s/veh	497.2	0.0	0.3	274.3	0.0	0.1	32.2	0.0	3.2	41.7	0.0	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.9	0.0	1.5	10.9	0.0	0.4	12.1	0.0	6.5	15.9	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	525.1	0.0	19.5	303.3	0.0	18.2	49.4	0.0	13.4	60.8	0.0	16.8
LnGrp LOS	F	A	B	F	A	B	D	A	B	F	A	B
Approach Vol, veh/h		375			218			1109			1310	
Approach Delay, s/veh		356.6			253.6			29.0			36.3	
Approach LOS		F			F			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	24.6	45.0	24.6
Change Period (Y+Rc), s	5.0	4.6	5.0	4.6
Max Green Setting (Gmax), s	40.0	20.0	40.0	20.0
Max Q Clear Time (g_c+I1), s	42.0	22.0	42.0	22.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	89.2
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	5	10	0	5	10
Future Vol, veh/h	5	5	10	0	5	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	11	0	5	11
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.7	7.2	6.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	33%	0%	100%
Vol Thru, %	0%	50%	0%
Vol Right, %	67%	50%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	15	10	10
LT Vol	5	0	10
Through Vol	0	5	0
RT Vol	10	5	0
Lane Flow Rate	16	11	11
Geometry Grp	1	1	1
Degree of Util (X)	0.016	0.011	0.013
Departure Headway (Hd)	3.64	3.67	4.17
Convergence, Y/N	Yes	Yes	Yes
Cap	987	979	862
Service Time	1.647	1.676	2.175
HCM Lane V/C Ratio	0.016	0.011	0.013
HCM Control Delay	6.7	6.7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	15	5	10	10	10	5	75	15	5	50	0
Future Vol, veh/h	5	15	5	10	10	10	5	75	15	5	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	16	5	11	11	11	5	82	16	5	54	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	21	0	0	95	73	19	117	70	17
Stage 1	-	-	-	-	-	-	29	29	-	39	39	-
Stage 2	-	-	-	-	-	-	66	44	-	78	31	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1595	-	-	888	817	1059	859	821	1062
Stage 1	-	-	-	-	-	-	988	871	-	976	862	-
Stage 2	-	-	-	-	-	-	945	858	-	931	869	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1595	-	-	836	809	1059	775	813	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	836	809	-	775	813	-
Stage 1	-	-	-	-	-	-	985	868	-	973	856	-
Stage 2	-	-	-	-	-	-	879	852	-	828	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	2.4	9.9	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	842	1593	-	-	1595	-	-	809
HCM Lane V/C Ratio	0.123	0.003	-	-	0.007	-	-	0.074
HCM Control Delay (s)	9.9	7.3	0	-	7.3	0	-	9.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	10	5	25	10	5	15	15	910	30	15	950	15
Future Vol, veh/h	10	5	25	10	5	15	15	910	30	15	950	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	27	11	5	16	16	989	33	16	1033	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1602	2127	525	1589	2119	511	1049	0	0	1022	0	0
Stage 1	1073	1073	-	1038	1038	-	-	-	-	-	-	-
Stage 2	529	1054	-	551	1081	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	71	49	497	72	50	508	659	-	-	675	-	-
Stage 1	235	295	-	247	306	-	-	-	-	-	-	-
Stage 2	501	301	-	486	292	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	57	44	497	57	44	508	659	-	-	675	-	-
Mov Cap-2 Maneuver	57	44	-	57	44	-	-	-	-	-	-	-
Stage 1	222	278	-	233	289	-	-	-	-	-	-	-
Stage 2	449	284	-	425	275	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	52.3	62.4	0.5	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	659	-	-	118	94	675	-	-
HCM Lane V/C Ratio	0.025	-	-	0.368	0.347	0.024	-	-
HCM Control Delay (s)	10.6	0.3	-	52.3	62.4	10.5	0.3	-
HCM Lane LOS	B	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	1.4	0.1	-	-

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	80	580	75	170	115	430	480	330	540	85
Future Volume (veh/h)	0	0	80	580	75	170	115	430	480	330	540	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	689	0	0	125	467	0	359	587	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	457		1104	0		179	708		348	608	98
Arrive On Green	0.00	0.00	0.00	0.24	0.00	0.00	0.25	0.25	0.00	0.29	0.29	0.29
Sat Flow, veh/h	0	1870	0	3563	0	1585	728	2883	1585	1196	2088	337
Grp Volume(v), veh/h	0	0	0	689	0	0	315	277	0	544	0	494
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1834	1777	1585	1811	0	1810
Q Serve(g_s), s	0.0	0.0	0.0	11.2	0.0	0.0	9.7	8.6	0.0	18.0	0.0	16.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	11.2	0.0	0.0	9.7	8.6	0.0	18.0	0.0	16.5
Prop In Lane	0.00		0.00	1.00		1.00	0.40		1.00	0.66		0.19
Lane Grp Cap(c), veh/h	0	457		1104	0		451	436		527	0	527
V/C Ratio(X)	0.00	0.00		0.62	0.00		0.70	0.63		1.03	0.00	0.94
Avail Cap(c_a), veh/h	0	757		1674	0		846	820		527	0	527
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	21.9	0.0	0.0	21.2	20.8	0.0	21.9	0.0	21.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	2.0	1.5	0.0	47.3	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	3.9	0.0	0.0	4.2	3.6	0.0	14.0	0.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	22.4	0.0	0.0	23.2	22.4	0.0	69.2	0.0	46.1
LnGrp LOS	A	A		C	A		C	C		F	A	D
Approach Vol, veh/h		0			689			592			1038	
Approach Delay, s/veh		0.0			22.4			22.8			58.2	
Approach LOS					C			C			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	19.7	19.6	22.5	19.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	25.0	18.0	25.0
Max Q Clear Time (g_c+I1), s	11.7	0.0	20.0	13.2
Green Ext Time (p_c), s	3.5	0.0	0.0	1.9

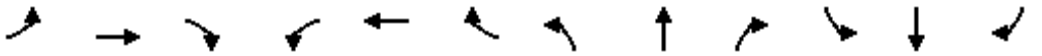
Intersection Summary	
HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1120	40	250	1120	460	40	0	90	350	50	150
Future Volume (veh/h)	0	1120	40	250	1120	460	40	0	90	350	50	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1217	43	272	1217	0	43	0	98	419	0	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1247	44	275	2030		148	0	131	586	0	261
Arrive On Green	0.00	0.36	0.36	0.15	0.57	0.00	0.08	0.00	0.08	0.16	0.00	0.16
Sat Flow, veh/h	0	3595	124	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	617	643	272	1217	0	43	0	98	419	0	163
Grp Sat Flow(s),veh/h/ln	0	1777	1848	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	25.5	25.5	11.3	16.6	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Cycle Q Clear(g_c), s	0.0	25.5	25.5	11.3	16.6	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Prop In Lane	0.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	633	658	275	2030		148	0	131	586	0	261
V/C Ratio(X)	0.00	0.98	0.98	0.99	0.60		0.29	0.00	0.75	0.72	0.00	0.63
Avail Cap(c_a), veh/h	0	633	658	275	2030		168	0	149	1293	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.6	23.6	31.4	10.4	0.0	32.1	0.0	33.3	29.4	0.0	29.0
Incr Delay (d2), s/veh	0.0	29.5	29.1	50.7	0.5	0.0	1.1	0.0	16.2	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.8	15.4	8.5	5.5	0.0	0.8	0.0	2.3	3.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	53.2	52.8	82.1	10.9	0.0	33.1	0.0	49.6	31.1	0.0	31.4
LnGrp LOS	A	D	D	F	B		C	A	D	C	A	C
Approach Vol, veh/h		1260			1489			141			582	
Approach Delay, s/veh		53.0			23.9			44.6			31.2	
Approach LOS		D			C			D			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		10.7	16.0	31.0		16.7		47.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		7.0	11.5	26.5		27.0		42.5				
Max Q Clear Time (g_c+I1), s		6.5	13.3	27.5		10.3		18.6				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.9		9.7				

Intersection Summary												
HCM 6th Ctrl Delay			36.5									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

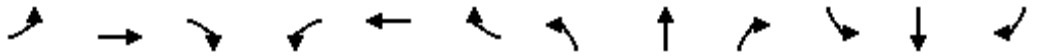
Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	15	200	15	30	170	35	30	15	35	40	30	20
Future Vol, veh/h	15	200	15	30	170	35	30	15	35	40	30	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	217	16	33	185	38	33	16	38	43	33	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	233	0	0	555	546	225	554	535	204
Stage 1	-	-	-	-	-	-	257	257	-	270	270	-
Stage 2	-	-	-	-	-	-	298	289	-	284	265	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1346	-	-	1335	-	-	442	445	814	443	452	837
Stage 1	-	-	-	-	-	-	748	695	-	736	686	-
Stage 2	-	-	-	-	-	-	711	673	-	723	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1346	-	-	1335	-	-	393	426	814	397	433	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	426	-	397	433	-
Stage 1	-	-	-	-	-	-	738	685	-	726	667	-
Stage 2	-	-	-	-	-	-	640	654	-	663	679	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1	13.3	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	518	1346	-	-	1335	-	-	464
HCM Lane V/C Ratio	0.168	0.012	-	-	0.024	-	-	0.211
HCM Control Delay (s)	13.3	7.7	0	-	7.8	0	-	14.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.8



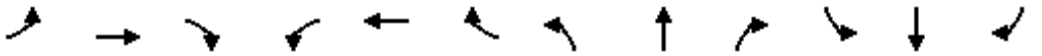
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	80	100	85	50	20	130	775	70	35	645	50
Future Volume (veh/h)	90	80	100	85	50	20	130	775	70	35	645	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	87	109	92	54	22	141	842	76	38	701	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	155	195	208	103	27	189	1369	124	76	1176	91
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.11	0.42	0.42	0.04	0.35	0.35
Sat Flow, veh/h	1323	755	946	381	502	133	1781	3296	298	1781	3343	257
Grp Volume(v), veh/h	98	0	196	168	0	0	141	454	464	38	372	383
Grp Sat Flow(s),veh/h/ln	1323	0	1700	1016	0	0	1781	1777	1817	1781	1777	1824
Q Serve(g_s), s	0.0	0.0	4.4	3.0	0.0	0.0	3.3	8.6	8.6	0.9	7.4	7.4
Cycle Q Clear(g_c), s	2.8	0.0	4.4	7.4	0.0	0.0	3.3	8.6	8.6	0.9	7.4	7.4
Prop In Lane	1.00		0.56	0.55		0.13	1.00		0.16	1.00		0.14
Lane Grp Cap(c), veh/h	432	0	350	339	0	0	189	738	755	76	625	642
V/C Ratio(X)	0.23	0.00	0.56	0.50	0.00	0.00	0.75	0.61	0.61	0.50	0.60	0.60
Avail Cap(c_a), veh/h	932	0	992	867	0	0	832	1659	1696	832	1659	1703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	15.3	16.6	0.0	0.0	18.6	9.8	9.8	20.1	11.4	11.4
Incr Delay (d2), s/veh	0.3	0.0	1.4	1.1	0.0	0.0	5.7	0.8	0.8	5.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.6	1.5	0.0	0.0	1.5	2.8	2.9	0.4	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.9	0.0	16.7	17.7	0.0	0.0	24.3	10.7	10.6	25.1	12.3	12.3
LnGrp LOS	B	A	B	B	A	A	C	B	B	C	B	B
Approach Vol, veh/h		294			168			1059			793	
Approach Delay, s/veh		16.1			17.7			12.5			12.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	22.9		13.4	9.2	20.2		13.4				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.9	10.6		6.4	5.3	9.4		9.4				
Green Ext Time (p_c), s	0.1	7.2		1.4	0.3	5.6		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	230	140	200	230	270	150	510	180	220	450	60
Future Volume (veh/h)	60	230	140	200	230	270	150	510	180	220	450	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	250	152	217	250	293	163	554	196	239	489	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	269	290	330	346	534	195	791	279	270	1102	146
Arrive On Green	0.18	0.18	0.18	0.19	0.19	0.19	0.11	0.31	0.31	0.15	0.35	0.35
Sat Flow, veh/h	382	1469	1585	1781	1870	1585	1781	2575	908	1781	3154	418
Grp Volume(v), veh/h	315	0	152	217	250	293	163	382	368	239	275	279
Grp Sat Flow(s),veh/h/ln	1851	0	1585	1781	1870	1585	1781	1777	1707	1781	1777	1795
Q Serve(g_s), s	18.3	0.0	9.5	12.4	13.7	16.4	9.8	20.7	20.8	14.4	13.0	13.1
Cycle Q Clear(g_c), s	18.3	0.0	9.5	12.4	13.7	16.4	9.8	20.7	20.8	14.4	13.0	13.1
Prop In Lane	0.21		1.00	1.00		1.00	1.00		0.53	1.00		0.23
Lane Grp Cap(c), veh/h	339	0	290	330	346	534	195	546	524	270	621	627
V/C Ratio(X)	0.93	0.00	0.52	0.66	0.72	0.55	0.84	0.70	0.70	0.88	0.44	0.45
Avail Cap(c_a), veh/h	339	0	290	407	428	603	326	975	937	326	975	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	40.3	41.3	41.9	29.5	47.7	33.4	33.4	45.4	27.4	27.4
Incr Delay (d2), s/veh	31.4	0.0	1.7	2.8	4.5	0.9	9.0	3.5	3.6	21.0	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	0.0	3.7	5.5	6.6	6.2	4.8	9.2	9.0	7.8	5.6	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.4	0.0	42.1	44.1	46.4	30.4	56.7	36.9	37.1	66.5	28.4	28.4
LnGrp LOS	E	A	D	D	D	C	E	D	D	E	C	C
Approach Vol, veh/h		467			760			913			793	
Approach Delay, s/veh		64.5			39.6			40.5			39.9	
Approach LOS		E			D			D			D	

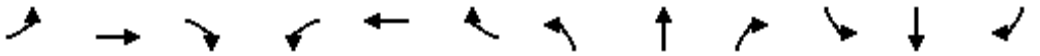
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.2	38.7		24.6	16.6	43.3		24.8				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		20.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	16.4	22.8		20.3	11.8	15.1		18.4				
Green Ext Time (p_c), s	0.2	10.7		0.0	0.2	7.5		1.8				

Intersection Summary			
HCM 6th Ctrl Delay		43.9	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	600	140	210	875	485	30	20	50	455	65	110
Future Volume (veh/h)	250	600	140	210	875	485	30	20	50	455	65	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	652	152	228	951	527	33	22	54	343	284	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1265	295	192	1444	1028	56	38	82	431	302	128
Arrive On Green	0.14	0.44	0.44	0.22	0.81	0.81	0.05	0.05	0.05	0.24	0.24	0.24
Sat Flow, veh/h	1781	2861	666	1781	3554	1585	1090	726	1585	1781	1248	527
Grp Volume(v), veh/h	272	405	399	228	951	527	55	0	54	343	0	404
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1777	1585	1816	0	1585	1781	0	1775
Q Serve(g_s), s	16.5	18.9	19.0	12.4	12.4	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Cycle Q Clear(g_c), s	16.5	18.9	19.0	12.4	12.4	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Prop In Lane	1.00		0.38	1.00		1.00	0.60		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	256	786	774	192	1444	1028	94	0	82	431	0	430
V/C Ratio(X)	1.06	0.52	0.52	1.19	0.66	0.51	0.59	0.00	0.66	0.80	0.00	0.94
Avail Cap(c_a), veh/h	256	786	774	192	1444	1028	284	0	248	434	0	432
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.62	0.62	0.62	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	23.2	23.2	45.1	7.5	2.9	53.3	0.0	53.5	40.9	0.0	42.8
Incr Delay (d2), s/veh	74.3	2.4	2.5	111.9	1.5	1.1	5.7	0.0	8.7	9.9	0.0	28.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	8.1	8.0	10.7	2.8	3.2	1.7	0.0	1.7	10.2	0.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.6	25.6	25.6	157.0	9.0	4.1	59.0	0.0	62.3	50.8	0.0	71.5
LnGrp LOS	F	C	C	F	A	A	E	A	E	D	A	E
Approach Vol, veh/h		1076			1706			109			747	
Approach Delay, s/veh		50.4			27.3			60.6			62.0	
Approach LOS		D			C			E			E	

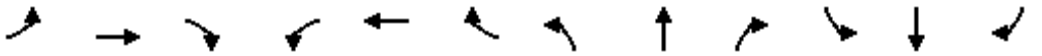
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.4	16.9	55.3		32.3	21.0	51.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	12.4	38.6		28.0	16.5	34.5				
Max Q Clear Time (g_c+I1), s		5.8	14.4	21.0		27.7	18.5	14.7				
Green Ext Time (p_c), s		0.3	0.0	4.5		0.1	0.0	8.5				

Intersection Summary												
HCM 6th Ctrl Delay			42.2									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	920	220	150	805	325	130	85	95	750	225	490
Future Volume (veh/h)	290	920	220	150	805	325	130	85	95	750	225	490
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	1000	239	163	875	353	116	126	103	530	644	533
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1469	350	82	1842	822	168	177	150	333	350	296
Arrive On Green	0.04	0.52	0.52	0.05	0.52	0.52	0.09	0.09	0.09	0.19	0.19	0.19
Sat Flow, veh/h	1781	2847	678	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	315	623	616	163	875	353	116	126	103	530	644	533
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	30.1	30.3	5.3	18.1	15.9	7.3	7.5	7.2	21.5	21.5	21.5
Cycle Q Clear(g_c), s	5.0	30.1	30.3	5.3	18.1	15.9	7.3	7.5	7.2	21.5	21.5	21.5
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	917	902	82	1842	822	168	177	150	333	350	296
V/C Ratio(X)	4.07	0.68	0.68	1.99	0.47	0.43	0.69	0.71	0.69	1.59	1.84	1.80
Avail Cap(c_a), veh/h	77	917	902	82	1842	822	527	553	469	333	350	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	20.8	20.8	54.8	17.7	17.2	50.4	50.5	50.4	46.8	46.8	46.8
Incr Delay (d2), s/veh	1401.5	2.9	2.9	484.0	0.9	1.6	4.9	5.2	5.5	280.0	389.7	372.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.4	12.3	12.3	13.4	7.2	5.8	3.5	3.8	3.0	35.4	47.8	38.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1456.5	23.6	23.8	538.8	18.6	18.8	55.3	55.8	55.9	326.7	436.5	419.3
LnGrp LOS	F	C	C	F	B	B	E	E	E	F	F	F
Approach Vol, veh/h		1554			1391			345			1707	
Approach Delay, s/veh		314.1			79.6			55.7			397.0	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.4	9.8	63.8	26.0	9.5	64.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	5.3	36.2	21.5	5.0	36.5
Max Q Clear Time (g_c+I1), s	9.5	7.3	32.3	23.5	7.0	20.1
Green Ext Time (p_c), s	1.4	0.0	2.6	0.0	0.0	6.5

Intersection Summary	
HCM 6th Ctrl Delay	259.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	110	90	230	120	350	140	510	250	300	470	160
Future Volume (veh/h)	90	110	90	230	120	350	140	510	250	300	470	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	120	98	250	130	380	152	554	272	326	511	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	170	144	274	143	688	185	665	326	363	1011	343
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.10	0.29	0.29	0.20	0.39	0.39
Sat Flow, veh/h	1781	1870	1585	1191	619	1585	1781	2311	1132	1781	2606	883
Grp Volume(v), veh/h	98	120	98	380	0	380	152	426	400	326	348	337
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1667	1781	1777	1711
Q Serve(g_s), s	5.5	6.5	6.2	21.3	0.0	18.6	8.7	23.4	23.5	18.6	15.5	15.7
Cycle Q Clear(g_c), s	5.5	6.5	6.2	21.3	0.0	18.6	8.7	23.4	23.5	18.6	15.5	15.7
Prop In Lane	1.00		1.00	0.66		1.00	1.00		0.68	1.00		0.52
Lane Grp Cap(c), veh/h	162	170	144	417	0	688	185	512	480	363	690	664
V/C Ratio(X)	0.61	0.71	0.68	0.91	0.00	0.55	0.82	0.83	0.83	0.90	0.50	0.51
Avail Cap(c_a), veh/h	342	359	304	434	0	704	342	682	639	513	690	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	46.1	45.9	39.1	0.0	21.9	45.8	34.8	34.8	40.4	24.3	24.3
Incr Delay (d2), s/veh	3.6	5.3	5.6	22.7	0.0	0.9	8.7	6.6	7.1	14.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.3	2.6	11.9	0.0	6.8	4.2	10.7	10.2	9.4	6.4	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	51.4	51.5	61.8	0.0	22.8	54.5	41.4	41.9	54.6	24.8	24.9
LnGrp LOS	D	D	D	E	A	C	D	D	D	D	C	C
Approach Vol, veh/h		316			760			978			1011	
Approach Delay, s/veh		50.8			42.3			43.6			34.5	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.0	35.1		14.1	15.5	45.6		29.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	20.6	25.5		8.5	10.7	17.7		23.3				
Green Ext Time (p_c), s	0.7	4.5		1.0	0.2	4.3		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		41.0	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	50	70	15	45	30	50	830	20	45	1095	120
Future Volume (veh/h)	165	50	70	15	45	30	50	830	20	45	1095	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	54	76	16	49	33	54	902	22	49	1190	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	81	504	93	214	114	93	1289	31	87	1145	125
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.05	0.36	0.36	0.05	0.35	0.35
Sat Flow, veh/h	609	254	1585	34	671	358	1781	3545	86	1781	3232	352
Grp Volume(v), veh/h	233	0	76	98	0	0	54	452	472	49	653	667
Grp Sat Flow(s),veh/h/ln	863	0	1585	1064	0	0	1781	1777	1855	1781	1777	1807
Q Serve(g_s), s	0.2	0.0	1.7	0.4	0.0	0.0	1.5	11.0	11.0	1.4	18.0	18.0
Cycle Q Clear(g_c), s	14.4	0.0	1.7	14.5	0.0	0.0	1.5	11.0	11.0	1.4	18.0	18.0
Prop In Lane	0.77		1.00	0.16		0.34	1.00		0.05	1.00		0.19
Lane Grp Cap(c), veh/h	400	0	504	421	0	0	93	646	674	87	629	640
V/C Ratio(X)	0.58	0.00	0.15	0.23	0.00	0.00	0.58	0.70	0.70	0.56	1.04	1.04
Avail Cap(c_a), veh/h	451	0	561	480	0	0	175	646	674	186	629	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	12.4	12.9	0.0	0.0	23.5	13.8	13.8	23.6	16.4	16.4
Incr Delay (d2), s/veh	1.5	0.0	0.1	0.3	0.0	0.0	5.6	3.4	3.2	5.6	46.0	47.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.6	0.7	0.0	0.0	0.7	4.4	4.6	0.7	14.3	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	12.5	13.2	0.0	0.0	29.2	17.2	17.0	29.2	62.4	63.4
LnGrp LOS	B	A	B	B	A	A	C	B	B	C	F	F
Approach Vol, veh/h		309			98			978			1369	
Approach Delay, s/veh		16.6			13.2			17.8			61.7	
Approach LOS		B			B			B			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	23.5		20.9	7.2	23.0		20.9				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	3.4	13.0		16.4	3.5	20.0		16.5				
Green Ext Time (p_c), s	0.0	2.6		0.3	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		39.3	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

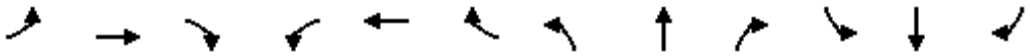
2050 BUILDOUT WITH PROJECT
AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	45	40	40	55	55	90	377	130	115	435	100
Future Volume (veh/h)	30	45	40	40	55	55	90	377	130	115	435	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	49	43	43	60	60	98	410	141	125	473	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	147	129	350	137	137	315	1165	388	357	1204	274
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1272	919	806	1304	858	858	321	2047	682	384	2116	481
Grp Volume(v), veh/h	33	0	92	43	0	120	323	0	326	341	0	366
Grp Sat Flow(s),veh/h/ln	1272	0	1725	1304	0	1716	1471	0	1579	1366	0	1615
Q Serve(g_s), s	0.9	0.0	1.7	1.1	0.0	2.2	0.0	0.0	4.0	0.2	0.0	4.5
Cycle Q Clear(g_c), s	3.1	0.0	1.7	2.7	0.0	2.2	3.2	0.0	4.0	4.2	0.0	4.5
Prop In Lane	1.00		0.47	1.00		0.50	0.30		0.43	0.37		0.30
Lane Grp Cap(c), veh/h	326	0	275	350	0	274	970	0	899	916	0	920
V/C Ratio(X)	0.10	0.00	0.33	0.12	0.00	0.44	0.33	0.00	0.36	0.37	0.00	0.40
Avail Cap(c_a), veh/h	1201	0	1462	1247	0	1454	1731	0	1785	1648	0	1826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	13.2	14.4	0.0	13.4	4.0	0.0	4.1	4.0	0.0	4.2
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.2	0.0	1.1	0.7	0.0	0.9	0.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.6	0.3	0.0	0.8	0.8	0.0	0.9	0.9	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	13.9	14.6	0.0	14.5	4.7	0.0	5.0	4.9	0.0	5.3
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		125			163			649			707	
Approach Delay, s/veh		14.2			14.6			4.9			5.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.1		10.2		25.1		10.2				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		6.0		5.1		6.5		4.7				
Green Ext Time (p_c), s		12.5		0.6		13.7		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	60	40	63	60	55	140	647	190	120	565	120
Future Volume (veh/h)	40	60	40	63	60	55	140	647	190	120	565	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	65	43	68	65	60	152	703	207	130	614	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	169	112	279	144	133	284	1252	376	267	1246	276
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1266	1050	695	1286	895	826	294	1930	580	264	1921	426
Grp Volume(v), veh/h	43	0	108	68	0	125	492	0	570	378	0	496
Grp Sat Flow(s),veh/h/ln	1266	0	1745	1286	0	1722	1207	0	1598	985	0	1625
Q Serve(g_s), s	1.6	0.0	2.8	2.5	0.0	3.3	5.5	0.0	9.8	4.6	0.0	7.8
Cycle Q Clear(g_c), s	4.9	0.0	2.8	5.3	0.0	3.3	13.3	0.0	9.8	14.4	0.0	7.8
Prop In Lane	1.00		0.40	1.00		0.48	0.31		0.36	0.34		0.26
Lane Grp Cap(c), veh/h	264	0	281	279	0	277	876	0	1036	735	0	1054
V/C Ratio(X)	0.16	0.00	0.38	0.24	0.00	0.45	0.56	0.00	0.55	0.51	0.00	0.47
Avail Cap(c_a), veh/h	813	0	1039	837	0	1025	1057	0	1268	894	0	1290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	0.0	18.9	21.3	0.0	19.1	5.1	0.0	4.8	5.0	0.0	4.5
Incr Delay (d2), s/veh	0.3	0.0	0.9	0.4	0.0	1.1	2.0	0.0	1.7	2.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.1	0.7	0.0	1.3	2.0	0.0	2.5	1.5	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	19.8	21.7	0.0	20.3	7.1	0.0	6.5	7.0	0.0	5.7
LnGrp LOS	C	A	B	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		151			193			1062			874	
Approach Delay, s/veh		20.3			20.8			6.8			6.2	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.7		12.7		37.7		12.7				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		15.3		6.9		16.4		7.3				
Green Ext Time (p_c), s		17.4		0.7		14.4		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			8.7									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	407	5	0	0	0	0	15	10	15	100	0
Future Vol, veh/h	22	407	5	0	0	0	0	15	10	15	100	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	442	5	0	0	0	0	16	11	16	109	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10	8.1	9.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	13%
Vol Thru, %	60%	90%	98%	87%
Vol Right, %	40%	0%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	226	209	115
LT Vol	0	22	0	15
Through Vol	15	204	204	100
RT Vol	10	0	5	0
Lane Flow Rate	27	245	227	125
Geometry Grp	2	5	5	2
Degree of Util (X)	0.037	0.338	0.309	0.175
Departure Headway (Hd)	4.903	4.968	4.902	5.032
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	726	734	714
Service Time	2.937	2.695	2.629	3.057
HCM Lane V/C Ratio	0.037	0.337	0.309	0.175
HCM Control Delay	8.1	10.2	9.8	9.1
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	1.5	1.3	0.6

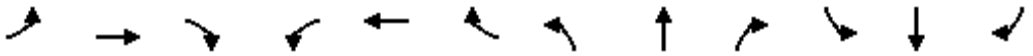
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	172	245	5	5	0	5	0	20	10	0	0	0
Future Vol, veh/h	172	245	5	5	0	5	0	20	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	187	266	5	5	0	5	0	22	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	643	269
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	392	770
Stage 1	-	-	-	0	468	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	770
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.9
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	770	-	-	-
HCM Lane V/C Ratio	0.042	-	-	-
HCM Control Delay (s)	9.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



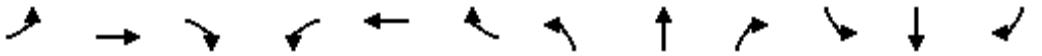
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	110	36	48	170	30	28	25	25	15	34	35
Future Volume (veh/h)	20	110	36	48	170	30	28	25	25	15	34	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	120	39	52	185	33	30	27	27	16	37	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	637	763	239	717	1042	182	307	226	371	153	198	165
Arrive On Green	0.06	0.29	0.29	0.11	0.34	0.34	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	2664	833	1781	3022	529	639	968	1585	138	847	706
Grp Volume(v), veh/h	22	78	81	52	107	111	57	0	27	91	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1781	1777	1775	1607	0	1585	1690	0	0
Q Serve(g_s), s	0.3	1.2	1.2	0.6	1.5	1.5	0.0	0.0	0.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.2	1.2	0.6	1.5	1.5	0.8	0.0	0.5	1.5	0.0	0.0
Prop In Lane	1.00		0.48	1.00		0.30	0.53		1.00	0.18		0.42
Lane Grp Cap(c), veh/h	637	509	492	717	612	612	533	0	371	516	0	0
V/C Ratio(X)	0.03	0.15	0.16	0.07	0.18	0.18	0.11	0.00	0.07	0.18	0.00	0.00
Avail Cap(c_a), veh/h	1049	1526	1477	1024	1526	1524	1318	0	1180	1492	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	9.3	9.3	6.5	8.0	8.0	10.6	0.0	10.4	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.4	0.4	0.2	0.4	0.4	0.3	0.0	0.1	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	9.5	9.6	6.5	8.2	8.2	10.6	0.0	10.5	10.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		181			270			84			91	
Approach Delay, s/veh		9.3			7.9			10.6			10.9	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	14.6		12.4	5.9	16.6		12.4				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.6	3.2		3.5	2.3	3.5		2.8				
Green Ext Time (p_c), s	0.0	1.2		0.3	0.0	1.8		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Notes

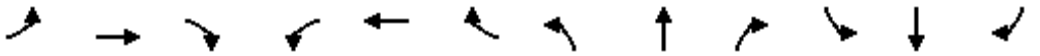
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	80	191	210	70	50	357	0	0	463	50
Future Volume (veh/h)	60	0	80	191	210	70	50	357	0	0	463	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	65	0	87	208	228	76	54	388	0	0	503	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	174	0	155	420	622	202	91	1406	0	0	847	91
Arrive On Green	0.10	0.00	0.10	0.24	0.24	0.24	0.05	0.40	0.00	0.00	0.26	0.26
Sat Flow, veh/h	1781	0	1585	1781	2637	856	1781	3647	0	0	3332	346
Grp Volume(v), veh/h	65	0	87	208	152	152	54	388	0	0	275	282
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1716	1781	1777	0	0	1777	1808
Q Serve(g_s), s	1.9	0.0	2.9	5.6	4.0	4.1	1.6	4.1	0.0	0.0	7.5	7.6
Cycle Q Clear(g_c), s	1.9	0.0	2.9	5.6	4.0	4.1	1.6	4.1	0.0	0.0	7.5	7.6
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.00	0.00		0.19
Lane Grp Cap(c), veh/h	174	0	155	420	419	405	91	1406	0	0	465	473
V/C Ratio(X)	0.37	0.00	0.56	0.49	0.36	0.38	0.60	0.28	0.00	0.00	0.59	0.60
Avail Cap(c_a), veh/h	739	0	658	803	801	774	482	1924	0	0	737	750
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	23.9	18.3	17.7	17.8	25.7	11.4	0.0	0.0	17.9	17.9
Incr Delay (d2), s/veh	1.3	0.0	3.2	3.3	1.9	2.1	6.1	0.2	0.0	0.0	2.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.2	2.5	1.7	1.7	0.8	1.5	0.0	0.0	3.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	0.0	27.0	21.6	19.6	19.8	31.8	11.6	0.0	0.0	20.4	20.5
LnGrp LOS	C	A	C	C	B	B	C	B	A	A	C	C
Approach Vol, veh/h		152			512			442			557	
Approach Delay, s/veh		26.0			20.5			14.1			20.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		26.9		10.4	7.4	19.5		18.1				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	23.0		25.0				
Max Q Clear Time (g_c+I1), s		6.1		4.9	3.6	9.6		7.6				
Green Ext Time (p_c), s		4.8		0.6	0.1	4.9		5.5				

Intersection Summary												
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	464	75	12	20	0	0	20	30
Future Volume (veh/h)	0	0	0	95	464	75	12	20	0	0	20	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				103	504	82	13	22	0	0	22	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				255	1306	223	252	106	0	0	76	114
Arrive On Green				0.49	0.49	0.49	0.11	0.11	0.00	0.00	0.11	0.11
Sat Flow, veh/h				520	2660	453	446	942	0	0	675	1013
Grp Volume(v), veh/h				366	0	323	35	0	0	0	0	55
Grp Sat Flow(s),veh/h/ln				1844	0	1789	1388	0	0	0	0	1688
Q Serve(g_s), s				3.1	0.0	2.7	0.2	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				3.1	0.0	2.7	0.9	0.0	0.0	0.0	0.0	0.7
Prop In Lane				0.28		0.25	0.37		0.00	0.00		0.60
Lane Grp Cap(c), veh/h				905	0	878	358	0	0	0	0	189
V/C Ratio(X)				0.40	0.00	0.37	0.10	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				3018	0	2927	1379	0	0	0	0	1243
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				4.0	0.0	3.9	10.0	0.0	0.0	0.0	0.0	10.0
Incr Delay (d2), s/veh				0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.2	0.0	4.1	10.1	0.0	0.0	0.0	0.0	10.8
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					689			35			55	
Approach Delay, s/veh					4.2			10.1			10.8	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.3		17.1		7.3				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.7		5.1		2.9				
Green Ext Time (p_c), s				0.2		4.9		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		4.9
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	105	484	40	15	10	0	0	25	10
Future Vol, veh/h	0	0	0	105	484	40	15	10	0	0	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	114	526	43	16	11	0	0	27	11

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	505	797	-	-	776	285
Stage 1	-	-	-	0	0	-	-	776	-
Stage 2	-	-	-	505	797	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	450	318	0	0	327	712
Stage 1	-	-	-	-	-	0	0	406	-
Stage 2	-	-	-	518	397	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	415	318	-	-	327	712
Mov Cap-2 Maneuver	-	-	-	415	318	-	-	327	-
Stage 1	-	-	-	-	-	-	-	406	-
Stage 2	-	-	-	476	397	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		15.5	15.3
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	370	-	-	-	387
HCM Lane V/C Ratio	0.073	-	-	-	0.098
HCM Control Delay (s)	15.5	-	-	-	15.3
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

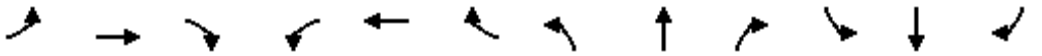
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	554	70	0	0	187	0	0	10
Future Vol, veh/h	0	0	0	0	554	70	0	0	187	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	602	76	0	0	203	0	0	11

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	339
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	657
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	657
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	10.6
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	657
HCM Lane V/C Ratio	-	-	0.017
HCM Control Delay (s)	-	-	10.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	152	60	245	624	305	50	105	275	285	100	45
Future Volume (veh/h)	35	152	60	245	624	305	50	105	275	285	100	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	165	65	266	678	332	54	114	299	234	215	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	720	273	247	1060	750	132	278	353	311	257	59
Arrive On Green	0.13	0.29	0.29	0.14	0.30	0.30	0.22	0.22	0.22	0.17	0.17	0.17
Sat Flow, veh/h	1781	2520	955	1781	3554	1585	592	1249	1585	1781	1474	336
Grp Volume(v), veh/h	38	114	116	266	678	332	168	0	299	234	0	264
Grp Sat Flow(s),veh/h/ln	1781	1777	1698	1781	1777	1585	1841	0	1585	1781	0	1810
Q Serve(g_s), s	2.1	5.3	5.6	15.0	17.9	15.1	8.4	0.0	19.6	13.5	0.0	15.3
Cycle Q Clear(g_c), s	2.1	5.3	5.6	15.0	17.9	15.1	8.4	0.0	19.6	13.5	0.0	15.3
Prop In Lane	1.00		0.56	1.00		1.00	0.32		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	224	508	485	247	1060	750	410	0	353	311	0	316
V/C Ratio(X)	0.17	0.23	0.24	1.08	0.64	0.44	0.41	0.00	0.85	0.75	0.00	0.84
Avail Cap(c_a), veh/h	494	657	628	247	1313	863	595	0	513	378	0	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.3	29.5	29.6	46.6	32.9	19.0	36.0	0.0	40.3	42.4	0.0	43.2
Incr Delay (d2), s/veh	0.3	1.0	1.2	79.4	2.4	1.5	0.9	0.0	10.3	7.7	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.4	2.5	12.0	8.0	8.0	3.9	0.0	8.6	6.6	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	30.6	30.8	126.1	35.3	20.5	36.9	0.0	50.6	50.2	0.0	56.9
LnGrp LOS	D	C	C	F	D	C	D	A	D	D	A	E
Approach Vol, veh/h		268			1276			467			498	
Approach Delay, s/veh		32.4			50.4			45.7			53.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	36.3		23.5	18.3	37.7		28.7				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	7.6		17.3	4.1	19.9		21.6				
Green Ext Time (p_c), s	0.0	5.1		1.6	0.0	12.4		2.6				

Intersection Summary			
HCM 6th Ctrl Delay		48.2	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	40	10	41	35	40	0	23	45	68	25	30
Future Vol, veh/h	10	40	10	41	35	40	0	23	45	68	25	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	43	11	45	38	43	0	25	49	74	27	33
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.1	8.3	7.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	35%	55%
Vol Thru, %	34%	0%	80%	30%	20%
Vol Right, %	66%	0%	20%	34%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	10	50	116	123
LT Vol	0	10	0	41	68
Through Vol	23	0	40	35	25
RT Vol	45	0	10	40	30
Lane Flow Rate	74	11	54	126	134
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.085	0.017	0.075	0.156	0.165
Departure Headway (Hd)	4.142	5.609	4.966	4.446	4.431
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	866	639	722	808	812
Service Time	2.162	3.333	2.689	2.467	2.448
HCM Lane V/C Ratio	0.085	0.017	0.075	0.156	0.165
HCM Control Delay	7.5	8.4	8.1	8.3	8.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0.2	0.6	0.6

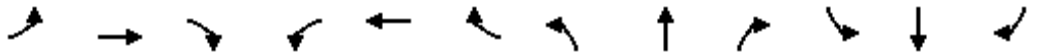
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	137	49	56	124	33	76
Future Vol, veh/h	137	49	56	124	33	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	53	61	135	36	83

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	202	0	433	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1370	-	580	867
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1370	-	552	867
Mov Cap-2 Maneuver	-	-	-	-	552	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1370	-
HCM Lane V/C Ratio	0.16	-	-	0.044	-
HCM Control Delay (s)	10.8	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	95	38	0	0	0	80	400	140	195	580	259
Future Volume (veh/h)	92	95	38	0	0	0	80	400	140	195	580	259
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	103	41				87	435	152	212	630	282
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	250	179	71				136	1000	346	266	1096	491
Arrive On Green	0.14	0.14	0.14				0.08	0.39	0.39	0.15	0.46	0.46
Sat Flow, veh/h	1781	1273	507				1781	2589	896	1781	2387	1068
Grp Volume(v), veh/h	100	0	144				87	297	290	212	469	443
Grp Sat Flow(s),veh/h/ln	1781	0	1779				1781	1777	1709	1781	1777	1678
Q Serve(g_s), s	2.1	0.0	3.1				2.0	5.1	5.2	4.8	8.0	8.0
Cycle Q Clear(g_c), s	2.1	0.0	3.1				2.0	5.1	5.2	4.8	8.0	8.0
Prop In Lane	1.00		0.28				1.00		0.52	1.00		0.64
Lane Grp Cap(c), veh/h	250	0	250				136	686	660	266	816	771
V/C Ratio(X)	0.40	0.00	0.58				0.64	0.43	0.44	0.80	0.57	0.57
Avail Cap(c_a), veh/h	1163	0	1162				250	1036	996	310	1096	1035
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	16.6				18.5	9.4	9.4	17.0	8.2	8.2
Incr Delay (d2), s/veh	1.0	0.0	2.1				4.9	0.9	1.0	11.7	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.2				0.9	1.7	1.7	2.6	2.6	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	0.0	18.7				23.5	10.3	10.4	28.7	9.6	9.7
LnGrp LOS	B	A	B				C	B	B	C	A	A
Approach Vol, veh/h		244						674			1124	
Approach Delay, s/veh		18.1						12.0			13.2	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	10.4	21.0		10.0	7.4	24.0
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	6.8	7.2		5.1	4.0	10.0
Green Ext Time (p_c), s	0.0	6.1		1.0	0.0	9.0

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	15	570	15	10	677
Future Vol, veh/h	15	15	570	15	10	677
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	620	16	11	736

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1018	318	0	0	636	0
Stage 1	628	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	233	678	-	-	943	-
Stage 1	494	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	228	678	-	-	943	-
Mov Cap-2 Maneuver	228	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	640	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	341	943	-
HCM Lane V/C Ratio	-	-	0.096	0.012	-
HCM Control Delay (s)	-	-	16.7	8.9	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	7	99	15	18	92
Future Vol, veh/h	34	7	99	15	18	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	8	108	16	20	100

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	256	116	0	0	124	0
Stage 1	116	-	-	-	-	-
Stage 2	140	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	733	936	-	-	1463	-
Stage 1	909	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	723	936	-	-	1463	-
Mov Cap-2 Maneuver	723	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	752	1463	-
HCM Lane V/C Ratio	-	-	0.059	0.013	-
HCM Control Delay (s)	-	-	10.1	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	23	12	490	649	44
Future Vol, veh/h	10	23	12	490	649	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	25	13	533	705	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1022	377	753	0	-	0
Stage 1	729	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	232	621	853	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	227	621	853	-	-	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	853	-	407	-	-
HCM Lane V/C Ratio	0.015	-	0.088	-	-
HCM Control Delay (s)	9.3	0.1	14.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	37	43	126	56	42
Future Vol, veh/h	0	37	43	126	56	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	47	137	61	46
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.1	8.3	7.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	25%	0%	0%
Vol Thru, %	75%	0%	57%
Vol Right, %	0%	100%	43%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	169	37	98
LT Vol	43	0	0
Through Vol	126	0	56
RT Vol	0	37	42
Lane Flow Rate	184	40	107
Geometry Grp	1	1	1
Degree of Util (X)	0.211	0.044	0.115
Departure Headway (Hd)	4.137	3.951	3.886
Convergence, Y/N	Yes	Yes	Yes
Cap	865	912	915
Service Time	2.17	1.951	1.943
HCM Lane V/C Ratio	0.213	0.044	0.117
HCM Control Delay	8.3	7.1	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.1	0.4

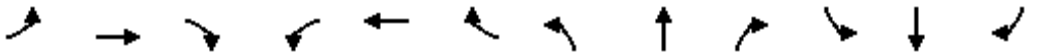
Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	65	17	5	32	53	11	73	10	42	38	7
Future Vol, veh/h	38	65	17	5	32	53	11	73	10	42	38	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	71	18	5	35	58	12	79	11	46	41	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	7.8	8.2	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	32%	6%	48%
Vol Thru, %	78%	54%	36%	44%
Vol Right, %	11%	14%	59%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	120	90	87
LT Vol	11	38	5	42
Through Vol	73	65	32	38
RT Vol	10	17	53	7
Lane Flow Rate	102	130	98	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.162	0.114	0.121
Departure Headway (Hd)	4.518	4.479	4.202	4.614
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	795	802	854	778
Service Time	2.539	2.499	2.222	2.635
HCM Lane V/C Ratio	0.128	0.162	0.115	0.122
HCM Control Delay	8.2	8.4	7.8	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.6	0.4	0.4

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	43	95	50	19	10	90	357	50	78	548	86
Future Volume (veh/h)	75	43	95	50	19	10	90	357	50	78	548	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	47	103	54	21	11	98	388	54	85	596	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	40	584	114	27	584	229	916	136	192	1191	181
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	0	107	1585	0	73	1585	299	2015	300	245	2620	397
Grp Volume(v), veh/h	129	0	103	75	0	11	243	0	297	392	0	382
Grp Sat Flow(s),veh/h/ln	107	0	1585	73	0	1585	966	0	1648	1632	0	1631
Q Serve(g_s), s	0.0	0.0	2.4	0.0	0.0	0.2	4.2	0.0	6.5	1.6	0.0	9.0
Cycle Q Clear(g_c), s	20.0	0.0	2.4	20.0	0.0	0.2	13.2	0.0	6.5	8.2	0.0	9.0
Prop In Lane	0.64		1.00	0.72		1.00	0.40		0.18	0.22		0.24
Lane Grp Cap(c), veh/h	148	0	584	141	0	584	532	0	749	822	0	741
V/C Ratio(X)	0.87	0.00	0.18	0.53	0.00	0.02	0.46	0.00	0.40	0.48	0.00	0.52
Avail Cap(c_a), veh/h	148	0	584	141	0	584	863	0	1215	1259	0	1202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	11.6	20.1	0.0	10.9	11.2	0.0	9.8	10.2	0.0	10.5
Incr Delay (d2), s/veh	39.2	0.0	0.1	3.8	0.0	0.0	2.2	0.0	1.2	1.6	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.8	1.1	0.0	0.1	1.9	0.0	2.3	3.1	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	0.0	11.7	23.9	0.0	10.9	13.4	0.0	11.1	11.8	0.0	12.6
LnGrp LOS	E	A	B	C	A	B	B	A	B	B	A	B
Approach Vol, veh/h		232			86			540			774	
Approach Delay, s/veh		38.8			22.3			12.1			12.2	
Approach LOS		D			C			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.7		24.6		29.7		24.6				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		15.2		22.0		11.0		22.0				
Green Ext Time (p_c), s		8.9		0.0		13.6		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	15	5	0	5	0	10	5	0	0
Future Vol, veh/h	0	5	0	15	5	0	5	0	10	5	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	0	16	5	0	5	0	11	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.2	6.7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	0%	75%	100%
Vol Thru, %	0%	100%	25%	0%
Vol Right, %	67%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	5	20	5
LT Vol	5	0	15	5
Through Vol	0	5	5	0
RT Vol	10	0	0	0
Lane Flow Rate	16	5	22	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.017	0.006	0.025	0.006
Departure Headway (Hd)	3.652	3.987	4.125	4.193
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	982	900	871	855
Service Time	1.666	2	2.134	2.209
HCM Lane V/C Ratio	0.016	0.006	0.025	0.006
HCM Control Delay	6.7	7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	25	27	15	5	16	5	5	64	5	5	45	11
Future Vol, veh/h	25	27	15	5	16	5	5	64	5	5	45	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	29	16	5	17	5	5	70	5	5	49	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	45	0	0	151	123	37	159	129	20
Stage 1	-	-	-	-	-	-	91	91	-	30	30	-
Stage 2	-	-	-	-	-	-	60	32	-	129	99	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1563	-	-	816	767	1035	807	762	1058
Stage 1	-	-	-	-	-	-	916	820	-	987	870	-
Stage 2	-	-	-	-	-	-	951	868	-	875	813	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1563	-	-	755	752	1035	734	747	1058
Mov Cap-2 Maneuver	-	-	-	-	-	-	755	752	-	734	747	-
Stage 1	-	-	-	-	-	-	900	806	-	970	867	-
Stage 2	-	-	-	-	-	-	885	865	-	782	799	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	1.4	10.3	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	766	1593	-	-	1563	-	-	788
HCM Lane V/C Ratio	0.105	0.017	-	-	0.003	-	-	0.084
HCM Control Delay (s)	10.3	7.3	0	-	7.3	0	-	10
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	5	18	20	5	15	16	472	25	15	632	10
Future Vol, veh/h	15	5	18	20	5	15	16	472	25	15	632	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	5	20	22	5	16	17	513	27	16	687	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1018	1299	349	939	1291	270	698	0	0	540	0	0
Stage 1	725	725	-	561	561	-	-	-	-	-	-	-
Stage 2	293	574	-	378	730	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	191	160	647	219	162	728	894	-	-	1025	-	-
Stage 1	383	428	-	480	508	-	-	-	-	-	-	-
Stage 2	691	501	-	616	426	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	174	152	647	198	154	728	894	-	-	1025	-	-
Mov Cap-2 Maneuver	174	152	-	198	154	-	-	-	-	-	-	-
Stage 1	373	417	-	467	494	-	-	-	-	-	-	-
Stage 2	650	487	-	574	415	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.5	21.6	0.4	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	894	-	-	259	260	1025	-	-
HCM Lane V/C Ratio	0.019	-	-	0.159	0.167	0.016	-	-
HCM Control Delay (s)	9.1	0.1	-	21.5	21.6	8.6	0.1	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.6	0	-	-

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	70	494	60	280	85	270	490	100	166	40
Future Volume (veh/h)	0	0	70	494	60	280	85	270	490	100	166	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	583	0	0	92	293	0	109	180	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	462		1259	0		176	598		206	360	89
Arrive On Green	0.00	0.00	0.00	0.25	0.00	0.00	0.21	0.21	0.00	0.18	0.18	0.18
Sat Flow, veh/h	0	1870	0	3563	0	1585	820	2786	1585	1132	1977	487
Grp Volume(v), veh/h	0	0	0	583	0	0	205	180	0	175	0	157
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1829	1777	1585	1814	0	1783
Q Serve(g_s), s	0.0	0.0	0.0	5.6	0.0	0.0	3.8	3.4	0.0	3.3	0.0	3.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.6	0.0	0.0	3.8	3.4	0.0	3.3	0.0	3.0
Prop In Lane	0.00		0.00	1.00		1.00	0.45		1.00	0.62		0.27
Lane Grp Cap(c), veh/h	0	462		1259	0		393	381		331	0	325
V/C Ratio(X)	0.00	0.00		0.46	0.00		0.52	0.47		0.53	0.00	0.48
Avail Cap(c_a), veh/h	0	889		2731	0		1376	1337		862	0	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.8	0.0	0.0	13.2	13.0	0.0	14.0	0.0	13.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.1	0.9	0.0	1.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.4	0.0	0.0	1.4	1.2	0.0	1.3	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	13.1	0.0	0.0	14.2	13.9	0.0	15.3	0.0	15.0
LnGrp LOS	A	A		B	A		B	B		B	A	B
Approach Vol, veh/h		0			583			385			332	
Approach Delay, s/veh		0.0			13.1			14.1			15.2	
Approach LOS					B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	12.6	13.8	11.4	13.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	18.0	18.0	25.0
Max Q Clear Time (g_c+I1), s	5.8	0.0	5.3	7.6
Green Ext Time (p_c), s	2.4	0.0	1.6	1.8

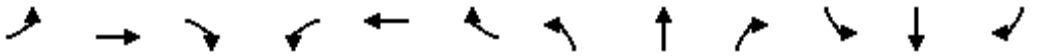
Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	572	40	270	944	750	50	0	250	120	100	110
Future Volume (veh/h)	0	572	40	270	944	750	50	0	250	120	100	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	622	43	293	1026	0	54	0	272	120	124	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	820	57	344	1806		270	0	240	223	234	198
Arrive On Green	0.00	0.24	0.24	0.19	0.51	0.00	0.15	0.00	0.15	0.13	0.13	0.13
Sat Flow, veh/h	0	3466	233	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	327	338	293	1026	0	54	0	272	120	124	120
Grp Sat Flow(s),veh/h/ln	0	1777	1828	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	10.7	10.8	10.0	12.5	0.0	1.7	0.0	9.5	4.0	3.9	4.5
Cycle Q Clear(g_c), s	0.0	10.7	10.8	10.0	12.5	0.0	1.7	0.0	9.5	4.0	3.9	4.5
Prop In Lane	0.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	432	445	344	1806		270	0	240	223	234	198
V/C Ratio(X)	0.00	0.76	0.76	0.85	0.57		0.20	0.00	1.13	0.54	0.53	0.61
Avail Cap(c_a), veh/h	0	595	612	412	2266		270	0	240	767	805	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.0	22.0	24.4	10.7	0.0	23.3	0.0	26.6	25.7	25.7	26.0
Incr Delay (d2), s/veh	0.0	3.7	3.7	13.6	0.3	0.0	0.4	0.0	98.6	2.0	1.9	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.5	4.6	5.1	4.0	0.0	0.7	0.0	9.9	1.7	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.7	25.7	38.1	10.9	0.0	23.6	0.0	125.3	27.8	27.6	28.9
LnGrp LOS	A	C	C	D	B		C	A	F	C	C	C
Approach Vol, veh/h		665			1319			326			364	
Approach Delay, s/veh		25.7			17.0			108.4			28.1	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	2	3	4		6		8					
Phs Duration (G+Y+Rc), s	14.0	16.6	19.8		12.3		36.4					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5		4.5					
Max Green Setting (Gmax), s	9.5	14.5	21.0		27.0		40.0					
Max Q Clear Time (g_c+I1), s	11.5	12.0	12.8		6.5		14.5					
Green Ext Time (p_c), s	0.0	0.2	2.5		1.4		8.0					

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	135	15	20	110	55	5	17	30	50	18	13
Future Vol, veh/h	17	135	15	20	110	55	5	17	30	50	18	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	147	16	22	120	60	5	18	33	54	20	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	180	0	0	163	0	0	402	415	155	411	393	150
Stage 1	-	-	-	-	-	-	191	191	-	194	194	-
Stage 2	-	-	-	-	-	-	211	224	-	217	199	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1396	-	-	1416	-	-	559	528	891	551	543	896
Stage 1	-	-	-	-	-	-	811	742	-	808	740	-
Stage 2	-	-	-	-	-	-	791	718	-	785	736	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1396	-	-	1416	-	-	522	512	891	504	526	896
Mov Cap-2 Maneuver	-	-	-	-	-	-	522	512	-	504	526	-
Stage 1	-	-	-	-	-	-	800	732	-	797	727	-
Stage 2	-	-	-	-	-	-	745	706	-	727	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.8	10.8	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	680	1396	-	-	1416	-	-	548
HCM Lane V/C Ratio	0.083	0.013	-	-	0.015	-	-	0.161
HCM Control Delay (s)	10.8	7.6	0	-	7.6	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.6

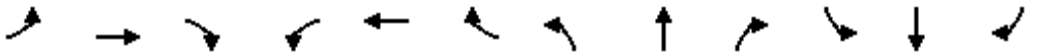
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	35	120	90	50	29	110	487	60	25	507	50
Future Volume (veh/h)	50	35	120	90	50	29	110	487	60	25	507	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	38	130	98	54	32	120	529	65	27	551	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	476	78	268	239	103	41	169	1185	145	58	1012	99
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.10	0.37	0.37	0.03	0.31	0.31
Sat Flow, veh/h	1311	371	1270	434	488	194	1781	3187	390	1781	3270	320
Grp Volume(v), veh/h	54	0	168	184	0	0	120	294	300	27	299	306
Grp Sat Flow(s),veh/h/ln	1311	0	1642	1117	0	0	1781	1777	1800	1781	1777	1813
Q Serve(g_s), s	0.0	0.0	3.4	3.0	0.0	0.0	2.5	4.7	4.7	0.6	5.2	5.3
Cycle Q Clear(g_c), s	1.2	0.0	3.4	6.3	0.0	0.0	2.5	4.7	4.7	0.6	5.2	5.3
Prop In Lane	1.00		0.77	0.53		0.17	1.00		0.22	1.00		0.18
Lane Grp Cap(c), veh/h	476	0	347	383	0	0	169	661	669	58	550	561
V/C Ratio(X)	0.11	0.00	0.48	0.48	0.00	0.00	0.71	0.45	0.45	0.46	0.54	0.55
Avail Cap(c_a), veh/h	1073	0	1095	1030	0	0	950	1896	1921	950	1896	1934
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	13.0	14.3	0.0	0.0	16.5	8.9	8.9	17.8	10.7	10.8
Incr Delay (d2), s/veh	0.1	0.0	1.0	0.9	0.0	0.0	5.3	0.5	0.5	5.6	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.1	1.3	0.0	0.0	1.1	1.5	1.5	0.3	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	0.0	14.0	15.3	0.0	0.0	21.8	9.3	9.3	23.4	11.6	11.6
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	B	B
Approach Vol, veh/h		222			184			714			632	
Approach Delay, s/veh		13.6			15.3			11.4			12.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	19.0		12.5	8.3	16.7		12.5				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	2.6	6.7		5.4	4.5	7.3		8.3				
Green Ext Time (p_c), s	0.0	4.3		1.1	0.3	4.3		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		12.3	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



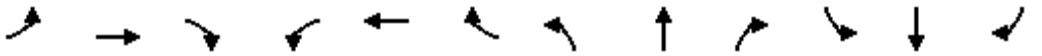
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	170	120	200	190	204	110	408	110	180	454	53
Future Volume (veh/h)	52	170	120	200	190	204	110	408	110	180	454	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	185	130	212	214	222	120	443	120	196	493	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	243	272	302	317	484	156	751	202	242	1024	120
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.09	0.27	0.27	0.14	0.32	0.32
Sat Flow, veh/h	435	1413	1585	1781	1870	1585	1781	2769	744	1781	3204	376
Grp Volume(v), veh/h	242	0	130	212	214	222	120	283	280	196	273	278
Grp Sat Flow(s),veh/h/ln	1849	0	1585	1781	1870	1585	1781	1777	1736	1781	1777	1803
Q Serve(g_s), s	9.4	0.0	5.6	8.4	8.1	8.5	4.9	10.4	10.5	8.0	9.3	9.3
Cycle Q Clear(g_c), s	9.4	0.0	5.6	8.4	8.1	8.5	4.9	10.4	10.5	8.0	9.3	9.3
Prop In Lane	0.24		1.00	1.00		1.00	1.00		0.43	1.00		0.21
Lane Grp Cap(c), veh/h	317	0	272	302	317	484	156	482	471	242	568	576
V/C Ratio(X)	0.76	0.00	0.48	0.70	0.68	0.46	0.77	0.59	0.59	0.81	0.48	0.48
Avail Cap(c_a), veh/h	616	0	528	593	623	743	475	1420	1388	475	1420	1441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	28.0	29.4	29.2	21.1	33.5	23.7	23.8	31.5	20.5	20.6
Incr Delay (d2), s/veh	3.8	0.0	1.3	3.0	2.5	0.7	7.7	2.4	2.6	6.3	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	2.1	3.6	3.6	3.0	2.4	4.4	4.4	3.7	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	0.0	29.3	32.4	31.8	21.7	41.2	26.1	26.3	37.8	21.9	21.9
LnGrp LOS	C	A	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		372			648			683			747	
Approach Delay, s/veh		32.0			28.5			28.9			26.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.8	25.5		17.5	11.2	29.1		17.3				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	10.0	12.5		11.4	6.9	11.3		10.5				
Green Ext Time (p_c), s	0.4	7.8		1.5	0.2	7.6		2.2				

Intersection Summary			
HCM 6th Ctrl Delay		28.4	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.



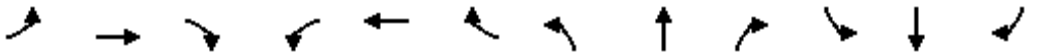
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	545	165	600	764	600	35	55	75	315	45	110
Future Volume (veh/h)	270	545	165	600	764	600	35	55	75	315	45	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	293	592	179	652	830	652	38	60	82	256	170	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1391	420	107	1532	989	52	83	117	343	197	139
Arrive On Green	0.15	0.52	0.52	0.08	0.57	0.57	0.07	0.07	0.07	0.19	0.19	0.19
Sat Flow, veh/h	1781	2690	811	1781	3554	1585	711	1123	1585	1781	1020	720
Grp Volume(v), veh/h	293	391	380	652	830	652	98	0	82	256	0	290
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1585	1835	0	1585	1781	0	1741
Q Serve(g_s), s	16.8	15.6	15.7	6.9	16.6	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Cycle Q Clear(g_c), s	16.8	15.6	15.7	6.9	16.6	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Prop In Lane	1.00		0.47	1.00		1.00	0.39		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	260	919	892	107	1532	989	135	0	117	343	0	335
V/C Ratio(X)	1.13	0.43	0.43	6.10	0.54	0.66	0.72	0.00	0.70	0.75	0.00	0.86
Avail Cap(c_a), veh/h	260	919	892	107	1532	989	287	0	248	434	0	424
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.56	0.56	0.56	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	17.2	17.2	52.9	17.5	10.3	52.1	0.0	52.0	43.8	0.0	45.0
Incr Delay (d2), s/veh	94.0	1.4	1.5	2306.4	0.8	2.0	7.1	0.0	7.4	5.3	0.0	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	6.4	6.3	71.4	5.8	13.8	3.0	0.0	2.5	7.4	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	143.1	18.6	18.7	2359.3	18.3	12.2	59.3	0.0	59.4	49.0	0.0	59.1
LnGrp LOS	F	B	B	F	B	B	E	A	E	D	A	E
Approach Vol, veh/h		1064			2134			180			546	
Approach Delay, s/veh		52.9			731.7			59.3			54.4	
Approach LOS		D			F			E			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.0	11.4	64.0		26.7	21.3	54.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	6.9	44.1		28.0	16.8	34.2				
Max Q Clear Time (g_c+I1), s		8.0	8.9	17.7		20.6	18.8	31.5				
Green Ext Time (p_c), s		0.5	0.0	4.9		1.6	0.0	1.9				

Intersection Summary		
HCM 6th Ctrl Delay	422.6	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	690	235	150	877	355	149	100	65	395	180	278
Future Volume (veh/h)	155	690	235	150	877	355	149	100	65	395	180	278
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	750	255	163	953	386	136	146	71	312	359	302
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1321	449	108	1788	798	188	197	167	302	317	269
Arrive On Green	0.07	0.51	0.51	0.06	0.50	0.50	0.11	0.11	0.11	0.17	0.17	0.17
Sat Flow, veh/h	1781	2603	885	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	168	512	493	163	953	386	136	146	71	312	359	302
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.5	22.9	22.9	7.0	20.9	18.4	8.5	8.7	4.8	19.5	19.5	19.5
Cycle Q Clear(g_c), s	7.5	22.9	22.9	7.0	20.9	18.4	8.5	8.7	4.8	19.5	19.5	19.5
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	902	869	108	1788	798	188	197	167	302	317	269
V/C Ratio(X)	1.45	0.57	0.57	1.50	0.53	0.48	0.72	0.74	0.42	1.03	1.13	1.12
Avail Cap(c_a), veh/h	116	902	869	108	1788	798	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	19.6	19.6	54.0	19.4	18.8	49.8	49.9	48.2	47.7	47.8	47.8
Incr Delay (d2), s/veh	233.6	2.0	2.0	268.3	1.1	2.1	5.2	5.4	1.7	60.6	91.1	92.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	9.4	9.1	11.2	8.4	6.9	4.1	4.4	2.0	13.7	17.0	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	287.3	21.6	21.6	322.3	20.5	20.9	55.0	55.3	49.9	108.3	138.9	140.1
LnGrp LOS	F	C	C	F	C	C	E	E	D	F	F	F
Approach Vol, veh/h		1173			1502			353			973	
Approach Delay, s/veh		59.6			53.4			54.1			129.4	
Approach LOS		E			D			D			F	

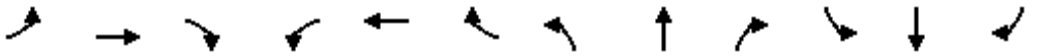
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.6	11.5	62.9		24.0	12.0	62.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	7.0	36.5		19.5	7.5	36.0				
Max Q Clear Time (g_c+I1), s		10.7	9.0	24.9		21.5	9.5	22.9				
Green Ext Time (p_c), s		1.4	0.0	4.8		0.0	0.0	6.3				

Intersection Summary	
HCM 6th Ctrl Delay	73.8
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	90	60	215	80	262	50	218	100	207	492	100
Future Volume (veh/h)	60	90	60	215	80	262	50	218	100	207	492	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	98	65	234	87	285	54	237	109	225	535	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	169	143	305	113	618	85	540	241	282	991	201
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.05	0.23	0.23	0.16	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	1315	489	1585	1781	2391	1065	1781	2943	597
Grp Volume(v), veh/h	65	98	65	321	0	285	54	174	172	225	322	322
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1805	0	1585	1781	1777	1679	1781	1777	1763
Q Serve(g_s), s	2.3	3.3	2.6	11.0	0.0	8.9	2.0	5.6	5.9	8.1	9.7	9.8
Cycle Q Clear(g_c), s	2.3	3.3	2.6	11.0	0.0	8.9	2.0	5.6	5.9	8.1	9.7	9.8
Prop In Lane	1.00		1.00	0.73		1.00	1.00		0.63	1.00		0.34
Lane Grp Cap(c), veh/h	161	169	143	418	0	618	85	402	380	282	598	594
V/C Ratio(X)	0.40	0.58	0.45	0.77	0.00	0.46	0.64	0.43	0.45	0.80	0.54	0.54
Avail Cap(c_a), veh/h	537	564	478	680	0	848	537	1071	1012	805	1071	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	29.0	28.6	23.8	0.0	15.1	31.0	22.0	22.1	26.9	17.8	17.9
Incr Delay (d2), s/veh	1.6	3.1	2.2	3.0	0.0	0.5	7.7	0.7	0.8	5.2	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.6	1.0	4.7	0.0	2.9	1.0	2.2	2.2	3.6	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	32.1	30.9	26.8	0.0	15.6	38.8	22.8	23.0	32.1	18.6	18.6
LnGrp LOS	C	C	C	C	A	B	D	C	C	C	B	B
Approach Vol, veh/h		228			606			400			869	
Approach Delay, s/veh		31.2			21.5			25.0			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.2	20.1		10.6	7.9	27.4		20.5				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	10.1	7.9		5.3	4.0	11.8		13.0				
Green Ext Time (p_c), s	0.6	2.1		0.7	0.1	4.1		2.3				

Intersection Summary			
HCM 6th Ctrl Delay		23.5	
HCM 6th LOS		C	

Notes

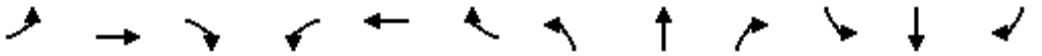
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Future Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	0	13	0	35	0	27	22	18	2	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	6.9	7	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	27%	89%
Vol Thru, %	56%	0%	0%	11%
Vol Right, %	44%	0%	73%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	15	44	19
LT Vol	0	15	12	17
Through Vol	25	0	0	2
RT Vol	20	0	32	0
Lane Flow Rate	49	16	48	21
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.019	0.049	0.024
Departure Headway (Hd)	3.794	4.29	3.683	4.261
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	943	833	969	839
Service Time	1.82	2.325	1.716	2.291
HCM Lane V/C Ratio	0.052	0.019	0.05	0.025
HCM Control Delay	7	7.4	6.9	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.2	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	15	35	10	25	45	30	519	15	20	624	65
Future Volume (veh/h)	115	15	35	10	25	45	30	519	15	20	624	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	16	38	11	27	49	33	564	16	22	678	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	35	271	147	104	160	71	1307	37	49	1133	119
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.37	0.37	0.03	0.35	0.35
Sat Flow, veh/h	1336	208	1585	113	612	934	1781	3529	100	1781	3246	340
Grp Volume(v), veh/h	141	0	38	87	0	0	33	284	296	22	371	378
Grp Sat Flow(s),veh/h/ln	1543	0	1585	1659	0	0	1781	1777	1852	1781	1777	1809
Q Serve(g_s), s	0.0	0.0	0.6	0.0	0.0	0.0	0.6	3.8	3.8	0.4	5.5	5.5
Cycle Q Clear(g_c), s	2.3	0.0	0.6	1.4	0.0	0.0	0.6	3.8	3.8	0.4	5.5	5.5
Prop In Lane	0.89		1.00	0.13		0.56	1.00		0.05	1.00		0.19
Lane Grp Cap(c), veh/h	477	0	271	411	0	0	71	658	686	49	620	631
V/C Ratio(X)	0.30	0.00	0.14	0.21	0.00	0.00	0.47	0.43	0.43	0.44	0.60	0.60
Avail Cap(c_a), veh/h	1019	0	898	1054	0	0	280	1006	1049	297	1006	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.9	0.0	11.2	11.5	0.0	0.0	14.9	7.5	7.5	15.2	8.5	8.5
Incr Delay (d2), s/veh	0.3	0.0	0.2	0.3	0.0	0.0	4.7	0.4	0.4	6.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.4	0.0	0.0	0.3	1.1	1.1	0.2	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.2	0.0	11.4	11.8	0.0	0.0	19.6	7.9	7.9	21.4	9.4	9.4
LnGrp LOS	B	A	B	B	A	A	B	A	A	C	A	A
Approach Vol, veh/h		179			87			613			771	
Approach Delay, s/veh		12.0			11.8			8.6			9.8	
Approach LOS		B			B			A			A	

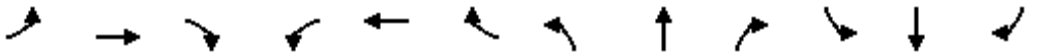
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	16.8		9.9	5.8	16.1		9.9				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.4	5.8		4.3	2.6	7.5		3.4				
Green Ext Time (p_c), s	0.0	2.9		0.7	0.0	3.6		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

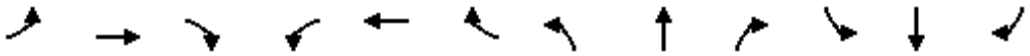
2050 BUILDOUT WITH PROJECT
PM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	90	60	50	85	95	165	789	205	200	1004	215
Future Volume (veh/h)	60	90	60	50	85	95	165	789	205	200	1004	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	98	65	54	92	103	179	858	223	217	1091	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	214	142	264	164	184	126	913	286	179	1024	258
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1188	1049	696	1223	806	902	70	1422	445	155	1595	402
Grp Volume(v), veh/h	65	0	163	54	0	195	448	0	812	594	0	948
Grp Sat Flow(s),veh/h/ln	1188	0	1745	1223	0	1708	316	0	1622	523	0	1630
Q Serve(g_s), s	3.2	0.0	5.1	2.5	0.0	6.4	9.0	0.0	22.3	17.7	0.0	31.0
Cycle Q Clear(g_c), s	9.6	0.0	5.1	7.6	0.0	6.4	40.0	0.0	22.3	40.0	0.0	31.0
Prop In Lane	1.00		0.40	1.00		0.53	0.40		0.27	0.37		0.25
Lane Grp Cap(c), veh/h	236	0	355	264	0	348	284	0	1042	415	0	1047
V/C Ratio(X)	0.28	0.00	0.46	0.20	0.00	0.56	1.58	0.00	0.78	1.43	0.00	0.91
Avail Cap(c_a), veh/h	566	0	841	604	0	823	284	0	1042	415	0	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	21.8	25.1	0.0	22.3	17.1	0.0	8.0	19.4	0.0	9.5
Incr Delay (d2), s/veh	0.6	0.0	0.9	0.4	0.0	1.4	276.9	0.0	5.3	208.1	0.0	12.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.0	0.7	0.0	2.5	24.4	0.0	7.3	30.0	0.0	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	0.0	22.7	25.5	0.0	23.7	294.0	0.0	13.2	227.5	0.0	21.8
LnGrp LOS	C	A	C	C	A	C	F	A	B	F	A	C
Approach Vol, veh/h		228			249			1260			1542	
Approach Delay, s/veh		24.0			24.1			113.1			101.1	
Approach LOS		C			C			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		17.3		45.0		17.3				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		42.0		11.6		42.0		9.6				
Green Ext Time (p_c), s		0.0		1.1		0.0		1.3				

Intersection Summary												
HCM 6th Ctrl Delay			94.5									
HCM 6th LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	25	38	35	35	65	339	111	60	334	55
Future Volume (veh/h)	20	25	25	38	35	35	65	339	111	60	334	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	27	27	41	38	38	71	368	121	65	363	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	138	138	423	138	138	272	1172	368	283	1323	212
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1323	858	858	1350	858	858	236	2272	714	253	2566	411
Grp Volume(v), veh/h	22	0	54	41	0	76	293	0	267	250	0	238
Grp Sat Flow(s),veh/h/ln	1323	0	1716	1350	0	1716	1648	0	1574	1602	0	1628
Q Serve(g_s), s	0.4	0.0	0.8	0.8	0.0	1.2	0.0	0.0	2.9	0.0	0.0	2.5
Cycle Q Clear(g_c), s	1.6	0.0	0.8	1.6	0.0	1.2	2.7	0.0	2.9	2.2	0.0	2.5
Prop In Lane	1.00		0.50	1.00		0.50	0.24		0.45	0.26		0.25
Lane Grp Cap(c), veh/h	404	0	276	423	0	276	1001	0	811	979	0	840
V/C Ratio(X)	0.05	0.00	0.20	0.10	0.00	0.28	0.29	0.00	0.33	0.26	0.00	0.28
Avail Cap(c_a), veh/h	1528	0	1734	1570	0	1734	2268	0	2120	2198	0	2194
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	10.8	11.5	0.0	10.9	4.1	0.0	4.2	4.0	0.0	4.1
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.1	0.0	0.5	0.6	0.0	0.9	0.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	0.2	0.0	0.4	0.6	0.0	0.6	0.5	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.0	11.1	11.6	0.0	11.5	4.7	0.0	5.0	4.5	0.0	4.7
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		76			117			560			488	
Approach Delay, s/veh		11.3			11.5			4.9			4.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.3		9.4		20.3		9.4				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		4.9		3.6		4.5		3.6				
Green Ext Time (p_c), s		10.4		0.3		8.9		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	583	20	0	0	0	0	20	35	35	145	0
Future Vol, veh/h	33	583	20	0	0	0	0	20	35	35	145	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	634	22	0	0	0	0	22	38	38	158	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	13.2	8.9	10.9
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	19%
Vol Thru, %	36%	90%	94%	81%
Vol Right, %	64%	0%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	325	312	180
LT Vol	0	33	0	35
Through Vol	20	292	292	145
RT Vol	35	0	20	0
Lane Flow Rate	60	353	339	196
Geometry Grp	2	5	5	2
Degree of Util (X)	0.088	0.516	0.486	0.298
Departure Headway (Hd)	5.282	5.263	5.167	5.482
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	681	694	653
Service Time	3.359	3.025	2.929	3.54
HCM Lane V/C Ratio	0.089	0.518	0.488	0.3
HCM Control Delay	8.9	13.6	12.8	10.9
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.3	3	2.7	1.2

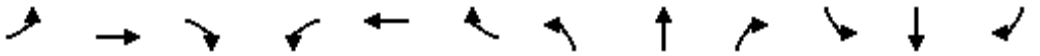
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	215	387	20	10	0	5	0	10	10	0	0	0
Future Vol, veh/h	215	387	20	10	0	5	0	10	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	234	421	22	11	0	5	0	11	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	900	432
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	278	624
Stage 1	-	-	-	0	357	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	624
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		11
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	624	-	-	-
HCM Lane V/C Ratio	0.035	-	-	-
HCM Control Delay (s)	11	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



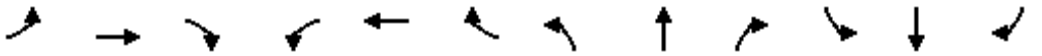
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	245	75	133	355	190	68	71	86	60	76	55
Future Volume (veh/h)	55	245	75	133	355	190	68	71	86	60	76	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	266	82	145	386	207	74	77	93	65	83	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	661	199	694	724	383	283	250	386	198	195	113
Arrive On Green	0.12	0.25	0.25	0.20	0.32	0.32	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	2690	811	1781	2246	1188	624	1027	1585	340	801	463
Grp Volume(v), veh/h	60	174	174	145	304	289	151	0	93	208	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1657	1651	0	1585	1604	0	0
Q Serve(g_s), s	0.9	3.3	3.5	1.9	5.7	5.8	0.0	0.0	1.9	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.3	3.5	1.9	5.7	5.8	2.7	0.0	1.9	4.3	0.0	0.0
Prop In Lane	1.00		0.47	1.00		0.72	0.49		1.00	0.31		0.29
Lane Grp Cap(c), veh/h	539	437	424	694	573	534	533	0	386	506	0	0
V/C Ratio(X)	0.11	0.40	0.41	0.21	0.53	0.54	0.28	0.00	0.24	0.41	0.00	0.00
Avail Cap(c_a), veh/h	760	1305	1266	779	1305	1217	1123	0	1009	1221	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.6	12.9	12.9	6.5	11.3	11.4	12.7	0.0	12.4	13.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.9	0.1	1.1	1.2	0.1	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.2	0.5	1.9	1.9	1.0	0.0	0.6	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	13.7	13.8	6.6	12.4	12.6	12.8	0.0	12.5	13.5	0.0	0.0
LnGrp LOS	A	B	B	A	B	B	B	A	B	B	A	A
Approach Vol, veh/h		408			738			244			208	
Approach Delay, s/veh		13.0			11.3			12.7			13.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.1	14.6		14.1	8.9	17.8		14.1				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.9	5.5		6.3	2.9	7.8		4.7				
Green Ext Time (p_c), s	0.1	3.0		0.8	0.0	5.3		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		12.2
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

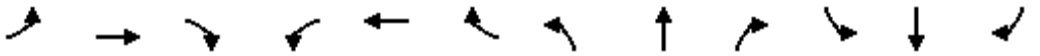


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	0	190	273	385	155	100	676	0	0	697	345
Future Volume (veh/h)	205	0	190	273	385	155	100	676	0	0	697	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	223	0	207	297	418	168	109	735	0	0	758	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	278	0	248	384	535	213	137	1739	0	0	853	421
Arrive On Green	0.16	0.00	0.16	0.22	0.22	0.22	0.08	0.49	0.00	0.00	0.37	0.37
Sat Flow, veh/h	1781	0	1585	1781	2483	987	1781	3647	0	0	2398	1138
Grp Volume(v), veh/h	223	0	207	297	298	288	109	735	0	0	584	549
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1693	1781	1777	0	0	1777	1666
Q Serve(g_s), s	13.0	0.0	13.7	17.0	17.1	17.4	6.5	14.4	0.0	0.0	33.3	33.5
Cycle Q Clear(g_c), s	13.0	0.0	13.7	17.0	17.1	17.4	6.5	14.4	0.0	0.0	33.3	33.5
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.00	0.00		0.68
Lane Grp Cap(c), veh/h	278	0	248	384	383	365	137	1739	0	0	657	616
V/C Ratio(X)	0.80	0.00	0.84	0.77	0.78	0.79	0.80	0.42	0.00	0.00	0.89	0.89
Avail Cap(c_a), veh/h	379	0	338	412	411	392	247	1739	0	0	657	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	0.95	0.95	0.95	0.46	0.46	0.00	0.00	0.98	0.98
Uniform Delay (d), s/veh	43.9	0.0	44.2	39.9	39.9	40.1	49.0	17.8	0.0	0.0	31.9	32.0
Incr Delay (d2), s/veh	8.2	0.0	12.1	12.0	12.3	13.7	4.9	0.3	0.0	0.0	16.2	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	6.2	8.6	8.7	8.6	3.1	5.9	0.0	0.0	17.1	16.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	0.0	56.3	51.9	52.2	53.7	53.9	18.1	0.0	0.0	48.1	49.3
LnGrp LOS	D	A	E	D	D	D	D	B	A	A	D	D
Approach Vol, veh/h		430			883			844			1133	
Approach Delay, s/veh		54.1			52.6			22.7			48.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.9		21.9	12.9	45.0		28.3				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		16.4		15.7	8.5	35.5		19.4				
Green Ext Time (p_c), s		6.9		1.2	0.1	0.0		3.9				

Intersection Summary												
HCM 6th Ctrl Delay			43.8									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	600	145	23	40	0	0	35	30
Future Volume (veh/h)	0	0	0	150	600	145	23	40	0	0	35	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				163	652	158	25	43	0	0	38	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				302	1262	322	232	167	0	0	129	112
Arrive On Green				0.52	0.52	0.52	0.14	0.14	0.00	0.00	0.14	0.14
Sat Flow, veh/h				577	2410	614	440	1197	0	0	924	802
Grp Volume(v), veh/h				520	0	453	68	0	0	0	0	71
Grp Sat Flow(s),veh/h/ln				1842	0	1760	1637	0	0	0	0	1726
Q Serve(g_s), s				5.4	0.0	4.8	0.0	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s				5.4	0.0	4.8	1.1	0.0	0.0	0.0	0.0	1.1
Prop In Lane				0.31		0.35	0.37		0.00	0.00		0.46
Lane Grp Cap(c), veh/h				964	0	922	400	0	0	0	0	241
V/C Ratio(X)				0.54	0.00	0.49	0.17	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				2556	0	2442	1188	0	0	0	0	1078
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				4.6	0.0	4.4	11.1	0.0	0.0	0.0	0.0	11.1
Incr Delay (d2), s/veh				0.5	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				5.0	0.0	4.8	11.3	0.0	0.0	0.0	0.0	11.8
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					973			68			71	
Approach Delay, s/veh					4.9			11.3			11.8	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				8.6		20.2		8.6				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				3.1		7.4		3.1				
Green Ext Time (p_c), s				0.2		7.7		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		5.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	95	655	45	15	15	0	0	25	15
Future Vol, veh/h	0	0	0	95	655	45	15	15	0	0	25	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	103	712	49	16	16	0	0	27	16

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	576	967	-	-	943	381
Stage 1	-	-	-	0	0	-	-	943	-
Stage 2	-	-	-	576	967	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	400	253	0	0	261	617
Stage 1	-	-	-	-	-	0	0	339	-
Stage 2	-	-	-	470	331	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	358	253	-	-	261	617
Mov Cap-2 Maneuver	-	-	-	358	253	-	-	261	-
Stage 1	-	-	-	-	-	-	-	339	-
Stage 2	-	-	-	421	331	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		18.7	17.4
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	296	-	-	-	333
HCM Lane V/C Ratio	0.11	-	-	-	0.131
HCM Control Delay (s)	18.7	-	-	-	17.4
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4

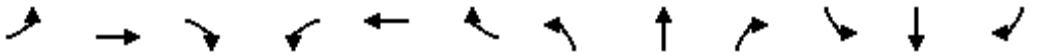
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	695	45	0	0	145	0	0	25
Future Vol, veh/h	0	0	0	0	695	45	0	0	145	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	755	49	0	0	158	0	0	27

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	402
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	598
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	598
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	11.3
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	598
HCM Lane V/C Ratio	-	-	0.045
HCM Control Delay (s)	-	-	11.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	190	65	260	710	350	75	115	532	690	140	90
Future Volume (veh/h)	25	190	65	260	710	350	75	115	532	690	140	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	207	71	283	772	380	82	125	578	500	502	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	825	275	198	988	711	189	288	412	304	259	51
Arrive On Green	0.15	0.32	0.32	0.11	0.28	0.28	0.26	0.26	0.26	0.17	0.17	0.17
Sat Flow, veh/h	1781	2618	872	1781	3554	1585	727	1108	1585	1781	1520	297
Grp Volume(v), veh/h	27	138	140	283	772	380	207	0	578	500	0	600
Grp Sat Flow(s),veh/h/ln	1781	1777	1713	1781	1777	1585	1834	0	1585	1781	0	1817
Q Serve(g_s), s	1.8	7.8	8.2	15.0	27.0	23.4	12.7	0.0	35.0	23.0	0.0	23.0
Cycle Q Clear(g_c), s	1.8	7.8	8.2	15.0	27.0	23.4	12.7	0.0	35.0	23.0	0.0	23.0
Prop In Lane	1.00		0.51	1.00		1.00	0.40		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	264	560	540	198	988	711	476	0	412	304	0	310
V/C Ratio(X)	0.10	0.25	0.26	1.43	0.78	0.53	0.43	0.00	1.40	1.64	0.00	1.93
Avail Cap(c_a), veh/h	397	560	540	198	1055	741	476	0	412	304	0	310
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	34.3	34.4	59.9	44.9	26.9	41.6	0.0	49.9	55.9	0.0	55.9
Incr Delay (d2), s/veh	0.1	1.1	1.2	218.9	5.5	2.3	0.9	0.0	195.9	304.4	0.0	432.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.6	3.6	18.8	12.7	12.5	6.0	0.0	36.3	36.1	0.0	47.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	35.3	35.6	278.8	50.3	29.2	42.5	0.0	245.8	360.3	0.0	488.2
LnGrp LOS	D	D	D	F	D	C	D	A	F	F	A	F
Approach Vol, veh/h		305			1435			785			1100	
Approach Delay, s/veh		36.7			89.8			192.2			430.1	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	47.9		27.6	24.7	42.9		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	10.2		25.0	3.8	29.0		37.0				
Green Ext Time (p_c), s	0.0	6.1		0.0	0.0	8.4		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		210.8
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	95	30	61	160	131	5	29	60	123	64	135
Future Vol, veh/h	50	95	30	61	160	131	5	29	60	123	64	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	103	33	66	174	142	5	32	65	134	70	147
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	10.9	16.1	10.1	15
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	5%	100%	0%	17%	38%
Vol Thru, %	31%	0%	76%	45%	20%
Vol Right, %	64%	0%	24%	37%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	50	125	352	322
LT Vol	5	50	0	61	123
Through Vol	29	0	95	160	64
RT Vol	60	0	30	131	135
Lane Flow Rate	102	54	136	383	350
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.166	0.105	0.236	0.584	0.539
Departure Headway (Hd)	5.852	6.923	6.243	5.498	5.549
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	608	515	572	654	648
Service Time	3.941	4.698	4.017	3.56	3.615
HCM Lane V/C Ratio	0.168	0.105	0.238	0.586	0.54
HCM Control Delay	10.1	10.5	11	16.1	15
HCM Lane LOS	B	B	B	C	B
HCM 95th-tile Q	0.6	0.3	0.9	3.8	3.2

Intersection	
Int Delay, s/veh	5.2

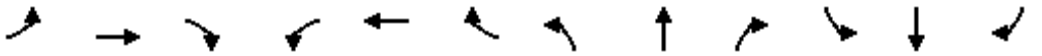
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	64	105	271	81	112
Future Vol, veh/h	256	64	105	271	81	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	70	114	295	88	122

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	348	0	836	313
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	523	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1211	-	337	727
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1211	-	299	727
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	528	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	19.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	454	-	-	1211	-
HCM Lane V/C Ratio	0.462	-	-	0.094	-
HCM Control Delay (s)	19.6	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.4	-	-	0.3	-

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	177	73	0	0	0	203	748	238	220	845	321
Future Volume (veh/h)	137	177	73	0	0	0	203	748	238	220	845	321
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	192	79				221	813	259	239	918	349
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	351	248	102				143	1370	436	178	1353	511
Arrive On Green	0.20	0.20	0.20				0.08	0.52	0.52	0.10	0.54	0.54
Sat Flow, veh/h	1781	1259	518				1781	2651	844	1781	2522	953
Grp Volume(v), veh/h	149	0	271				221	545	527	239	645	622
Grp Sat Flow(s),veh/h/ln	1781	0	1777				1781	1777	1718	1781	1777	1699
Q Serve(g_s), s	5.3	0.0	10.4				5.8	15.4	15.4	7.2	19.0	19.3
Cycle Q Clear(g_c), s	5.3	0.0	10.4				5.8	15.4	15.4	7.2	19.0	19.3
Prop In Lane	1.00		0.29				1.00		0.49	1.00		0.56
Lane Grp Cap(c), veh/h	351	0	350				143	918	888	178	953	911
V/C Ratio(X)	0.42	0.00	0.77				1.54	0.59	0.59	1.34	0.68	0.68
Avail Cap(c_a), veh/h	668	0	666				143	918	888	178	953	911
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.13	0.13	0.13
Uniform Delay (d), s/veh	25.3	0.0	27.4				33.1	12.1	12.1	32.4	12.2	12.2
Incr Delay (d2), s/veh	0.8	0.0	3.7				274.7	2.8	2.9	158.8	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	4.6				13.4	6.2	6.0	10.9	6.8	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	31.1				307.8	14.9	15.0	191.2	12.7	12.8
LnGrp LOS	C	A	C				F	B	B	F	B	B
Approach Vol, veh/h		420						1293			1506	
Approach Delay, s/veh		29.3						65.0			41.0	
Approach LOS		C						E			D	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	11.4	42.2		18.4	10.0	43.6
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	9.2	17.4		12.4	7.8	21.3
Green Ext Time (p_c), s	0.0	5.1		1.8	0.0	3.6

Intersection Summary		
HCM 6th Ctrl Delay		49.1
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	30	1080	15	10	1052
Future Vol, veh/h	10	30	1080	15	10	1052
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	33	1174	16	11	1143

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1776	595	0	0	1190	0
Stage 1	1182	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	74	447	-	-	582	-
Stage 1	254	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	70	447	-	-	582	-
Mov Cap-2 Maneuver	70	-	-	-	-	-
Stage 1	254	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.3	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	191	582	-
HCM Lane V/C Ratio	-	-	0.228	0.019	-
HCM Control Delay (s)	-	-	29.3	11.3	0.3
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	20	161	18	16	143
Future Vol, veh/h	44	20	161	18	16	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	22	175	20	17	155

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	374	185	0	0	195	0
Stage 1	185	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	627	857	-	-	1378	-
Stage 1	847	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	618	857	-	-	1378	-
Mov Cap-2 Maneuver	618	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	677	1378	-
HCM Lane V/C Ratio	-	-	0.103	0.013	-
HCM Control Delay (s)	-	-	10.9	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	11	20	1022	1128	59
Future Vol, veh/h	13	11	20	1022	1128	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	12	22	1111	1226	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1858	645	1290	0	-	0
Stage 1	1258	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	65	415	533	-	-	-
Stage 1	231	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	58	415	533	-	-	-
Mov Cap-2 Maneuver	58	-	-	-	-	-
Stage 1	206	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	55.9	0.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	533	-	96	-	-
HCM Lane V/C Ratio	0.041	-	0.272	-	-
HCM Control Delay (s)	12	0.6	55.9	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	62	72	147	129	54
Future Vol, veh/h	3	62	72	147	129	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	67	78	160	140	59
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	9.1	8.4
HCM LOS	A	A	A

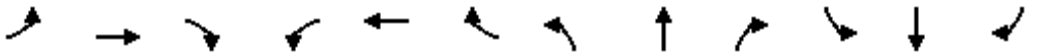
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	33%	5%	0%
Vol Thru, %	67%	0%	70%
Vol Right, %	0%	95%	30%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	219	65	183
LT Vol	72	3	0
Through Vol	147	0	129
RT Vol	0	62	54
Lane Flow Rate	238	71	199
Geometry Grp	1	1	1
Degree of Util (X)	0.283	0.085	0.23
Departure Headway (Hd)	4.276	4.314	4.17
Convergence, Y/N	Yes	Yes	Yes
Cap	828	834	867
Service Time	2.368	2.324	2.17
HCM Lane V/C Ratio	0.287	0.085	0.23
HCM Control Delay	9.1	7.7	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.3	0.9

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	91	11	15	61	70	15	115	20	68	103	21
Future Vol, veh/h	34	91	11	15	61	70	15	115	20	68	103	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	99	12	16	66	76	16	125	22	74	112	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	9.1	9.4	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	25%	10%	35%
Vol Thru, %	77%	67%	42%	54%
Vol Right, %	13%	8%	48%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	136	146	192
LT Vol	15	34	15	68
Through Vol	115	91	61	103
RT Vol	20	11	70	21
Lane Flow Rate	163	148	159	209
Geometry Grp	1	1	1	1
Degree of Util (X)	0.221	0.207	0.21	0.283
Departure Headway (Hd)	4.885	5.04	4.766	4.889
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	707	746	728
Service Time	2.96	3.114	2.839	2.96
HCM Lane V/C Ratio	0.224	0.209	0.213	0.287
HCM Control Delay	9.4	9.4	9.1	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.8	0.8	1.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	116	178	100	71	35	179	806	115	125	973	151
Future Volume (veh/h)	126	116	178	100	71	35	179	806	115	125	973	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	126	193	109	77	38	195	876	125	136	1058	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	38	455	82	38	455	148	936	152	118	1053	202
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	0	131	1585	0	132	1585	126	1629	265	95	1832	351
Grp Volume(v), veh/h	263	0	193	186	0	38	415	0	781	593	0	765
Grp Sat Flow(s),veh/h/ln	131	0	1585	132	0	1585	365	0	1654	639	0	1639
Q Serve(g_s), s	0.0	0.0	6.9	0.0	0.0	1.2	14.1	0.0	26.5	13.5	0.0	25.9
Cycle Q Clear(g_c), s	20.0	0.0	6.9	20.0	0.0	1.2	40.0	0.0	26.5	40.0	0.0	25.9
Prop In Lane	0.52		1.00	0.59		1.00	0.47		0.16	0.23		0.21
Lane Grp Cap(c), veh/h	116	0	455	120	0	455	286	0	951	431	0	942
V/C Ratio(X)	2.26	0.00	0.42	1.55	0.00	0.08	1.45	0.00	0.82	1.38	0.00	0.81
Avail Cap(c_a), veh/h	116	0	455	120	0	455	286	0	951	431	0	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	20.1	28.7	0.0	18.1	23.4	0.0	11.9	19.7	0.0	11.8
Incr Delay (d2), s/veh	595.3	0.0	0.6	284.3	0.0	0.1	221.8	0.0	7.4	182.9	0.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.1	0.0	2.5	11.4	0.0	0.4	22.4	0.0	10.1	29.1	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	623.9	0.0	20.8	313.0	0.0	18.2	245.2	0.0	19.3	202.6	0.0	18.8
LnGrp LOS	F	A	C	F	A	B	F	A	B	F	A	B
Approach Vol, veh/h		456			224			1196			1358	
Approach Delay, s/veh		368.6			263.0			97.7			99.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	45.0	24.6	45.0	24.6
Change Period (Y+Rc), s	5.0	4.6	5.0	4.6
Max Green Setting (Gmax), s	40.0	20.0	40.0	20.0
Max Q Clear Time (g_c+I1), s	42.0	22.0	42.0	22.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	147.9
HCM 6th LOS	F

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	5	10	0	0	5	0	10	5	0	0
Future Vol, veh/h	0	5	5	10	0	0	5	0	10	5	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	5	11	0	0	5	0	11	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.7	7.2	6.7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	0%	100%	100%
Vol Thru, %	0%	50%	0%	0%
Vol Right, %	67%	50%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	10	10	5
LT Vol	5	0	10	5
Through Vol	0	5	0	0
RT Vol	10	5	0	0
Lane Flow Rate	16	11	11	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.017	0.011	0.013	0.006
Departure Headway (Hd)	3.644	3.679	4.18	4.185
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	986	976	860	858
Service Time	1.653	1.69	2.188	2.195
HCM Lane V/C Ratio	0.016	0.011	0.013	0.006
HCM Control Delay	6.7	6.7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0	0

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	26	8	10	29	10	8	127	15	5	92	16
Future Vol, veh/h	13	26	8	10	29	10	8	127	15	5	92	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	28	9	11	32	11	9	138	16	5	100	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	37	0	0	179	126	33	198	125	38
Stage 1	-	-	-	-	-	-	61	61	-	60	60	-
Stage 2	-	-	-	-	-	-	118	65	-	138	65	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1574	-	-	783	764	1041	761	765	1034
Stage 1	-	-	-	-	-	-	950	844	-	951	845	-
Stage 2	-	-	-	-	-	-	887	841	-	865	841	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1574	-	-	684	752	1041	635	753	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	684	752	-	635	753	-
Stage 1	-	-	-	-	-	-	941	836	-	942	839	-
Stage 2	-	-	-	-	-	-	763	835	-	704	833	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	1.5	10.9	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	769	1566	-	-	1574	-	-	776
HCM Lane V/C Ratio	0.212	0.009	-	-	0.007	-	-	0.158
HCM Control Delay (s)	10.9	7.3	0	-	7.3	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	5	33	10	5	15	25	987	30	15	1026	25
Future Vol, veh/h	13	5	33	10	5	15	25	987	30	15	1026	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	5	36	11	5	16	27	1073	33	16	1115	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1754	2321	571	1736	2318	553	1142	0	0	1106	0	0
Stage 1	1161	1161	-	1144	1144	-	-	-	-	-	-	-
Stage 2	593	1160	-	592	1174	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	54	37	464	56	37	477	608	-	-	627	-	-
Stage 1	208	268	-	213	273	-	-	-	-	-	-	-
Stage 2	459	268	-	460	264	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	39	30	464	39	30	477	608	-	-	627	-	-
Mov Cap-2 Maneuver	39	30	-	39	30	-	-	-	-	-	-	-
Stage 1	184	249	-	188	241	-	-	-	-	-	-	-
Stage 2	383	237	-	386	246	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	96.7	104.1	0.8	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	608	-	-	89	66	627	-	-
HCM Lane V/C Ratio	0.045	-	-	0.623	0.494	0.026	-	-
HCM Control Delay (s)	11.2	0.6	-	96.7	104.1	10.9	0.4	-
HCM Lane LOS	B	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.9	2	0.1	-	-

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	80	619	75	170	115	452	514	330	566	85
Future Volume (veh/h)	0	0	80	619	75	170	115	452	514	330	566	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	732	0	0	125	491	0	359	615	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	477		1135	0		176	731		329	601	93
Arrive On Green	0.00	0.00	0.00	0.26	0.00	0.00	0.25	0.25	0.00	0.28	0.28	0.28
Sat Flow, veh/h	0	1870	0	3563	0	1585	700	2912	1585	1165	2130	328
Grp Volume(v), veh/h	0	0	0	732	0	0	328	288	0	558	0	508
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1835	1777	1585	1812	0	1811
Q Serve(g_s), s	0.0	0.0	0.0	12.3	0.0	0.0	10.4	9.2	0.0	18.0	0.0	17.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	12.3	0.0	0.0	10.4	9.2	0.0	18.0	0.0	17.8
Prop In Lane	0.00		0.00	1.00		1.00	0.38		1.00	0.64		0.18
Lane Grp Cap(c), veh/h	0	477		1135	0		460	446		512	0	511
V/C Ratio(X)	0.00	0.00		0.65	0.00		0.71	0.65		1.09	0.00	0.99
Avail Cap(c_a), veh/h	0	733		1623	0		820	794		512	0	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.3	0.0	0.0	21.8	21.4	0.0	22.9	0.0	22.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	2.1	1.6	0.0	66.9	0.0	37.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	4.3	0.0	0.0	4.5	3.8	0.0	16.7	0.0	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	22.9	0.0	0.0	23.8	22.9	0.0	89.8	0.0	60.7
LnGrp LOS	A	A		C	A		C	C		F	A	E
Approach Vol, veh/h		0			732			616			1066	
Approach Delay, s/veh		0.0			22.9			23.4			75.9	
Approach LOS					C			C			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.5		20.8		22.5		20.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		12.4		0.0		20.0		14.3				
Green Ext Time (p_c), s		3.6		0.0		0.0		2.0				

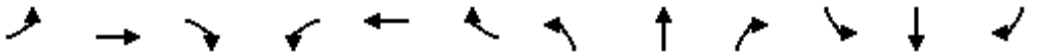
Intersection Summary		
HCM 6th Ctrl Delay		46.4
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1168	40	250	1175	460	40	0	90	350	50	150
Future Volume (veh/h)	0	1168	40	250	1175	460	40	0	90	350	50	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1270	43	272	1277	0	43	0	98	419	0	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1249	42	275	2030		148	0	131	586	0	261
Arrive On Green	0.00	0.36	0.36	0.15	0.57	0.00	0.08	0.00	0.08	0.16	0.00	0.16
Sat Flow, veh/h	0	3601	119	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	643	670	272	1277	0	43	0	98	419	0	163
Grp Sat Flow(s),veh/h/ln	0	1777	1849	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	26.5	26.5	11.3	17.9	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Cycle Q Clear(g_c), s	0.0	26.5	26.5	11.3	17.9	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Prop In Lane	0.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	633	659	275	2030		148	0	131	586	0	261
V/C Ratio(X)	0.00	1.02	1.02	0.99	0.63		0.29	0.00	0.75	0.72	0.00	0.63
Avail Cap(c_a), veh/h	0	633	659	275	2030		168	0	149	1293	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.0	24.0	31.4	10.7	0.0	32.1	0.0	33.3	29.4	0.0	29.0
Incr Delay (d2), s/veh	0.0	39.8	39.5	50.7	0.6	0.0	1.1	0.0	16.2	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.0	17.7	8.5	5.9	0.0	0.8	0.0	2.3	3.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	63.8	63.4	82.1	11.3	0.0	33.1	0.0	49.6	31.1	0.0	31.4
LnGrp LOS	A	F	F	F	B		C	A	D	C	A	C
Approach Vol, veh/h		1313			1549			141			582	
Approach Delay, s/veh		63.6			23.7			44.6			31.2	
Approach LOS		E			C			D			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		10.7	16.0	31.0		16.7		47.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		7.0	11.5	26.5		27.0		42.5				
Max Q Clear Time (g_c+I1), s		6.5	13.3	28.5		10.3		19.9				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.9		10.0				

Intersection Summary												
HCM 6th Ctrl Delay			40.4									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	18	200	15	30	170	83	30	18	35	79	33	23
Future Vol, veh/h	18	200	15	30	170	83	30	18	35	79	33	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	217	16	33	185	90	33	20	38	86	36	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	275	0	0	233	0	0	592	606	225	590	569	230
Stage 1	-	-	-	-	-	-	265	265	-	296	296	-
Stage 2	-	-	-	-	-	-	327	341	-	294	273	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1288	-	-	1335	-	-	418	411	814	419	432	809
Stage 1	-	-	-	-	-	-	740	689	-	712	668	-
Stage 2	-	-	-	-	-	-	686	639	-	714	684	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1288	-	-	1335	-	-	364	392	814	370	412	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	364	392	-	370	412	-
Stage 1	-	-	-	-	-	-	727	677	-	699	648	-
Stage 2	-	-	-	-	-	-	609	620	-	649	672	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.8	14.1	18.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	484	1288	-	-	1335	-	-	419
HCM Lane V/C Ratio	0.186	0.015	-	-	0.024	-	-	0.35
HCM Control Delay (s)	14.1	7.8	0	-	7.8	0	-	18.2
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	80	139	85	50	26	178	852	70	41	715	50
Future Volume (veh/h)	90	80	139	85	50	26	178	852	70	41	715	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	87	151	92	54	28	193	926	76	45	777	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	145	252	184	98	34	252	1481	122	81	1179	82
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.14	0.45	0.45	0.05	0.35	0.35
Sat Flow, veh/h	1316	614	1065	339	414	144	1781	3325	273	1781	3371	234
Grp Volume(v), veh/h	98	0	238	174	0	0	193	495	507	45	409	422
Grp Sat Flow(s),veh/h/ln	1316	0	1679	897	0	0	1781	1777	1821	1781	1777	1828
Q Serve(g_s), s	0.0	0.0	6.7	4.2	0.0	0.0	5.5	11.3	11.3	1.3	10.3	10.3
Cycle Q Clear(g_c), s	3.9	0.0	6.7	10.8	0.0	0.0	5.5	11.3	11.3	1.3	10.3	10.3
Prop In Lane	1.00		0.63	0.53		0.16	1.00		0.15	1.00		0.13
Lane Grp Cap(c), veh/h	404	0	398	316	0	0	252	792	811	81	622	640
V/C Ratio(X)	0.24	0.00	0.60	0.55	0.00	0.00	0.77	0.63	0.63	0.55	0.66	0.66
Avail Cap(c_a), veh/h	714	0	792	638	0	0	673	1342	1375	673	1342	1381
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	18.0	20.0	0.0	0.0	21.9	11.3	11.3	24.7	14.5	14.5
Incr Delay (d2), s/veh	0.3	0.0	1.4	1.5	0.0	0.0	4.9	0.8	0.8	5.7	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.5	2.0	0.0	0.0	2.5	3.9	4.0	0.7	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	0.0	19.4	21.5	0.0	0.0	26.8	12.1	12.1	30.5	15.7	15.7
LnGrp LOS	B	A	B	C	A	A	C	B	B	C	B	B
Approach Vol, veh/h		336			174			1195			876	
Approach Delay, s/veh		18.8			21.5			14.5			16.5	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	28.7		17.2	12.2	23.6		17.2				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		4.6				
Max Green Setting (Gmax), s	* 20	40.0		25.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	3.3	13.3		8.7	7.5	12.3		12.8				
Green Ext Time (p_c), s	0.1	7.9		1.6	0.4	6.2		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	230	140	200	230	308	150	587	180	254	517	63
Future Volume (veh/h)	63	230	140	200	230	308	150	587	180	254	517	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	250	152	217	250	335	163	638	196	276	562	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	272	296	342	359	551	190	851	261	277	1171	141
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.32	0.32	0.16	0.37	0.37
Sat Flow, veh/h	396	1455	1585	1781	1870	1585	1781	2678	822	1781	3193	385
Grp Volume(v), veh/h	318	0	152	217	250	335	163	423	411	276	312	318
Grp Sat Flow(s),veh/h/ln	1851	0	1585	1781	1870	1585	1781	1777	1722	1781	1777	1801
Q Serve(g_s), s	21.7	0.0	11.1	14.4	16.0	22.4	11.6	27.4	27.4	19.9	17.3	17.4
Cycle Q Clear(g_c), s	21.7	0.0	11.1	14.4	16.0	22.4	11.6	27.4	27.4	19.9	17.3	17.4
Prop In Lane	0.21		1.00	1.00		1.00	1.00		0.48	1.00		0.21
Lane Grp Cap(c), veh/h	346	0	296	342	359	551	190	565	548	277	652	661
V/C Ratio(X)	0.92	0.00	0.51	0.63	0.70	0.61	0.86	0.75	0.75	0.99	0.48	0.48
Avail Cap(c_a), veh/h	360	0	309	347	364	555	277	830	805	277	830	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	46.9	47.7	48.4	34.6	56.4	39.2	39.2	54.2	31.2	31.3
Incr Delay (d2), s/veh	27.4	0.0	1.4	3.7	5.6	1.9	16.0	4.3	4.5	52.6	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	0.0	4.4	6.6	7.9	8.8	6.0	12.5	12.1	12.9	7.6	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.7	0.0	48.3	51.4	54.0	36.5	72.4	43.5	43.7	106.7	32.4	32.4
LnGrp LOS	E	A	D	D	D	D	E	D	D	F	C	C
Approach Vol, veh/h		470			802			997			906	
Approach Delay, s/veh		68.9			46.0			48.3			55.0	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.6	45.9		28.6	18.3	52.2		29.3				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	21.9	29.4		23.7	13.6	19.4		24.4				
Green Ext Time (p_c), s	0.0	11.4		0.4	0.2	8.7		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		52.7	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	622	140	210	913	485	30	20	50	455	65	110
Future Volume (veh/h)	261	622	140	210	913	485	30	20	50	455	65	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	284	676	152	228	992	527	33	22	54	343	284	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1275	286	192	1444	1028	56	38	82	431	302	128
Arrive On Green	0.14	0.44	0.44	0.22	0.81	0.81	0.05	0.05	0.05	0.24	0.24	0.24
Sat Flow, veh/h	1781	2883	648	1781	3554	1585	1090	726	1585	1781	1248	527
Grp Volume(v), veh/h	284	416	412	228	992	527	55	0	54	343	0	404
Grp Sat Flow(s),veh/h/ln	1781	1777	1754	1781	1777	1585	1816	0	1585	1781	0	1775
Q Serve(g_s), s	16.5	19.6	19.7	12.4	13.6	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Cycle Q Clear(g_c), s	16.5	19.6	19.7	12.4	13.6	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Prop In Lane	1.00		0.37	1.00		1.00	0.60		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	256	786	775	192	1444	1028	94	0	82	431	0	430
V/C Ratio(X)	1.11	0.53	0.53	1.19	0.69	0.51	0.59	0.00	0.66	0.80	0.00	0.94
Avail Cap(c_a), veh/h	256	786	775	192	1444	1028	284	0	248	434	0	432
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.59	0.59	0.59	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	23.4	23.4	45.1	7.7	2.9	53.3	0.0	53.5	40.9	0.0	42.8
Incr Delay (d2), s/veh	89.4	2.6	2.6	110.8	1.6	1.1	5.7	0.0	8.7	9.9	0.0	28.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	8.4	8.3	10.6	3.0	3.2	1.7	0.0	1.7	10.2	0.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.7	25.9	26.0	155.9	9.3	4.0	59.0	0.0	62.3	50.8	0.0	71.5
LnGrp LOS	F	C	C	F	A	A	E	A	E	D	A	E
Approach Vol, veh/h		1112			1747			109			747	
Approach Delay, s/veh		54.7			26.8			60.6			62.0	
Approach LOS		D			C			E			E	

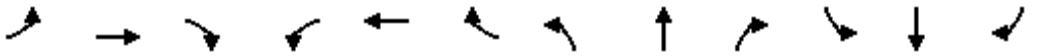
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.4	16.9	55.3	32.3	21.0	51.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	12.4	38.6	28.0	16.5	34.5
Max Q Clear Time (g_c+I1), s	5.8	14.4	21.7	27.7	18.5	15.6
Green Ext Time (p_c), s	0.3	0.0	4.6	0.1	0.0	8.7

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	937	226	150	824	325	136	85	95	750	225	503
Future Volume (veh/h)	290	937	226	150	824	325	136	85	95	750	225	503
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	1018	246	163	896	353	120	131	103	530	644	547
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1457	351	82	1832	817	174	182	155	333	350	296
Arrive On Green	0.04	0.51	0.51	0.05	0.52	0.52	0.10	0.10	0.10	0.19	0.19	0.19
Sat Flow, veh/h	1781	2840	684	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	315	635	629	163	896	353	120	131	103	530	644	547
Grp Sat Flow(s),veh/h/ln	1781	1777	1747	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	31.2	31.5	5.3	18.8	16.0	7.5	7.8	7.2	21.5	21.5	21.5
Cycle Q Clear(g_c), s	5.0	31.2	31.5	5.3	18.8	16.0	7.5	7.8	7.2	21.5	21.5	21.5
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	911	896	82	1832	817	174	182	155	333	350	296
V/C Ratio(X)	4.07	0.70	0.70	1.99	0.49	0.43	0.69	0.72	0.67	1.59	1.84	1.85
Avail Cap(c_a), veh/h	77	911	896	82	1832	817	527	553	469	333	350	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	21.2	21.3	54.8	18.0	17.4	50.2	50.4	50.1	46.8	46.8	46.8
Incr Delay (d2), s/veh	1400.9	3.0	3.1	484.0	0.9	1.7	4.8	5.2	4.9	280.0	389.7	393.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.3	12.9	12.8	13.4	7.5	5.9	3.6	3.9	3.0	35.4	47.8	40.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1455.9	24.3	24.4	538.8	19.0	19.0	55.1	55.6	55.0	326.7	436.5	440.2
LnGrp LOS	F	C	C	F	B	B	E	E	D	F	F	F
Approach Vol, veh/h		1579			1412			354			1721	
Approach Delay, s/veh		309.9			79.0			55.2			403.9	
Approach LOS		F			E			E			F	

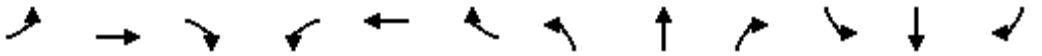
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.7	9.8	63.5	26.0	9.5	63.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	5.3	36.2	21.5	5.0	36.5
Max Q Clear Time (g_c+I1), s	9.8	7.3	33.5	23.5	7.0	20.8
Green Ext Time (p_c), s	1.4	0.0	1.9	0.0	0.0	6.5

Intersection Summary	
HCM 6th Ctrl Delay	259.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	110	90	230	120	386	140	539	250	331	495	160
Future Volume (veh/h)	90	110	90	230	120	386	140	539	250	331	495	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	120	98	250	130	420	152	586	272	360	538	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	166	141	267	139	705	183	686	318	393	1081	348
Arrive On Green	0.09	0.09	0.09	0.22	0.22	0.22	0.10	0.29	0.29	0.22	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	1191	619	1585	1781	2357	1093	1781	2643	851
Grp Volume(v), veh/h	98	120	98	380	0	420	152	442	416	360	361	351
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1674	1781	1777	1717
Q Serve(g_s), s	5.9	7.0	6.7	22.9	0.0	22.3	9.3	26.1	26.1	22.0	16.8	16.9
Cycle Q Clear(g_c), s	5.9	7.0	6.7	22.9	0.0	22.3	9.3	26.1	26.1	22.0	16.8	16.9
Prop In Lane	1.00		1.00	0.66		1.00	1.00		0.65	1.00		0.50
Lane Grp Cap(c), veh/h	158	166	141	406	0	705	183	517	487	393	727	702
V/C Ratio(X)	0.62	0.72	0.70	0.94	0.00	0.60	0.83	0.85	0.86	0.92	0.50	0.50
Avail Cap(c_a), veh/h	320	336	285	407	0	706	320	638	601	480	727	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	49.4	49.3	42.4	0.0	23.3	49.0	37.2	37.2	42.4	24.4	24.4
Incr Delay (d2), s/veh	3.9	5.8	6.1	29.0	0.0	1.4	9.2	9.2	9.8	19.8	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.5	2.9	13.3	0.0	8.3	4.6	12.4	11.8	11.6	7.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	55.2	55.3	71.4	0.0	24.7	58.2	46.4	47.1	62.2	24.9	25.0
LnGrp LOS	D	E	E	E	A	C	E	D	D	E	C	C
Approach Vol, veh/h		316			800			1010			1072	
Approach Delay, s/veh		54.5			46.9			48.5			37.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.3	37.5		14.5	16.1	50.6		30.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	24.0	28.1		9.0	11.3	18.9		24.9				
Green Ext Time (p_c), s	0.6	4.3		0.9	0.2	4.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		45.0	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Future Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	0	46	0	38	0	7	15	55	3	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.4	6.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	55%	76%
Vol Thru, %	30%	0%	0%	4%
Vol Right, %	70%	0%	45%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	3	77	67
LT Vol	0	3	42	51
Through Vol	6	0	0	3
RT Vol	14	0	35	13
Lane Flow Rate	22	3	84	73
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.004	0.092	0.084
Departure Headway (Hd)	3.72	4.363	3.937	4.137
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	954	814	906	863
Service Time	1.774	2.422	1.98	2.177
HCM Lane V/C Ratio	0.023	0.004	0.093	0.085
HCM Control Delay	6.9	7.4	7.4	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.3	0.3

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	50	70	15	45	30	50	886	20	45	1160	120
Future Volume (veh/h)	165	50	70	15	45	30	50	886	20	45	1160	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	54	76	16	49	33	54	963	22	49	1261	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	81	505	93	213	114	93	1289	29	87	1151	118
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.05	0.36	0.36	0.05	0.35	0.35
Sat Flow, veh/h	607	253	1585	34	669	357	1781	3551	81	1781	3253	334
Grp Volume(v), veh/h	233	0	76	98	0	0	54	482	503	49	687	704
Grp Sat Flow(s),veh/h/ln	860	0	1585	1061	0	0	1781	1777	1856	1781	1777	1810
Q Serve(g_s), s	0.2	0.0	1.7	0.4	0.0	0.0	1.5	12.1	12.1	1.4	18.0	18.0
Cycle Q Clear(g_c), s	14.4	0.0	1.7	14.6	0.0	0.0	1.5	12.1	12.1	1.4	18.0	18.0
Prop In Lane	0.77		1.00	0.16		0.34	1.00		0.04	1.00		0.18
Lane Grp Cap(c), veh/h	399	0	505	420	0	0	93	645	674	87	629	640
V/C Ratio(X)	0.58	0.00	0.15	0.23	0.00	0.00	0.58	0.75	0.75	0.56	1.09	1.10
Avail Cap(c_a), veh/h	449	0	561	478	0	0	175	645	674	186	629	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	12.4	12.9	0.0	0.0	23.6	14.2	14.2	23.7	16.4	16.4
Incr Delay (d2), s/veh	1.5	0.0	0.1	0.3	0.0	0.0	5.6	4.8	4.6	5.6	63.8	65.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.6	0.7	0.0	0.0	0.7	5.1	5.2	0.7	17.4	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	12.5	13.2	0.0	0.0	29.2	18.9	18.7	29.3	80.2	82.2
LnGrp LOS	B	A	B	B	A	A	C	B	B	C	F	F
Approach Vol, veh/h		309			98			1039			1440	
Approach Delay, s/veh		16.6			13.2			19.4			79.5	
Approach LOS		B			B			B			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	23.5		20.9	7.2	23.0		20.9				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	3.4	14.1		16.4	3.5	20.0		16.6				
Green Ext Time (p_c), s	0.0	2.3		0.3	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		48.8	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2050 BUILDOUT
WITH COAST HIGHWAY
IMPROVEMENT PROJECT
WITHOUT PROJECT
AM PEAK HOUR

MOVEMENT SUMMARY

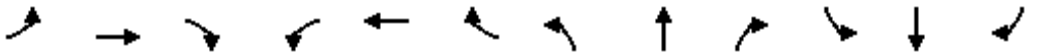
Site: 1 [Coast Hwy & Civic Center Dr (Site Folder: 2050 Buildout Without Project - AM Peak Hour)]

Site Category: 2050 Buildout Without Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	90	3.0	98	3.0	0.544	10.0	LOS A	3.7	95.7	0.58	0.43	0.58	32.3
8	T1	320	3.0	348	3.0	0.544	10.0	LOS A	3.7	95.7	0.58	0.43	0.58	32.3
18	R2	130	3.0	141	3.0	0.544	10.0	LOS A	3.7	95.7	0.58	0.43	0.58	31.4
Approach		540	3.0	587	3.0	0.544	10.0	LOS A	3.7	95.7	0.58	0.43	0.58	32.1
East: Civic Center Dr														
1	L2	40	3.0	43	3.0	0.201	6.6	LOS A	0.9	22.0	0.56	0.51	0.56	33.7
6	T1	55	3.0	60	3.0	0.201	6.6	LOS A	0.9	22.0	0.56	0.51	0.56	33.6
16	R2	55	3.0	60	3.0	0.201	6.6	LOS A	0.9	22.0	0.56	0.51	0.56	32.7
Approach		150	3.0	163	3.0	0.201	6.6	LOS A	0.9	22.0	0.56	0.51	0.56	33.3
North: Coast Hwy														
7	L2	115	3.0	125	3.0	0.606	11.3	LOS B	5.2	132.0	0.62	0.49	0.67	31.7
4	T1	390	3.0	424	3.0	0.606	11.3	LOS B	5.2	132.0	0.62	0.49	0.67	31.6
14	R2	100	3.0	109	3.0	0.606	11.3	LOS B	5.2	132.0	0.62	0.49	0.67	30.8
Approach		605	3.0	658	3.0	0.606	11.3	LOS B	5.2	132.0	0.62	0.49	0.67	31.5
West: Civic Center Dr														
5	L2	30	3.0	33	3.0	0.174	6.9	LOS A	0.7	18.1	0.60	0.57	0.60	33.5
2	T1	45	3.0	49	3.0	0.174	6.9	LOS A	0.7	18.1	0.60	0.57	0.60	33.4
12	R2	40	3.0	43	3.0	0.174	6.9	LOS A	0.7	18.1	0.60	0.57	0.60	32.5
Approach		115	3.0	125	3.0	0.174	6.9	LOS A	0.7	18.1	0.60	0.57	0.60	33.1
All Vehicles		1410	3.0	1533	3.0	0.606	9.9	LOS A	5.2	132.0	0.60	0.47	0.62	32.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	60	40	55	60	55	140	590	180	120	520	120
Future Volume (veh/h)	40	60	40	55	60	55	140	590	180	120	520	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	65	43	60	65	60	152	641	196	130	565	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	165	109	282	141	130	515	1200	1017	449	1200	1017
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1266	1050	695	1286	895	826	750	1870	1585	657	1870	1585
Grp Volume(v), veh/h	43	0	108	60	0	125	152	641	196	130	565	130
Grp Sat Flow(s),veh/h/ln	1266	0	1745	1286	0	1722	750	1870	1585	657	1870	1585
Q Serve(g_s), s	1.5	0.0	2.7	2.1	0.0	3.2	6.2	8.9	2.4	6.4	7.4	1.5
Cycle Q Clear(g_c), s	4.7	0.0	2.7	4.8	0.0	3.2	13.7	8.9	2.4	15.4	7.4	1.5
Prop In Lane	1.00		0.40	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	0	275	282	0	271	515	1200	1017	449	1200	1017
V/C Ratio(X)	0.16	0.00	0.39	0.21	0.00	0.46	0.29	0.53	0.19	0.29	0.47	0.13
Avail Cap(c_a), veh/h	862	0	1096	886	0	1081	662	1565	1327	578	1565	1327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	18.1	20.2	0.0	18.3	7.9	4.7	3.5	8.9	4.4	3.3
Incr Delay (d2), s/veh	0.3	0.0	0.9	0.4	0.0	1.2	1.1	1.3	0.3	1.3	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	0.6	0.0	1.2	1.0	2.5	0.6	0.9	2.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	19.0	20.6	0.0	19.5	9.0	6.0	3.8	10.1	5.4	3.5
LnGrp LOS	C	A	B	C	A	B	A	A	A	B	A	A
Approach Vol, veh/h		151			185			989			825	
Approach Delay, s/veh		19.5			19.9			6.0			5.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.7		12.1		35.7		12.1				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		15.7		6.7		17.4		6.8				
Green Ext Time (p_c), s		15.0		0.7		12.3		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			8.1									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	365	5	0	0	0	0	15	10	15	100	0
Future Vol, veh/h	20	365	5	0	0	0	0	15	10	15	100	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	397	5	0	0	0	0	16	11	16	109	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.7	8	9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	13%
Vol Thru, %	60%	90%	97%	87%
Vol Right, %	40%	0%	3%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	203	188	115
LT Vol	0	20	0	15
Through Vol	15	183	183	100
RT Vol	10	0	5	0
Lane Flow Rate	27	220	204	125
Geometry Grp	2	5	5	2
Degree of Util (X)	0.036	0.303	0.277	0.172
Departure Headway (Hd)	4.808	4.963	4.894	4.943
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	724	736	727
Service Time	2.84	2.688	2.619	2.965
HCM Lane V/C Ratio	0.036	0.304	0.277	0.172
HCM Control Delay	8	9.8	9.5	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.3	1.1	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	150	225	5	5	0	5	0	20	10	0	0	0
Future Vol, veh/h	150	225	5	5	0	5	0	20	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	163	245	5	5	0	5	0	22	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	574	248
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	429	791
Stage 1	-	-	-	0	503	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	791
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.7
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	791	-	-	-
HCM Lane V/C Ratio	0.041	-	-	-
HCM Control Delay (s)	9.7	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	110	30	40	170	30	20	20	15	15	30	35
Future Volume (veh/h)	20	110	30	40	170	30	20	20	15	15	30	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	120	33	43	185	33	22	22	16	16	33	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	665	836	222	724	1041	182	287	227	340	161	171	158
Arrive On Green	0.06	0.30	0.30	0.10	0.34	0.34	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	2776	739	1781	3022	529	577	1058	1585	153	795	735
Grp Volume(v), veh/h	22	75	78	43	107	111	44	0	16	87	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1737	1781	1777	1775	1635	0	1585	1682	0	0
Q Serve(g_s), s	0.3	1.0	1.1	0.5	1.4	1.4	0.0	0.0	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.0	1.1	0.5	1.4	1.4	0.6	0.0	0.3	1.4	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.30	0.50		1.00	0.18		0.44
Lane Grp Cap(c), veh/h	665	535	523	724	612	612	514	0	340	489	0	0
V/C Ratio(X)	0.03	0.14	0.15	0.06	0.18	0.18	0.09	0.00	0.05	0.18	0.00	0.00
Avail Cap(c_a), veh/h	1103	1606	1570	1085	1606	1604	1397	0	1241	1565	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.0	8.5	8.5	6.1	7.6	7.6	10.5	0.0	10.3	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.2	0.2	0.1	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.3	0.1	0.4	0.4	0.2	0.0	0.1	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.0	8.6	8.7	6.2	7.8	7.8	10.6	0.0	10.4	11.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		175			261			60			87	
Approach Delay, s/veh		8.4			7.5			10.5			11.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	14.6		11.3	5.8	16.0		11.3				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.5	3.1		3.4	2.3	3.4		2.6				
Green Ext Time (p_c), s	0.0	1.2		0.6	0.0	1.8		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

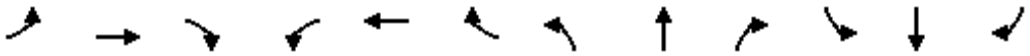
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	80	155	210	70	50	290	0	0	410	50
Future Volume (veh/h)	60	0	80	155	210	70	50	290	0	0	410	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	65	0	87	168	228	76	54	315	0	0	446	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	168	0	149	368	544	177	89	828	0	0	587	497
Arrive On Green	0.09	0.00	0.09	0.21	0.21	0.21	0.05	0.44	0.00	0.00	0.31	0.31
Sat Flow, veh/h	1781	0	1585	1781	2637	856	1781	1870	0	0	1870	1585
Grp Volume(v), veh/h	65	0	87	168	152	152	54	315	0	0	446	54
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1716	1781	1870	0	0	1870	1585
Q Serve(g_s), s	2.0	0.0	3.1	4.8	4.3	4.5	1.7	6.6	0.0	0.0	12.5	1.4
Cycle Q Clear(g_c), s	2.0	0.0	3.1	4.8	4.3	4.5	1.7	6.6	0.0	0.0	12.5	1.4
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	168	0	149	368	367	354	89	828	0	0	587	497
V/C Ratio(X)	0.39	0.00	0.58	0.46	0.41	0.43	0.61	0.38	0.00	0.00	0.76	0.11
Avail Cap(c_a), veh/h	702	0	624	763	761	735	458	961	0	0	801	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	25.3	20.3	20.1	20.2	27.2	10.9	0.0	0.0	18.0	14.2
Incr Delay (d2), s/veh	1.5	0.0	3.6	3.2	2.7	3.0	6.5	0.6	0.0	0.0	4.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	2.2	1.9	2.0	0.9	2.6	0.0	0.0	5.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	0.0	28.9	23.5	22.8	23.2	33.7	11.5	0.0	0.0	22.9	14.4
LnGrp LOS	C	A	C	C	C	C	C	B	A	A	C	B
Approach Vol, veh/h		152			472			369			500	
Approach Delay, s/veh		27.8			23.2			14.8			22.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		30.8		10.5	7.5	23.3		17.1				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		8.6		5.1	3.7	14.5		6.8				
Green Ext Time (p_c), s		3.5		0.6	0.1	3.8		5.2				

Intersection Summary												
HCM 6th Ctrl Delay			21.2									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	430	75	10	20	0	0	20	30
Future Volume (veh/h)	0	0	0	95	430	75	10	20	0	0	20	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				103	467	82	11	22	0	0	22	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				270	1279	235	241	110	0	0	75	112
Arrive On Green				0.49	0.49	0.49	0.11	0.11	0.00	0.00	0.11	0.11
Sat Flow, veh/h				549	2600	478	402	998	0	0	675	1013
Grp Volume(v), veh/h				346	0	306	33	0	0	0	0	55
Grp Sat Flow(s),veh/h/ln				1843	0	1784	1401	0	0	0	0	1688
Q Serve(g_s), s				2.9	0.0	2.6	0.1	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				2.9	0.0	2.6	0.9	0.0	0.0	0.0	0.0	0.7
Prop In Lane				0.30		0.27	0.33		0.00	0.00		0.60
Lane Grp Cap(c), veh/h				907	0	878	351	0	0	0	0	186
V/C Ratio(X)				0.38	0.00	0.35	0.09	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				3022	0	2926	1391	0	0	0	0	1246
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				3.9	0.0	3.8	9.9	0.0	0.0	0.0	0.0	10.0
Incr Delay (d2), s/veh				0.3	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.1	0.0	4.0	10.1	0.0	0.0	0.0	0.0	10.8
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					652			33			55	
Approach Delay, s/veh					4.1			10.1			10.8	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.3		17.1		7.3				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.7		4.9		2.9				
Green Ext Time (p_c), s				0.2		4.6		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		4.9
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	105	450	40	15	10	0	0	25	10
Future Vol, veh/h	0	0	0	105	450	40	15	10	0	0	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	114	489	43	16	11	0	0	27	11

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	486	760	-	-	739	266
Stage 1	-	-	-	0	0	-	-	739	-
Stage 2	-	-	-	486	760	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	464	334	0	0	344	732
Stage 1	-	-	-	-	-	0	0	422	-
Stage 2	-	-	-	531	413	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	430	334	-	-	344	732
Mov Cap-2 Maneuver	-	-	-	430	334	-	-	344	-
Stage 1	-	-	-	-	-	-	-	422	-
Stage 2	-	-	-	489	413	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		15	14.8
HCM LOS		C	B

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	386	-	-	-	405
HCM Lane V/C Ratio	0.07	-	-	-	0.094
HCM Control Delay (s)	15	-	-	-	14.8
HCM Lane LOS	C	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	520	70	0	0	165	0	0	10
Future Vol, veh/h	0	0	0	0	520	70	0	0	165	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	565	76	0	0	179	0	0	11

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	321
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	675
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	675
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	10.4
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	675
HCM Lane V/C Ratio	-	-	0.016
HCM Control Delay (s)	-	-	10.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	130	60	245	590	305	50	85	275	285	100	45
Future Volume (veh/h)	35	130	60	245	590	305	50	85	275	285	100	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	141	65	266	641	332	54	92	299	234	215	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	668	294	252	1040	743	151	258	353	313	259	59
Arrive On Green	0.13	0.28	0.28	0.14	0.29	0.29	0.22	0.22	0.22	0.18	0.18	0.18
Sat Flow, veh/h	1781	2402	1055	1781	3554	1585	679	1157	1585	1781	1474	336
Grp Volume(v), veh/h	38	103	103	266	641	332	146	0	299	234	0	264
Grp Sat Flow(s),veh/h/ln	1781	1777	1680	1781	1777	1585	1836	0	1585	1781	0	1810
Q Serve(g_s), s	2.0	4.7	5.0	15.0	16.5	14.9	7.1	0.0	19.2	13.2	0.0	14.9
Cycle Q Clear(g_c), s	2.0	4.7	5.0	15.0	16.5	14.9	7.1	0.0	19.2	13.2	0.0	14.9
Prop In Lane	1.00		0.63	1.00		1.00	0.37		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	226	494	467	252	1040	743	409	0	353	313	0	318
V/C Ratio(X)	0.17	0.21	0.22	1.06	0.62	0.45	0.36	0.00	0.85	0.75	0.00	0.83
Avail Cap(c_a), veh/h	504	670	634	252	1340	877	606	0	523	386	0	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.3	29.3	29.4	45.5	32.4	19.0	34.8	0.0	39.5	41.5	0.0	42.2
Incr Delay (d2), s/veh	0.3	1.0	1.1	72.1	2.2	1.5	0.8	0.0	10.1	7.3	0.0	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	2.2	11.6	7.3	7.9	3.3	0.0	8.4	6.5	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.5	30.3	30.5	117.7	34.5	20.5	35.6	0.0	49.6	48.7	0.0	55.1
LnGrp LOS	D	C	C	F	C	C	D	A	D	D	A	E
Approach Vol, veh/h		244			1239			445			498	
Approach Delay, s/veh		32.1			48.6			45.0			52.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	34.9		23.2	18.2	36.4		28.2				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	7.0		16.9	4.0	18.5		21.2				
Green Ext Time (p_c), s	0.0	4.6		1.7	0.0	12.5		2.4				

Intersection Summary			
HCM 6th Ctrl Delay		47.0	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	40	10	15	35	40	0	0	15	60	15	30
Future Vol, veh/h	10	40	10	15	35	40	0	0	15	60	15	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	43	11	16	38	43	0	0	16	65	16	33
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	8	8.4	7.1	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	100%	0%	17%	57%
Vol Thru, %	100%	0%	0%	80%	39%	14%
Vol Right, %	0%	100%	0%	20%	44%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	15	10	50	90	105
LT Vol	0	0	10	0	15	60
Through Vol	0	0	0	40	35	15
RT Vol	0	15	0	10	40	30
Lane Flow Rate	0	16	11	54	98	114
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0	0.02	0.016	0.073	0.128	0.155
Departure Headway (Hd)	5.041	4.338	5.451	4.809	4.713	4.896
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	827	659	747	763	735
Service Time	2.756	2.053	3.164	2.522	2.725	2.908
HCM Lane V/C Ratio	0	0.019	0.017	0.072	0.128	0.155
HCM Control Delay	7.8	7.1	8.3	7.9	8.4	8.8
HCM Lane LOS	N	A	A	A	A	A
HCM 95th-tile Q	0	0.1	0	0.2	0.4	0.5

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	90	30	30	90	25	30
Future Vol, veh/h	90	30	30	90	25	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	33	33	98	27	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	131	0	279	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1454	-	711	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1454	-	694	937
Mov Cap-2 Maneuver	-	-	-	-	694	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	808	-	-	1454	-
HCM Lane V/C Ratio	0.074	-	-	0.022	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	60	35	0	0	0	80	395	130	195	550	200
Future Volume (veh/h)	30	60	35	0	0	0	80	395	130	195	550	200
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	65	38				87	429	141	212	598	217
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	208	129	75				138	748	634	267	884	749
Arrive On Green	0.12	0.12	0.12				0.08	0.40	0.40	0.15	0.47	0.47
Sat Flow, veh/h	1781	1107	647				1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	33	0	103				87	429	141	212	598	217
Grp Sat Flow(s),veh/h/ln	1781	0	1754				1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.7	0.0	2.2				1.9	7.2	2.4	4.6	10.0	3.4
Cycle Q Clear(g_c), s	0.7	0.0	2.2				1.9	7.2	2.4	4.6	10.0	3.4
Prop In Lane	1.00		0.37				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	0	205				138	748	634	267	884	749
V/C Ratio(X)	0.16	0.00	0.50				0.63	0.57	0.22	0.79	0.68	0.29
Avail Cap(c_a), veh/h	1197	0	1179				257	1122	951	319	1187	1006
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	16.7				18.0	9.4	7.9	16.5	8.2	6.5
Incr Delay (d2), s/veh	0.4	0.0	1.9				4.7	1.5	0.4	10.9	2.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.9				0.9	2.6	0.7	2.5	3.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	0.0	18.6				22.7	10.9	8.3	27.4	10.2	6.9
LnGrp LOS	B	A	B				C	B	A	C	B	A
Approach Vol, veh/h		136						657			1027	
Approach Delay, s/veh		18.0						11.9			13.1	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	10.2	21.1		8.9	7.3	24.0
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	6.6	9.2		4.2	3.9	12.0
Green Ext Time (p_c), s	0.0	5.2		0.6	0.0	7.0

Intersection Summary		
HCM 6th Ctrl Delay		13.0
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	15	555	15	10	645
Future Vol, veh/h	15	15	555	15	10	645
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	603	16	11	701

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1334	611	0	0	619	0
Stage 1	611	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	170	494	-	-	961	-
Stage 1	542	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	167	494	-	-	961	-
Mov Cap-2 Maneuver	167	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	250	961	-
HCM Lane V/C Ratio	-	-	0.13	0.011	-
HCM Control Delay (s)	-	-	21.5	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	5	0	10	0	5	0	35	10	5	60	0
Future Vol, veh/h	10	5	0	10	0	5	0	35	10	5	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	5	0	11	0	5	0	38	11	5	65	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	121	124	65	122	119	44	-	0	0	49	0	0
Stage 1	75	75	-	44	44	-	-	-	-	-	-	-
Stage 2	46	49	-	78	75	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	854	766	999	853	771	1026	0	-	-	1558	-	0
Stage 1	934	833	-	970	858	-	0	-	-	-	-	0
Stage 2	968	854	-	931	833	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	847	764	999	846	769	1026	-	-	-	1558	-	-
Mov Cap-2 Maneuver	847	764	-	846	769	-	-	-	-	-	-	-
Stage 1	934	831	-	970	858	-	-	-	-	-	-	-
Stage 2	963	854	-	922	831	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.1	0	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	847	764	899	1558	-
HCM Lane V/C Ratio	-	-	0.013	0.007	0.018	0.003	-
HCM Control Delay (s)	-	-	9.3	9.7	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	10	10	480	640	20
Future Vol, veh/h	5	10	10	480	640	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	11	522	696	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1251	707	718	0	-	0
Stage 1	707	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	190	435	883	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	187	435	883	-	-	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	480	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	883	-	302	-	-
HCM Lane V/C Ratio	0.012	-	0.054	-	-
HCM Control Delay (s)	9.1	-	17.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	40	0	5	20	10	5	25	10	10	20	5
Future Vol, veh/h	5	40	0	5	20	10	5	25	10	10	20	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	43	0	5	22	11	5	27	11	11	22	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.2	7.2	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	11%	14%	29%
Vol Thru, %	62%	89%	57%	57%
Vol Right, %	25%	0%	29%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	45	35	35
LT Vol	5	5	5	10
Through Vol	25	40	20	20
RT Vol	10	0	10	5
Lane Flow Rate	43	49	38	38
Geometry Grp	1	1	1	1
Degree of Util (X)	0.048	0.056	0.042	0.043
Departure Headway (Hd)	3.988	4.128	3.97	4.089
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	864	897	870
Service Time	2.037	2.17	2.017	2.138
HCM Lane V/C Ratio	0.048	0.057	0.042	0.044
HCM Control Delay	7.2	7.4	7.2	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.1

MOVEMENT SUMMARY

Site: 19 [Coast Hwy & Michigan Ave (Site Folder: 2050 Buildout Without Project - AM Peak Hour)]

Site Category: 2050 Buildout Without Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	45	3.0	49	3.0	0.446	8.2	LOS A	2.7	69.4	0.50	0.36	0.50	33.4
8	T1	350	3.0	380	3.0	0.446	8.2	LOS A	2.7	69.4	0.50	0.36	0.50	33.3
18	R2	50	3.0	54	3.0	0.446	8.2	LOS A	2.7	69.4	0.50	0.36	0.50	32.4
Approach		445	3.0	484	3.0	0.446	8.2	LOS A	2.7	69.4	0.50	0.36	0.50	33.2
East: Michigan Ave														
1	L2	50	3.0	54	3.0	0.103	5.6	LOS A	0.4	10.6	0.54	0.47	0.54	33.1
6	T1	15	3.0	16	3.0	0.103	5.6	LOS A	0.4	10.6	0.54	0.47	0.54	33.0
16	R2	10	3.0	11	3.0	0.103	5.6	LOS A	0.4	10.6	0.54	0.47	0.54	32.1
Approach		75	3.0	82	3.0	0.103	5.6	LOS A	0.4	10.6	0.54	0.47	0.54	32.9
North: Coast Hwy														
7	L2	75	3.0	82	3.0	0.635	11.4	LOS B	5.6	142.4	0.54	0.33	0.54	31.9
4	T1	535	3.0	582	3.0	0.635	11.4	LOS B	5.6	142.4	0.54	0.33	0.54	31.8
14	R2	80	3.0	87	3.0	0.635	11.4	LOS B	5.6	142.4	0.54	0.33	0.54	31.0
Approach		690	3.0	750	3.0	0.635	11.4	LOS B	5.6	142.4	0.54	0.33	0.54	31.7
West: Michigan Ave														
5	L2	70	3.0	76	3.0	0.267	9.1	LOS A	1.1	28.3	0.66	0.66	0.66	32.0
2	T1	40	3.0	43	3.0	0.267	9.1	LOS A	1.1	28.3	0.66	0.66	0.66	31.9
12	R2	45	3.0	49	3.0	0.267	9.1	LOS A	1.1	28.3	0.66	0.66	0.66	31.1
Approach		155	3.0	168	3.0	0.267	9.1	LOS A	1.1	28.3	0.66	0.66	0.66	31.7
All Vehicles		1365	3.0	1484	3.0	0.635	9.8	LOS A	5.6	142.4	0.54	0.39	0.54	32.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	15	5	5	10
Future Vol, veh/h	5	0	15	5	5	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	16	5	5	11
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7	7.2	6.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	33%	0%	75%
Vol Thru, %	0%	100%	25%
Vol Right, %	67%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	15	5	20
LT Vol	5	0	15
Through Vol	0	5	5
RT Vol	10	0	0
Lane Flow Rate	16	5	22
Geometry Grp	1	1	1
Degree of Util (X)	0.017	0.006	0.025
Departure Headway (Hd)	3.647	3.978	4.116
Convergence, Y/N	Yes	Yes	Yes
Cap	984	903	873
Service Time	1.661	1.989	2.123
HCM Lane V/C Ratio	0.016	0.006	0.025
HCM Control Delay	6.7	7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.1

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	10	5	5	10	5	5	30	5	5	15	5
Future Vol, veh/h	5	10	5	5	10	5	5	30	5	5	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	11	5	5	11	5	5	33	5	5	16	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	16	0	0	16	0	0	58	50	14	67	50	14
Stage 1	-	-	-	-	-	-	24	24	-	24	24	-
Stage 2	-	-	-	-	-	-	34	26	-	43	26	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1602	-	-	1602	-	-	939	841	1066	926	841	1066
Stage 1	-	-	-	-	-	-	994	875	-	994	875	-
Stage 2	-	-	-	-	-	-	982	874	-	971	874	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1602	-	-	1602	-	-	916	836	1066	890	836	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	916	836	-	890	836	-
Stage 1	-	-	-	-	-	-	991	872	-	991	872	-
Stage 2	-	-	-	-	-	-	956	871	-	927	871	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	1.8	9.4	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	869	1602	-	-	1602	-	-	885
HCM Lane V/C Ratio	0.05	0.003	-	-	0.003	-	-	0.031
HCM Control Delay (s)	9.4	7.3	0	-	7.3	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

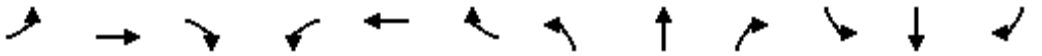
Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	20	0	0	40	10	435	30	15	590	15
Future Vol, veh/h	0	0	20	0	0	40	10	435	30	15	590	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	22	0	0	43	11	473	33	16	641	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	649	-	-	490	657	0	0	506	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	0	470	0	0	578	931	-	-	1059	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	470	-	-	578	931	-	-	1059	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	11.7	0.2	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	931	-	-	470	578	1059	-	-
HCM Lane V/C Ratio	0.012	-	-	0.046	0.075	0.015	-	-
HCM Control Delay (s)	8.9	-	-	13	11.7	8.5	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	70	470	60	280	85	250	460	100	150	40
Future Volume (veh/h)	0	0	70	470	60	280	85	250	460	100	150	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	557	0	0	92	272	0	109	163	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	431		1166	0		130	384		200	316	86
Arrive On Green	0.00	0.00	0.00	0.23	0.00	0.00	0.28	0.28	0.00	0.17	0.17	0.17
Sat Flow, veh/h	0	1870	0	3563	0	1585	467	1380	1585	1191	1886	512
Grp Volume(v), veh/h	0	0	0	557	0	0	364	0	0	166	0	149
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1847	0	1585	1811	0	1778
Q Serve(g_s), s	0.0	0.0	0.0	6.0	0.0	0.0	7.4	0.0	0.0	3.5	0.0	3.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	6.0	0.0	0.0	7.4	0.0	0.0	3.5	0.0	3.2
Prop In Lane	0.00		0.00	1.00		1.00	0.25		1.00	0.66		0.29
Lane Grp Cap(c), veh/h	0	431		1166	0		514	0		304	0	298
V/C Ratio(X)	0.00	0.00		0.48	0.00		0.71	0.00		0.55	0.00	0.50
Avail Cap(c_a), veh/h	0	1120		2479	0		1261	0		781	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	14.6	0.0	0.0	13.5	0.0	0.0	15.9	0.0	15.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.8	0.0	0.0	1.5	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.7	0.0	0.0	2.8	0.0	0.0	1.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	14.9	0.0	0.0	15.3	0.0	0.0	17.4	0.0	17.1
LnGrp LOS	A	A		B	A		B	A		B	A	B
Approach Vol, veh/h		0			557			364			315	
Approach Delay, s/veh		0.0			14.9			15.3			17.3	
Approach LOS					B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	16.1	14.1	11.5	14.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	25.0	18.0	25.0
Max Q Clear Time (g_c+I1), s	9.4	0.0	5.5	8.0
Green Ext Time (p_c), s	2.2	0.0	1.5	1.7

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	530	40	270	910	750	50	0	250	120	100	110
Future Volume (veh/h)	0	530	40	270	910	750	50	0	250	120	100	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	576	43	293	989	0	54	0	272	120	124	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	779	58	345	1776		275	0	245	225	236	200
Arrive On Green	0.00	0.23	0.23	0.19	0.50	0.00	0.15	0.00	0.15	0.13	0.13	0.13
Sat Flow, veh/h	0	3446	250	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	305	314	293	989	0	54	0	272	120	124	120
Grp Sat Flow(s),veh/h/ln	0	1777	1825	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	9.8	9.8	9.8	11.9	0.0	1.6	0.0	9.5	3.9	3.8	4.4
Cycle Q Clear(g_c), s	0.0	9.8	9.8	9.8	11.9	0.0	1.6	0.0	9.5	3.9	3.8	4.4
Prop In Lane	0.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	413	424	345	1776		275	0	245	225	236	200
V/C Ratio(X)	0.00	0.74	0.74	0.85	0.56		0.20	0.00	1.11	0.53	0.53	0.60
Avail Cap(c_a), veh/h	0	607	624	420	2313		275	0	245	783	822	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.9	21.9	23.9	10.7	0.0	22.6	0.0	26.0	25.2	25.1	25.4
Incr Delay (d2), s/veh	0.0	2.6	2.6	12.9	0.3	0.0	0.3	0.0	90.2	2.0	1.8	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.0	4.1	5.0	3.8	0.0	0.7	0.0	9.5	1.7	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.5	24.5	36.8	10.9	0.0	23.0	0.0	116.2	27.1	26.9	28.3
LnGrp LOS	A	C	C	D	B		C	A	F	C	C	C
Approach Vol, veh/h		619			1282			326			364	
Approach Delay, s/veh		24.5			16.8			100.8			27.4	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	14.0	16.4	18.8	12.3	35.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	14.5	21.0	27.0	40.0
Max Q Clear Time (g_c+I1), s	11.5	11.8	11.8	6.4	13.9
Green Ext Time (p_c), s	0.0	0.2	2.5	1.4	7.7

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	135	15	20	110	25	5	15	30	15	15	10
Future Vol, veh/h	15	135	15	20	110	25	5	15	30	15	15	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	147	16	22	120	27	5	16	33	16	16	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	147	0	0	163	0	0	378	378	155	390	373	134
Stage 1	-	-	-	-	-	-	187	187	-	178	178	-
Stage 2	-	-	-	-	-	-	191	191	-	212	195	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1435	-	-	1416	-	-	580	554	891	569	557	915
Stage 1	-	-	-	-	-	-	815	745	-	824	752	-
Stage 2	-	-	-	-	-	-	811	742	-	790	739	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1435	-	-	1416	-	-	548	538	891	524	541	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	548	538	-	524	541	-
Stage 1	-	-	-	-	-	-	805	736	-	814	739	-
Stage 2	-	-	-	-	-	-	770	729	-	735	730	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	10.5	11.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	707	1435	-	-	1416	-	-	595
HCM Lane V/C Ratio	0.077	0.011	-	-	0.015	-	-	0.073
HCM Control Delay (s)	10.5	7.5	0	-	7.6	0	-	11.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

MOVEMENT SUMMARY

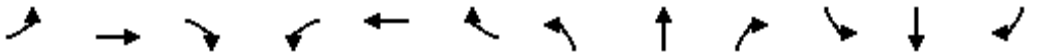
Site: 27 [Coast Hwy & Wisconsin Ave (Site Folder: 2050 Buildout Without Project - AM Peak Hour)]

Site Category: 2050 Buildout Without Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	80	3.0	87	3.0	0.530	9.1	LOS A	3.9	100.1	0.44	0.26	0.44	32.8
8	T1	440	3.0	478	3.0	0.530	9.1	LOS A	3.9	100.1	0.44	0.26	0.44	32.8
18	R2	60	3.0	65	3.0	0.530	9.1	LOS A	3.9	100.1	0.44	0.26	0.44	31.9
Approach		580	3.0	630	3.0	0.530	9.1	LOS A	3.9	100.1	0.44	0.26	0.44	32.7
East: Wisconsin Ave														
1	L2	90	3.0	98	3.0	0.257	8.2	LOS A	1.1	27.9	0.63	0.63	0.63	32.2
6	T1	50	3.0	54	3.0	0.257	8.2	LOS A	1.1	27.9	0.63	0.63	0.63	32.1
16	R2	25	3.0	27	3.0	0.257	8.2	LOS A	1.1	27.9	0.63	0.63	0.63	31.3
Approach		165	3.0	179	3.0	0.257	8.2	LOS A	1.1	27.9	0.63	0.63	0.63	32.0
North: Coast Hwy														
7	L2	20	3.0	22	3.0	0.537	10.1	LOS B	3.6	92.9	0.60	0.48	0.61	32.6
4	T1	445	3.0	484	3.0	0.537	10.1	LOS B	3.6	92.9	0.60	0.48	0.61	32.6
14	R2	50	3.0	54	3.0	0.537	10.1	LOS B	3.6	92.9	0.60	0.48	0.61	31.7
Approach		515	3.0	560	3.0	0.537	10.1	LOS B	3.6	92.9	0.60	0.48	0.61	32.5
West: Wisconsin Ave														
5	L2	50	3.0	54	3.0	0.260	8.1	LOS A	1.1	28.4	0.63	0.63	0.63	32.8
2	T1	35	3.0	38	3.0	0.260	8.1	LOS A	1.1	28.4	0.63	0.63	0.63	32.7
12	R2	85	3.0	92	3.0	0.260	8.1	LOS A	1.1	28.4	0.63	0.63	0.63	31.8
Approach		170	3.0	185	3.0	0.260	8.1	LOS A	1.1	28.4	0.63	0.63	0.63	32.3
All Vehicles		1430	3.0	1554	3.0	0.537	9.2	LOS A	3.9	100.1	0.54	0.43	0.55	32.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	170	120	200	190	180	110	360	110	150	395	50
Future Volume (veh/h)	50	170	120	200	190	180	110	360	110	150	395	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	185	130	212	214	196	120	391	120	163	429	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	239	265	293	307	442	155	853	259	204	562	71
Arrive On Green	0.17	0.17	0.17	0.16	0.16	0.16	0.09	0.32	0.32	0.11	0.35	0.35
Sat Flow, veh/h	418	1432	1585	1781	1870	1585	1781	2686	815	1781	1628	205
Grp Volume(v), veh/h	239	0	130	212	214	196	120	257	254	163	0	483
Grp Sat Flow(s),veh/h/ln	1849	0	1585	1781	1870	1585	1781	1777	1724	1781	0	1833
Q Serve(g_s), s	9.9	0.0	5.9	9.0	8.6	8.1	5.3	9.2	9.4	7.1	0.0	18.7
Cycle Q Clear(g_c), s	9.9	0.0	5.9	9.0	8.6	8.1	5.3	9.2	9.4	7.1	0.0	18.7
Prop In Lane	0.23		1.00	1.00		1.00	1.00		0.47	1.00		0.11
Lane Grp Cap(c), veh/h	309	0	265	293	307	442	155	564	547	204	0	633
V/C Ratio(X)	0.77	0.00	0.49	0.72	0.70	0.44	0.77	0.46	0.46	0.80	0.00	0.76
Avail Cap(c_a), veh/h	578	0	496	557	585	678	446	1334	1294	446	0	1376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.8	0.0	30.2	31.7	31.5	23.7	35.7	21.8	21.8	34.5	0.0	23.3
Incr Delay (d2), s/veh	4.1	0.0	1.4	3.4	2.9	0.7	7.9	1.2	1.3	7.0	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	2.2	3.9	3.9	2.9	2.5	3.8	3.8	3.4	0.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	31.6	35.1	34.4	24.4	43.6	23.0	23.1	41.4	0.0	27.4
LnGrp LOS	D	A	C	D	C	C	D	C	C	D	A	C
Approach Vol, veh/h		369			622			631			646	
Approach Delay, s/veh		34.4			31.5			27.0			30.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.8	30.5		18.0	11.6	32.7		17.7				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	9.1	11.4		11.9	7.3	20.7		11.0				
Green Ext Time (p_c), s	0.3	7.0		1.5	0.2	6.9		2.1				

Intersection Summary			
HCM 6th Ctrl Delay		30.5	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	525	165	600	740	600	35	55	75	315	45	110
Future Volume (veh/h)	260	525	165	600	740	600	35	55	75	315	45	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	283	571	179	652	804	652	38	60	82	256	170	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1378	431	107	1532	989	52	83	117	343	197	139
Arrive On Green	0.15	0.52	0.52	0.08	0.57	0.57	0.07	0.07	0.07	0.19	0.19	0.19
Sat Flow, veh/h	1781	2664	833	1781	3554	1585	711	1123	1585	1781	1020	720
Grp Volume(v), veh/h	283	380	370	652	804	652	98	0	82	256	0	290
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1781	1777	1585	1835	0	1585	1781	0	1741
Q Serve(g_s), s	16.8	15.1	15.2	6.9	15.9	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Cycle Q Clear(g_c), s	16.8	15.1	15.2	6.9	15.9	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Prop In Lane	1.00		0.48	1.00		1.00	0.39		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	260	919	890	107	1532	989	135	0	117	343	0	335
V/C Ratio(X)	1.09	0.41	0.42	6.10	0.52	0.66	0.72	0.00	0.70	0.75	0.00	0.86
Avail Cap(c_a), veh/h	260	919	890	107	1532	989	287	0	248	434	0	424
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.57	0.57	0.57	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	17.1	17.1	52.9	17.3	10.3	52.1	0.0	52.0	43.8	0.0	45.0
Incr Delay (d2), s/veh	81.1	1.4	1.4	2306.6	0.7	2.0	7.1	0.0	7.4	5.3	0.0	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	6.2	6.1	71.4	5.5	13.8	3.0	0.0	2.5	7.4	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.2	18.4	18.5	2359.5	18.1	12.3	59.3	0.0	59.4	49.0	0.0	59.1
LnGrp LOS	F	B	B	F	B	B	E	A	E	D	A	E
Approach Vol, veh/h		1033			2108			180			546	
Approach Delay, s/veh		49.1			740.5			59.3			54.4	
Approach LOS		D			F			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	13.0	11.4	64.0	26.7	21.3	54.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	6.9	44.1	28.0	16.8	34.2
Max Q Clear Time (g_c+I1), s	8.0	8.9	17.2	20.6	18.8	31.5
Green Ext Time (p_c), s	0.5	0.0	4.8	1.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	427.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	675	230	150	865	355	145	100	65	395	180	270
Future Volume (veh/h)	155	675	230	150	865	355	145	100	65	395	180	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	734	250	163	940	386	134	143	71	312	359	293
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1325	451	108	1795	800	185	194	164	302	317	269
Arrive On Green	0.07	0.51	0.51	0.06	0.51	0.51	0.10	0.10	0.10	0.17	0.17	0.17
Sat Flow, veh/h	1781	2602	886	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	168	501	483	163	940	386	134	143	71	312	359	293
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.5	22.2	22.2	7.0	20.5	18.3	8.4	8.5	4.8	19.5	19.5	19.5
Cycle Q Clear(g_c), s	7.5	22.2	22.2	7.0	20.5	18.3	8.4	8.5	4.8	19.5	19.5	19.5
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	905	871	108	1795	800	185	194	164	302	317	269
V/C Ratio(X)	1.45	0.55	0.55	1.50	0.52	0.48	0.73	0.74	0.43	1.03	1.13	1.09
Avail Cap(c_a), veh/h	116	905	871	108	1795	800	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	19.3	19.3	54.0	19.2	18.6	50.0	50.0	48.4	47.7	47.8	47.8
Incr Delay (d2), s/veh	233.6	1.9	1.9	268.3	1.1	2.1	5.3	5.4	1.8	60.6	91.1	81.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	9.1	8.8	11.2	8.3	6.8	4.0	4.3	2.0	13.7	17.0	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	287.3	21.1	21.2	322.3	20.3	20.7	55.3	55.4	50.1	108.3	138.9	128.8
LnGrp LOS	F	C	C	F	C	C	E	E	D	F	F	F
Approach Vol, veh/h		1152			1489			348			964	
Approach Delay, s/veh		60.0			53.4			54.3			125.9	
Approach LOS		E			D			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.4	11.5	63.1		24.0	12.0	62.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	7.0	36.5		19.5	7.5	36.0				
Max Q Clear Time (g_c+I1), s		10.5	9.0	24.2		21.5	9.5	22.5				
Green Ext Time (p_c), s		1.4	0.0	4.9		0.0	0.0	6.4				

Intersection Summary	
HCM 6th Ctrl Delay	73.1
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	90	60	215	80	240	50	200	100	180	470	100
Future Volume (veh/h)	60	90	60	215	80	240	50	200	100	180	470	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	98	65	234	87	261	54	217	109	196	511	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	171	145	306	114	592	86	540	261	251	949	201
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.05	0.23	0.23	0.14	0.33	0.33
Sat Flow, veh/h	1781	1870	1585	1315	489	1585	1781	2322	1123	1781	2917	619
Grp Volume(v), veh/h	65	98	65	321	0	261	54	164	162	196	310	310
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1805	0	1585	1781	1777	1668	1781	1777	1759
Q Serve(g_s), s	2.2	3.2	2.5	10.7	0.0	8.0	1.9	5.0	5.3	6.8	9.2	9.3
Cycle Q Clear(g_c), s	2.2	3.2	2.5	10.7	0.0	8.0	1.9	5.0	5.3	6.8	9.2	9.3
Prop In Lane	1.00		1.00	0.73		1.00	1.00		0.67	1.00		0.35
Lane Grp Cap(c), veh/h	163	171	145	420	0	592	86	413	388	251	578	572
V/C Ratio(X)	0.40	0.57	0.45	0.77	0.00	0.44	0.63	0.40	0.42	0.78	0.54	0.54
Avail Cap(c_a), veh/h	553	580	492	700	0	838	553	1103	1035	829	1103	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	28.1	27.7	23.1	0.0	15.2	30.1	20.9	21.0	26.7	17.8	17.8
Incr Delay (d2), s/veh	1.6	3.0	2.2	2.9	0.0	0.5	7.4	0.6	0.7	5.3	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.5	1.0	4.5	0.0	2.6	1.0	2.0	2.0	3.1	3.5	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	31.1	29.9	26.0	0.0	15.7	37.5	21.5	21.7	32.0	18.5	18.6
LnGrp LOS	C	C	C	C	A	B	D	C	C	C	B	B
Approach Vol, veh/h		228			582			380			816	
Approach Delay, s/veh		30.2			21.4			23.9			21.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.8	20.1		10.5	7.8	26.1		20.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	8.8	7.3		5.2	3.9	11.3		12.7				
Green Ext Time (p_c), s	0.5	2.0		0.7	0.1	4.0		2.3				

Intersection Summary			
HCM 6th Ctrl Delay		23.0	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	15	35	10	25	45	30	470	15	20	585	65
Future Volume (veh/h)	115	15	35	10	25	45	30	470	15	20	585	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	16	38	11	27	49	33	511	16	22	636	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	405	28	246	130	94	143	70	786	25	49	778	659
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.44	0.44	0.03	0.42	0.42
Sat Flow, veh/h	1388	178	1585	110	603	919	1781	1804	56	1781	1870	1585
Grp Volume(v), veh/h	141	0	38	87	0	0	33	0	527	22	636	71
Grp Sat Flow(s),veh/h/ln	1565	0	1585	1632	0	0	1781	0	1860	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	0.7	0.0	0.0	0.0	0.7	0.0	8.0	0.4	10.8	1.0
Cycle Q Clear(g_c), s	2.6	0.0	0.7	2.6	0.0	0.0	0.7	0.0	8.0	0.4	10.8	1.0
Prop In Lane	0.89		1.00	0.13		0.56	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	432	0	246	366	0	0	70	0	811	49	778	659
V/C Ratio(X)	0.33	0.00	0.15	0.24	0.00	0.00	0.47	0.00	0.65	0.45	0.82	0.11
Avail Cap(c_a), veh/h	906	0	794	929	0	0	248	0	932	263	937	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	13.1	13.5	0.0	0.0	16.9	0.0	8.0	17.2	9.3	6.4
Incr Delay (d2), s/veh	0.4	0.0	0.3	0.3	0.0	0.0	4.9	0.0	1.3	6.4	4.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.2	0.5	0.0	0.0	0.3	0.0	2.5	0.2	4.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.0	13.4	13.8	0.0	0.0	21.8	0.0	9.3	23.6	14.1	6.5
LnGrp LOS	B	A	B	B	A	A	C	A	A	C	B	A
Approach Vol, veh/h		179			87			560			729	
Approach Delay, s/veh		14.1			13.8			10.0			13.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	20.7		10.1	5.9	19.9		10.1				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.4	10.0		4.6	2.7	12.8		4.6				
Green Ext Time (p_c), s	0.0	2.2		0.7	0.0	2.1		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			12.4									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2050 BUILDOUT
WITH COAST HIGHWAY
IMPROVEMENT PROJECT
WITHOUT PROJECT
PM PEAK HOUR

MOVEMENT SUMMARY

Site: 1 [Coast Hwy & Civic Center Dr (Site Folder: 2050 Buildout Without Project - PM Peak Hour)]

Site Category: 2050 Buildout Without Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	165	3.0	179	3.0	1.232	130.2	LOS F	108.3	2772.9	1.00	3.60	7.00	11.9
8	T1	725	3.0	788	3.0	1.232	130.2	LOS F	108.3	2772.9	1.00	3.60	7.00	11.9
18	R2	205	3.0	223	3.0	1.232	130.2	LOS F	108.3	2772.9	1.00	3.60	7.00	11.8
Approach		1095	3.0	1190	3.0	1.232	130.2	LOS F	108.3	2772.9	1.00	3.60	7.00	11.9
East: Civic Center Dr														
1	L2	50	3.0	54	3.0	0.455	14.2	LOS B	2.4	62.0	0.75	0.85	1.08	30.3
6	T1	85	3.0	92	3.0	0.455	14.2	LOS B	2.4	62.0	0.75	0.85	1.08	30.3
16	R2	95	3.0	103	3.0	0.455	14.2	LOS B	2.4	62.0	0.75	0.85	1.08	29.5
Approach		230	3.0	250	3.0	0.455	14.2	LOS B	2.4	62.0	0.75	0.85	1.08	30.0
North: Coast Hwy														
7	L2	200	3.0	217	3.0	1.483	236.8	LOS F	188.2	4816.9	1.00	4.93	9.81	7.7
4	T1	930	3.0	1011	3.0	1.483	236.8	LOS F	188.2	4816.9	1.00	4.93	9.81	7.7
14	R2	215	3.0	234	3.0	1.483	236.8	LOS F	188.2	4816.9	1.00	4.93	9.81	7.6
Approach		1345	3.0	1462	3.0	1.483	236.8	LOS F	188.2	4816.9	1.00	4.93	9.81	7.6
West: Civic Center Dr														
5	L2	60	3.0	65	3.0	0.434	14.1	LOS B	2.2	55.9	0.75	0.84	1.04	30.2
2	T1	90	3.0	98	3.0	0.434	14.1	LOS B	2.2	55.9	0.75	0.84	1.04	30.2
12	R2	60	3.0	65	3.0	0.434	14.1	LOS B	2.2	55.9	0.75	0.84	1.04	29.4
Approach		210	3.0	228	3.0	0.434	14.1	LOS B	2.2	55.9	0.75	0.84	1.04	30.0
All Vehicles		2880	3.0	3130	3.0	1.483	162.2	LOS F	188.2	4816.9	0.96	3.80	7.40	10.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	25	25	35	35	65	275	100	60	260	55
Future Volume (veh/h)	20	25	25	25	35	35	65	275	100	60	260	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	27	27	27	38	38	71	299	109	65	283	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	140	140	449	140	140	671	905	767	641	905	767
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1323	858	858	1350	858	858	1038	1870	1585	978	1870	1585
Grp Volume(v), veh/h	22	0	54	27	0	76	71	299	109	65	283	60
Grp Sat Flow(s),veh/h/ln	1323	0	1716	1350	0	1716	1038	1870	1585	978	1870	1585
Q Serve(g_s), s	0.4	0.0	0.7	0.5	0.0	1.1	1.2	2.7	1.0	1.2	2.5	0.6
Cycle Q Clear(g_c), s	1.5	0.0	0.7	1.2	0.0	1.1	3.7	2.7	1.0	3.9	2.5	0.6
Prop In Lane	1.00		0.50	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	430	0	281	449	0	281	671	905	767	641	905	767
V/C Ratio(X)	0.05	0.00	0.19	0.06	0.00	0.27	0.11	0.33	0.14	0.10	0.31	0.08
Avail Cap(c_a), veh/h	1672	0	1891	1716	0	1891	1694	2749	2329	1605	2749	2329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.6	0.0	9.8	10.4	0.0	10.0	5.4	4.3	3.9	5.5	4.3	3.8
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.1	0.0	0.5	0.2	0.8	0.3	0.2	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.1	0.0	0.3	0.2	0.6	0.2	0.2	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	0.0	10.2	10.4	0.0	10.5	5.7	5.1	4.2	5.8	5.0	3.9
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		76			103			479			408	
Approach Delay, s/veh		10.3			10.5			5.0			4.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.2		9.0		18.2		9.0				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		5.7		3.5		5.9		3.2				
Green Ext Time (p_c), s		7.4		0.3		6.4		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			5.9									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	535	20	0	0	0	0	20	35	35	145	0
Future Vol, veh/h	30	535	20	0	0	0	0	20	35	35	145	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	582	22	0	0	0	0	22	38	38	158	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	12.4	8.8	10.7
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	19%
Vol Thru, %	36%	90%	93%	81%
Vol Right, %	64%	0%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	298	288	180
LT Vol	0	30	0	35
Through Vol	20	268	268	145
RT Vol	35	0	20	0
Lane Flow Rate	60	323	312	196
Geometry Grp	2	5	5	2
Degree of Util (X)	0.086	0.472	0.447	0.293
Departure Headway (Hd)	5.191	5.253	5.154	5.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	682	697	663
Service Time	3.264	3.011	2.912	3.452
HCM Lane V/C Ratio	0.088	0.474	0.448	0.296
HCM Control Delay	8.8	12.7	12.1	10.7
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.3	2.5	2.3	1.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	190	365	20	10	0	5	0	10	10	0	0	0
Future Vol, veh/h	190	365	20	10	0	5	0	10	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	207	397	22	11	0	5	0	11	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	822	408
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	309	643
Stage 1	-	-	-	0	388	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	643
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		10.8
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	643	-	-	-
HCM Lane V/C Ratio	0.034	-	-	-
HCM Control Delay (s)	10.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

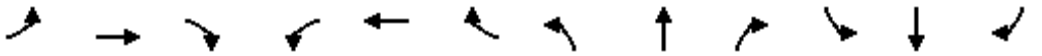
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	245	65	120	355	190	60	65	75	60	70	55
Future Volume (veh/h)	55	245	65	120	355	190	60	65	75	60	70	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	266	71	130	386	207	65	71	82	65	76	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	536	690	181	691	710	376	279	258	389	204	190	117
Arrive On Green	0.12	0.25	0.25	0.19	0.32	0.32	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1781	2786	730	1781	2246	1188	600	1052	1585	351	774	479
Grp Volume(v), veh/h	60	168	169	130	304	289	136	0	82	201	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1739	1781	1777	1657	1652	0	1585	1603	0	0
Q Serve(g_s), s	0.9	3.2	3.3	1.7	5.7	5.8	0.0	0.0	1.7	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.2	3.3	1.7	5.7	5.8	2.4	0.0	1.7	4.1	0.0	0.0
Prop In Lane	1.00		0.42	1.00		0.72	0.48		1.00	0.32		0.30
Lane Grp Cap(c), veh/h	536	440	431	691	562	524	537	0	389	511	0	0
V/C Ratio(X)	0.11	0.38	0.39	0.19	0.54	0.55	0.25	0.00	0.21	0.39	0.00	0.00
Avail Cap(c_a), veh/h	761	1320	1292	793	1320	1231	1140	0	1021	1236	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	12.6	12.7	6.7	11.4	11.4	12.4	0.0	12.1	13.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.3	0.3	0.3	0.0	0.4	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.0	1.1	0.5	1.8	1.7	0.9	0.0	0.5	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	12.8	12.9	6.7	11.7	11.8	12.7	0.0	12.5	13.7	0.0	0.0
LnGrp LOS	A	B	B	A	B	B	B	A	B	B	A	A
Approach Vol, veh/h		397			723			218			201	
Approach Delay, s/veh		12.2			10.8			12.7			13.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	14.6		14.1	8.9	17.4		14.1				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.7	5.3		6.1	2.9	7.8		4.4				
Green Ext Time (p_c), s	0.1	1.3		1.6	0.0	2.5		1.4				

Intersection Summary		
HCM 6th Ctrl Delay		11.8
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



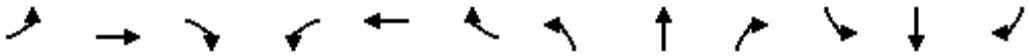
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	0	190	215	385	155	100	600	0	0	610	345
Future Volume (veh/h)	205	0	190	215	385	155	100	600	0	0	610	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	223	0	207	234	418	168	109	652	0	0	663	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	278	0	248	381	531	211	137	918	0	0	695	589
Arrive On Green	0.16	0.00	0.16	0.21	0.21	0.21	0.08	0.49	0.00	0.00	0.37	0.37
Sat Flow, veh/h	1781	0	1585	1781	2483	987	1781	1870	0	0	1870	1585
Grp Volume(v), veh/h	223	0	207	234	298	288	109	652	0	0	663	375
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1693	1781	1870	0	0	1870	1585
Q Serve(g_s), s	13.0	0.0	13.7	12.8	17.1	17.4	6.5	29.4	0.0	0.0	37.3	21.0
Cycle Q Clear(g_c), s	13.0	0.0	13.7	12.8	17.1	17.4	6.5	29.4	0.0	0.0	37.3	21.0
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	278	0	248	381	380	362	137	918	0	0	695	589
V/C Ratio(X)	0.80	0.00	0.84	0.61	0.78	0.80	0.80	0.71	0.00	0.00	0.95	0.64
Avail Cap(c_a), veh/h	379	0	338	412	411	392	247	918	0	0	695	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.98	0.95	0.95	0.95	0.09	0.09	0.00	0.00	0.99	0.99
Uniform Delay (d), s/veh	43.9	0.0	44.2	38.4	40.1	40.2	49.0	21.5	0.0	0.0	33.1	28.0
Incr Delay (d2), s/veh	8.3	0.0	12.2	5.6	12.7	14.1	1.0	0.4	0.0	0.0	24.5	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	6.2	6.2	8.7	8.6	2.9	12.8	0.0	0.0	21.4	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.2	0.0	56.4	44.0	52.7	54.3	50.0	21.9	0.0	0.0	57.6	33.1
LnGrp LOS	D	A	E	D	D	D	D	C	A	A	E	C
Approach Vol, veh/h		430			820			761			1038	
Approach Delay, s/veh		54.2			50.8			26.0			48.7	
Approach LOS		D			D			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		58.0		21.9	12.9	45.1		28.1				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		31.4		15.7	8.5	39.3		19.4				
Green Ext Time (p_c), s		0.0		1.2	0.1	0.0		3.7				

Intersection Summary												
HCM 6th Ctrl Delay			44.4									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	545	145	20	40	0	0	35	30
Future Volume (veh/h)	0	0	0	150	545	145	20	40	0	0	35	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				163	592	158	22	43	0	0	38	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				311	1180	331	233	176	0	0	130	113
Arrive On Green				0.51	0.51	0.51	0.14	0.14	0.00	0.00	0.14	0.14
Sat Flow, veh/h				613	2326	653	411	1252	0	0	924	802
Grp Volume(v), veh/h				489	0	424	65	0	0	0	0	71
Grp Sat Flow(s),veh/h/ln				1840	0	1753	1663	0	0	0	0	1726
Q Serve(g_s), s				4.9	0.0	4.3	0.0	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s				4.9	0.0	4.3	1.0	0.0	0.0	0.0	0.0	1.0
Prop In Lane				0.33		0.37	0.34		0.00	0.00		0.46
Lane Grp Cap(c), veh/h				933	0	889	409	0	0	0	0	243
V/C Ratio(X)				0.52	0.00	0.48	0.16	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				2669	0	2543	1251	0	0	0	0	1127
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				4.6	0.0	4.4	10.5	0.0	0.0	0.0	0.0	10.6
Incr Delay (d2), s/veh				0.5	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.7	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				5.0	0.0	4.8	10.7	0.0	0.0	0.0	0.0	11.3
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					913			65			71	
Approach Delay, s/veh					4.9			10.7			11.3	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				8.5		19.1		8.5				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				3.0		6.9		3.0				
Green Ext Time (p_c), s				0.2		7.1		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		5.7
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	95	600	45	15	15	0	0	25	15
Future Vol, veh/h	0	0	0	95	600	45	15	15	0	0	25	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	103	652	49	16	16	0	0	27	16

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	546	907	-	-	883	351
Stage 1	-	-	-	0	0	-	-	883	-
Stage 2	-	-	-	546	907	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	421	274	0	0	283	645
Stage 1	-	-	-	-	-	0	0	362	-
Stage 2	-	-	-	490	353	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	380	274	-	-	283	645
Mov Cap-2 Maneuver	-	-	-	380	274	-	-	283	-
Stage 1	-	-	-	-	-	-	-	362	-
Stage 2	-	-	-	442	353	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		17.6	16.4
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	-	-	-	358
HCM Lane V/C Ratio	0.103	-	-	-	0.121
HCM Control Delay (s)	17.6	-	-	-	16.4
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	640	45	0	0	120	0	0	25
Future Vol, veh/h	0	0	0	0	640	45	0	0	120	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	696	49	0	0	130	0	0	27

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	373
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	624
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	624
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	11
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	624
HCM Lane V/C Ratio	-	-	0.044
HCM Control Delay (s)	-	-	11
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	65	260	655	350	75	115	510	690	140	90
Future Volume (veh/h)	25	165	65	260	655	350	75	115	510	690	140	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	179	71	283	712	380	82	125	554	500	502	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	653	250	214	1005	741	204	311	445	328	280	55
Arrive On Green	0.10	0.26	0.26	0.12	0.28	0.28	0.28	0.28	0.28	0.18	0.18	0.18
Sat Flow, veh/h	1781	2513	961	1781	3554	1585	727	1108	1585	1781	1520	297
Grp Volume(v), veh/h	27	125	125	283	712	380	207	0	554	500	0	600
Grp Sat Flow(s),veh/h/ln	1781	1777	1697	1781	1777	1585	1834	0	1585	1781	0	1817
Q Serve(g_s), s	1.7	7.0	7.4	15.0	22.4	21.0	11.4	0.0	35.0	23.0	0.0	23.0
Cycle Q Clear(g_c), s	1.7	7.0	7.4	15.0	22.4	21.0	11.4	0.0	35.0	23.0	0.0	23.0
Prop In Lane	1.00		0.57	1.00		1.00	0.40		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	174	462	441	214	1005	741	515	0	445	328	0	335
V/C Ratio(X)	0.16	0.27	0.28	1.32	0.71	0.51	0.40	0.00	1.25	1.52	0.00	1.79
Avail Cap(c_a), veh/h	428	570	544	214	1140	801	515	0	445	328	0	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.6	36.7	36.9	54.9	40.1	23.3	36.4	0.0	44.9	50.9	0.0	50.9
Incr Delay (d2), s/veh	0.3	1.4	1.6	173.3	3.6	2.0	0.7	0.0	128.2	250.0	0.0	367.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.2	3.3	17.0	10.3	11.4	5.3	0.0	29.6	33.1	0.0	44.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	38.2	38.5	228.1	43.7	25.3	37.1	0.0	173.0	300.8	0.0	418.5
LnGrp LOS	D	D	D	F	D	C	D	A	F	F	A	F
Approach Vol, veh/h		277			1375			761			1100	
Approach Delay, s/veh		39.6			76.6			136.1			365.0	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	37.8		27.6	16.9	40.7		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	9.4		25.0	3.7	24.4		37.0				
Green Ext Time (p_c), s	0.0	5.5		0.0	0.0	10.9		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		176.9	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	95	30	35	160	120	5	15	15	120	40	135
Future Vol, veh/h	50	95	30	35	160	120	5	15	15	120	40	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	103	33	38	174	130	5	16	16	130	43	147
Number of Lanes	1	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	10.4	15.7	9.5	15.5
HCM LOS	B	C	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	25%	0%	100%	0%	11%	41%
Vol Thru, %	75%	0%	0%	76%	51%	14%
Vol Right, %	0%	100%	0%	24%	38%	46%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	15	50	125	315	295
LT Vol	5	0	50	0	35	120
Through Vol	15	0	0	95	160	40
RT Vol	0	15	0	30	120	135
Lane Flow Rate	22	16	54	136	342	321
Geometry Grp	5	5	5	5	4b	4b
Degree of Util (X)	0.041	0.027	0.101	0.226	0.549	0.53
Departure Headway (Hd)	6.798	5.957	6.68	6.001	5.777	5.95
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	525	598	536	598	623	606
Service Time	4.56	3.718	4.428	3.749	3.816	3.99
HCM Lane V/C Ratio	0.042	0.027	0.101	0.227	0.549	0.53
HCM Control Delay	9.9	8.9	10.2	10.5	15.7	15.5
HCM Lane LOS	A	A	B	B	C	C
HCM 95th-tile Q	0.1	0.1	0.3	0.9	3.3	3.1

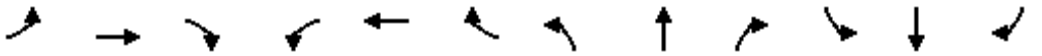
Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	55	55	235	60	60
Future Vol, veh/h	200	55	55	235	60	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	217	60	60	255	65	65

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	277	0	622	247
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1286	-	450	792
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1286	-	426	792
Mov Cap-2 Maneuver	-	-	-	-	426	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	554	-	-	1286	-
HCM Lane V/C Ratio	0.235	-	-	0.046	-
HCM Control Delay (s)	13.5	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	135	70	0	0	0	200	740	230	220	780	240
Future Volume (veh/h)	70	135	70	0	0	0	200	740	230	220	780	240
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	147	76				217	804	250	239	848	261
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	297	194	100				143	1023	867	178	1060	898
Arrive On Green	0.17	0.17	0.17				0.08	0.55	0.55	0.10	0.57	0.57
Sat Flow, veh/h	1781	1162	601				1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	76	0	223				217	804	250	239	848	261
Grp Sat Flow(s),veh/h/ln	1781	0	1762				1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.7	0.0	8.7				5.8	24.6	6.1	7.2	25.9	6.2
Cycle Q Clear(g_c), s	2.7	0.0	8.7				5.8	24.6	6.1	7.2	25.9	6.2
Prop In Lane	1.00		0.34				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	297	0	294				143	1023	867	178	1060	898
V/C Ratio(X)	0.26	0.00	0.76				1.51	0.79	0.29	1.34	0.80	0.29
Avail Cap(c_a), veh/h	668	0	661				143	1023	867	178	1060	898
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	26.1	0.0	28.6				33.1	13.0	8.8	32.4	12.4	8.1
Incr Delay (d2), s/veh	0.4	0.0	4.0				263.0	6.1	0.8	157.3	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	3.8				12.9	10.8	2.1	10.8	9.5	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.0	32.6				296.1	19.0	9.6	189.7	13.0	8.2
LnGrp LOS	C	A	C				F	B	A	F	B	A
Approach Vol, veh/h		299						1271			1348	
Approach Delay, s/veh		31.1						64.5			43.4	
Approach LOS		C						E			D	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	11.4	44.4		16.2	10.0	45.8
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	9.2	26.6		10.7	7.8	27.9
Green Ext Time (p_c), s	0.0	0.0		1.3	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		51.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	80	5	15	10	15	5	65	20	5	50	5
Future Vol, veh/h	10	80	5	15	10	15	5	65	20	5	50	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	87	5	16	11	16	5	71	22	5	54	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.5	7.8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	11%	38%	8%
Vol Thru, %	72%	84%	25%	83%
Vol Right, %	22%	5%	38%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	95	40	60
LT Vol	5	10	15	5
Through Vol	65	80	10	50
RT Vol	20	5	15	5
Lane Flow Rate	98	103	43	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.112	0.124	0.051	0.079
Departure Headway (Hd)	4.222	4.339	4.261	4.336
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	831	844	830
Service Time	2.222	2.339	2.266	2.342
HCM Lane V/C Ratio	0.115	0.124	0.051	0.078
HCM Control Delay	7.8	8	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.2	0.3

MOVEMENT SUMMARY

Site: 19 [Coast Hwy & Michigan Ave (Site Folder: 2050 Buildout Without Project - PM Peak Hour)]

Site Category: 2050 Buildout Without Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	105	3.0	114	3.0	1.201	118.4	LOS F	92.4	2364.4	1.00	3.48	6.92	12.7
8	T1	800	3.0	870	3.0	1.201	118.4	LOS F	92.4	2364.4	1.00	3.48	6.92	12.7
18	R2	115	3.0	125	3.0	1.201	118.4	LOS F	92.4	2364.4	1.00	3.48	6.92	12.6
Approach		1020	3.0	1109	3.0	1.201	118.4	LOS F	92.4	2364.4	1.00	3.48	6.92	12.7
East: Michigan Ave														
1	L2	100	3.0	109	3.0	0.441	15.1	LOS B	2.2	56.1	0.76	0.85	1.08	29.4
6	T1	65	3.0	71	3.0	0.441	15.1	LOS B	2.2	56.1	0.76	0.85	1.08	29.4
16	R2	35	3.0	38	3.0	0.441	15.1	LOS B	2.2	56.1	0.76	0.85	1.08	28.7
Approach		200	3.0	217	3.0	0.441	15.1	LOS B	2.2	56.1	0.76	0.85	1.08	29.3
North: Coast Hwy														
7	L2	125	3.0	136	3.0	1.305	159.7	LOS F	137.5	3520.8	1.00	3.94	7.54	10.4
4	T1	955	3.0	1038	3.0	1.305	159.7	LOS F	137.5	3520.8	1.00	3.94	7.54	10.3
14	R2	125	3.0	136	3.0	1.305	159.7	LOS F	137.5	3520.8	1.00	3.94	7.54	10.3
Approach		1205	3.0	1310	3.0	1.305	159.7	LOS F	137.5	3520.8	1.00	3.94	7.54	10.3
West: Michigan Ave														
5	L2	120	3.0	130	3.0	0.812	37.6	LOS D	7.4	189.1	0.90	1.30	2.28	23.0
2	T1	110	3.0	120	3.0	0.812	37.6	LOS D	7.4	189.1	0.90	1.30	2.28	22.9
12	R2	115	3.0	125	3.0	0.812	37.6	LOS D	7.4	189.1	0.90	1.30	2.28	22.5
Approach		345	3.0	375	3.0	0.812	37.6	LOS D	7.4	189.1	0.90	1.30	2.28	22.8
All Vehicles		2770	3.0	3011	3.0	1.305	118.9	LOS F	137.5	3520.8	0.97	3.22	6.19	12.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	30	1060	15	10	985
Future Vol, veh/h	10	30	1060	15	10	985
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	33	1152	16	11	1071

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2253	1160	0	0	1168	0
Stage 1	1160	-	-	-	-	-
Stage 2	1093	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	46	238	-	-	598	-
Stage 1	298	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	44	238	-	-	598	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	307	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.5	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	113	598	-
HCM Lane V/C Ratio	-	-	0.385	0.018	-
HCM Control Delay (s)	-	-	55.5	11.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	1.6	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	5	5	15	0	20	0	80	10	10	90	0
Future Vol, veh/h	5	5	5	15	0	20	0	80	10	10	90	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	16	0	22	0	87	11	11	98	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	224	218	98	218	213	93	-	0	0	98	0	0
Stage 1	120	120	-	93	93	-	-	-	-	-	-	-
Stage 2	104	98	-	125	120	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	732	680	958	738	684	964	0	-	-	1495	-	0
Stage 1	884	796	-	914	818	-	0	-	-	-	-	0
Stage 2	902	814	-	879	796	-	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	711	675	958	725	679	964	-	-	-	1495	-	-
Mov Cap-2 Maneuver	711	675	-	725	679	-	-	-	-	-	-	-
Stage 1	884	790	-	914	818	-	-	-	-	-	-	-
Stage 2	882	814	-	861	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.5	0	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	711	792	845	1495	-
HCM Lane V/C Ratio	-	-	0.008	0.014	0.045	0.007	-
HCM Control Delay (s)	-	-	10.1	9.6	9.5	7.4	0
HCM Lane LOS	-	-	B	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	0.1	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	5	20	1010	1090	30
Future Vol, veh/h	5	5	20	1010	1090	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	22	1098	1185	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2344	1202	1218	0	-	0
Stage 1	1202	-	-	-	-	-
Stage 2	1142	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	40	225	572	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	304	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	36	225	572	-	-	-
Mov Cap-2 Maneuver	36	-	-	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	304	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	75	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	572	-	62	-	-
HCM Lane V/C Ratio	0.038	-	0.175	-	-
HCM Control Delay (s)	11.5	-	75	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	5	10	0	5	10
Future Vol, veh/h	5	5	10	0	5	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	5	11	0	5	11
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.7	7.2	6.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	33%	0%	100%
Vol Thru, %	0%	50%	0%
Vol Right, %	67%	50%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	15	10	10
LT Vol	5	0	10
Through Vol	0	5	0
RT Vol	10	5	0
Lane Flow Rate	16	11	11
Geometry Grp	1	1	1
Degree of Util (X)	0.016	0.011	0.013
Departure Headway (Hd)	3.64	3.67	4.17
Convergence, Y/N	Yes	Yes	Yes
Cap	987	979	862
Service Time	1.647	1.676	2.175
HCM Lane V/C Ratio	0.016	0.011	0.013
HCM Control Delay	6.7	6.7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0	0

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	15	5	10	10	10	5	75	15	5	50	0
Future Vol, veh/h	5	15	5	10	10	10	5	75	15	5	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	16	5	11	11	11	5	82	16	5	54	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	21	0	0	95	73	19	117	70	17
Stage 1	-	-	-	-	-	-	29	29	-	39	39	-
Stage 2	-	-	-	-	-	-	66	44	-	78	31	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1595	-	-	888	817	1059	859	821	1062
Stage 1	-	-	-	-	-	-	988	871	-	976	862	-
Stage 2	-	-	-	-	-	-	945	858	-	931	869	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1595	-	-	836	809	1059	775	813	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	836	809	-	775	813	-
Stage 1	-	-	-	-	-	-	985	868	-	973	856	-
Stage 2	-	-	-	-	-	-	879	852	-	828	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	2.4	9.9	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	842	1593	-	-	1595	-	-	809
HCM Lane V/C Ratio	0.123	0.003	-	-	0.007	-	-	0.074
HCM Control Delay (s)	9.9	7.3	0	-	7.3	0	-	9.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	40	0	0	30	15	920	35	15	960	20
Future Vol, veh/h	0	0	40	0	0	30	15	920	35	15	960	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	43	0	0	33	16	1000	38	16	1043	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1054	-	-	1019	1065	0	0	1038	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	0	275	0	0	288	654	-	-	670	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	275	-	-	288	654	-	-	670	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.5	19.1	0.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	654	-	-	275	288	670	-	-
HCM Lane V/C Ratio	0.025	-	-	0.158	0.113	0.024	-	-
HCM Control Delay (s)	10.6	-	-	20.5	19.1	10.5	-	-
HCM Lane LOS	B	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.4	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	80	580	75	170	115	430	480	330	540	85
Future Volume (veh/h)	0	0	80	580	75	170	115	430	480	330	540	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	689	0	0	125	467	0	359	587	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	436		1021	0		137	511		285	498	80
Arrive On Green	0.00	0.00	0.00	0.23	0.00	0.00	0.35	0.35	0.00	0.24	0.24	0.24
Sat Flow, veh/h	0	1870	0	3563	0	1585	391	1460	1585	1196	2088	337
Grp Volume(v), veh/h	0	0	0	689	0	0	592	0	0	544	0	494
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1851	0	1585	1811	0	1810
Q Serve(g_s), s	0.0	0.0	0.0	13.9	0.0	0.0	23.1	0.0	0.0	18.0	0.0	18.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	13.9	0.0	0.0	23.1	0.0	0.0	18.0	0.0	18.0
Prop In Lane	0.00		0.00	1.00		1.00	0.21		1.00	0.66		0.19
Lane Grp Cap(c), veh/h	0	436		1021	0		647	0		432	0	432
V/C Ratio(X)	0.00	0.00		0.67	0.00		0.91	0.00		1.26	0.00	1.15
Avail Cap(c_a), veh/h	0	619		1371	0		699	0		432	0	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	27.5	0.0	0.0	23.5	0.0	0.0	28.7	0.0	28.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	16.0	0.0	0.0	134.2	0.0	89.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	5.3	0.0	0.0	12.4	0.0	0.0	23.6	0.0	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	28.3	0.0	0.0	39.5	0.0	0.0	162.9	0.0	118.3
LnGrp LOS	A	A		C	A		D	A		F	A	F
Approach Vol, veh/h		0			689			592			1038	
Approach Delay, s/veh		0.0			28.3			39.5			141.7	
Approach LOS					C			D			F	

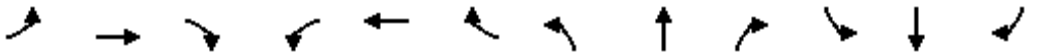
Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	30.9	22.1	22.5	22.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	25.0	18.0	25.0
Max Q Clear Time (g_c+I1), s	25.1	0.0	20.0	15.9
Green Ext Time (p_c), s	1.3	0.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	81.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1120	40	250	1120	460	40	0	90	350	50	150
Future Volume (veh/h)	0	1120	40	250	1120	460	40	0	90	350	50	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1217	43	272	1217	0	43	0	98	419	0	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1247	44	275	2030		148	0	131	586	0	261
Arrive On Green	0.00	0.36	0.36	0.15	0.57	0.00	0.08	0.00	0.08	0.16	0.00	0.16
Sat Flow, veh/h	0	3595	124	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	617	643	272	1217	0	43	0	98	419	0	163
Grp Sat Flow(s),veh/h/ln	0	1777	1848	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	25.5	25.5	11.3	16.6	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Cycle Q Clear(g_c), s	0.0	25.5	25.5	11.3	16.6	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Prop In Lane	0.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	633	658	275	2030		148	0	131	586	0	261
V/C Ratio(X)	0.00	0.98	0.98	0.99	0.60		0.29	0.00	0.75	0.72	0.00	0.63
Avail Cap(c_a), veh/h	0	633	658	275	2030		168	0	149	1293	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	23.6	23.6	31.4	10.4	0.0	32.1	0.0	33.3	29.4	0.0	29.0
Incr Delay (d2), s/veh	0.0	29.5	29.1	50.7	0.5	0.0	1.1	0.0	16.2	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.8	15.4	8.5	5.5	0.0	0.8	0.0	2.3	3.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	53.2	52.8	82.1	10.9	0.0	33.1	0.0	49.6	31.1	0.0	31.4
LnGrp LOS	A	D	D	F	B		C	A	D	C	A	C
Approach Vol, veh/h		1260			1489			141			582	
Approach Delay, s/veh		53.0			23.9			44.6			31.2	
Approach LOS		D			C			D			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		10.7	16.0	31.0		16.7		47.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		7.0	11.5	26.5		27.0		42.5				
Max Q Clear Time (g_c+I1), s		6.5	13.3	27.5		10.3		18.6				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.9		9.7				

Intersection Summary												
HCM 6th Ctrl Delay			36.5									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	200	15	30	170	35	30	15	35	40	30	20
Future Vol, veh/h	15	200	15	30	170	35	30	15	35	40	30	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	217	16	33	185	38	33	16	38	43	33	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	223	0	0	233	0	0	555	546	225	554	535	204
Stage 1	-	-	-	-	-	-	257	257	-	270	270	-
Stage 2	-	-	-	-	-	-	298	289	-	284	265	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1346	-	-	1335	-	-	442	445	814	443	452	837
Stage 1	-	-	-	-	-	-	748	695	-	736	686	-
Stage 2	-	-	-	-	-	-	711	673	-	723	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1346	-	-	1335	-	-	393	426	814	397	433	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	426	-	397	433	-
Stage 1	-	-	-	-	-	-	738	685	-	726	667	-
Stage 2	-	-	-	-	-	-	640	654	-	663	679	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1	13.3	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	518	1346	-	-	1335	-	-	464
HCM Lane V/C Ratio	0.168	0.012	-	-	0.024	-	-	0.211
HCM Control Delay (s)	13.3	7.7	0	-	7.8	0	-	14.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.8

MOVEMENT SUMMARY

Site: 27 [Coast Hwy & Wisconsin Ave (Site Folder: 2050 Buildout Without Project - PM Peak Hour)]

Site Category: 2050 Buildout Without Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	130	3.0	135	3.0	0.949	36.2	LOS D	46.8	1198.8	1.00	1.66	2.69	23.6
8	T1	775	3.0	807	3.0	0.949	36.2	LOS D	46.8	1198.8	1.00	1.66	2.69	23.6
18	R2	70	3.0	73	3.0	0.949	36.2	LOS D	46.8	1198.8	1.00	1.66	2.69	23.1
Approach		975	3.0	1016	3.0	0.949	36.2	LOS D	46.8	1198.8	1.00	1.66	2.69	23.6
East: Wisconsin Ave														
1	L2	85	3.0	89	3.0	0.358	14.2	LOS B	1.5	39.6	0.75	0.81	0.95	29.7
6	T1	50	3.0	52	3.0	0.358	14.2	LOS B	1.5	39.6	0.75	0.81	0.95	29.7
16	R2	20	3.0	21	3.0	0.358	14.2	LOS B	1.5	39.6	0.75	0.81	0.95	28.9
Approach		155	3.0	161	3.0	0.358	14.2	LOS B	1.5	39.6	0.75	0.81	0.95	29.6
North: Coast Hwy														
7	L2	35	3.0	36	3.0	0.759	17.7	LOS B	14.7	377.4	0.86	1.06	1.56	29.4
4	T1	645	3.0	672	3.0	0.759	17.7	LOS B	14.7	377.4	0.86	1.06	1.56	29.3
14	R2	50	3.0	52	3.0	0.759	17.7	LOS B	14.7	377.4	0.86	1.06	1.56	28.6
Approach		730	3.0	760	3.0	0.759	17.7	LOS B	14.7	377.4	0.86	1.06	1.56	29.3
West: Wisconsin Ave														
5	L2	90	3.0	94	3.0	0.485	14.3	LOS B	2.8	71.1	0.76	0.87	1.12	30.0
2	T1	80	3.0	83	3.0	0.485	14.3	LOS B	2.8	71.1	0.76	0.87	1.12	30.0
12	R2	100	3.0	104	3.0	0.485	14.3	LOS B	2.8	71.1	0.76	0.87	1.12	29.2
Approach		270	3.0	281	3.0	0.485	14.3	LOS B	2.8	71.1	0.76	0.87	1.12	29.7
All Vehicles		2130	3.0	2219	3.0	0.949	25.5	LOS C	46.8	1198.8	0.90	1.29	1.98	26.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	230	140	200	230	270	150	510	180	220	450	60
Future Volume (veh/h)	60	230	140	200	230	270	150	510	180	220	450	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	250	152	217	250	293	163	554	196	239	489	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	280	302	324	340	527	193	812	286	268	578	77
Arrive On Green	0.19	0.19	0.19	0.18	0.18	0.18	0.11	0.32	0.32	0.15	0.36	0.36
Sat Flow, veh/h	382	1469	1585	1781	1870	1585	1781	2575	908	1781	1617	215
Grp Volume(v), veh/h	315	0	152	217	250	293	163	382	368	239	0	554
Grp Sat Flow(s),veh/h/ln	1851	0	1585	1781	1870	1585	1781	1777	1707	1781	0	1832
Q Serve(g_s), s	19.4	0.0	10.0	13.2	14.7	17.7	10.5	21.9	22.0	15.4	0.0	32.5
Cycle Q Clear(g_c), s	19.4	0.0	10.0	13.2	14.7	17.7	10.5	21.9	22.0	15.4	0.0	32.5
Prop In Lane	0.21		1.00	1.00		1.00	1.00		0.53	1.00		0.12
Lane Grp Cap(c), veh/h	353	0	302	324	340	527	193	560	538	268	0	654
V/C Ratio(X)	0.89	0.00	0.50	0.67	0.73	0.56	0.84	0.68	0.68	0.89	0.00	0.85
Avail Cap(c_a), veh/h	397	0	340	382	401	578	305	914	878	305	0	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	0.0	42.3	44.5	45.1	31.9	51.0	34.8	34.9	48.6	0.0	34.6
Incr Delay (d2), s/veh	20.4	0.0	1.3	3.6	5.7	1.0	11.6	3.1	3.3	24.5	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	4.0	6.0	7.2	6.7	5.3	9.7	9.5	8.6	0.0	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	0.0	43.6	48.0	50.8	32.9	62.7	37.9	38.1	73.1	0.0	42.2
LnGrp LOS	E	A	D	D	D	C	E	D	D	E	A	D
Approach Vol, veh/h		467			760			913			793	
Approach Delay, s/veh		59.0			43.1			42.4			51.5	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.1	41.9		26.8	17.2	46.8		25.8				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	17.4	24.0		21.4	12.5	34.5		19.7				
Green Ext Time (p_c), s	0.2	10.6		0.9	0.2	7.2		1.6				

Intersection Summary												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	600	140	210	875	485	30	20	50	455	65	110
Future Volume (veh/h)	250	600	140	210	875	485	30	20	50	455	65	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	652	152	228	951	527	33	22	54	343	284	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1265	295	192	1444	1028	56	38	82	431	302	128
Arrive On Green	0.14	0.44	0.44	0.22	0.81	0.81	0.05	0.05	0.05	0.24	0.24	0.24
Sat Flow, veh/h	1781	2861	666	1781	3554	1585	1090	726	1585	1781	1248	527
Grp Volume(v), veh/h	272	405	399	228	951	527	55	0	54	343	0	404
Grp Sat Flow(s),veh/h/ln	1781	1777	1750	1781	1777	1585	1816	0	1585	1781	0	1775
Q Serve(g_s), s	16.5	18.9	19.0	12.4	12.4	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Cycle Q Clear(g_c), s	16.5	18.9	19.0	12.4	12.4	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Prop In Lane	1.00		0.38	1.00		1.00	0.60		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	256	786	774	192	1444	1028	94	0	82	431	0	430
V/C Ratio(X)	1.06	0.52	0.52	1.19	0.66	0.51	0.59	0.00	0.66	0.80	0.00	0.94
Avail Cap(c_a), veh/h	256	786	774	192	1444	1028	284	0	248	434	0	432
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.62	0.62	0.62	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	23.2	23.2	45.1	7.5	2.9	53.3	0.0	53.5	40.9	0.0	42.8
Incr Delay (d2), s/veh	74.3	2.4	2.5	111.9	1.5	1.1	5.7	0.0	8.7	9.9	0.0	28.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	8.1	8.0	10.7	2.8	3.2	1.7	0.0	1.7	10.2	0.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.6	25.6	25.6	157.0	9.0	4.1	59.0	0.0	62.3	50.8	0.0	71.5
LnGrp LOS	F	C	C	F	A	A	E	A	E	D	A	E
Approach Vol, veh/h		1076			1706			109			747	
Approach Delay, s/veh		50.4			27.3			60.6			62.0	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.4	16.9	55.3	32.3	21.0	51.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	12.4	38.6	28.0	16.5	34.5
Max Q Clear Time (g_c+I1), s	5.8	14.4	21.0	27.7	18.5	14.7
Green Ext Time (p_c), s	0.3	0.0	4.5	0.1	0.0	8.5

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

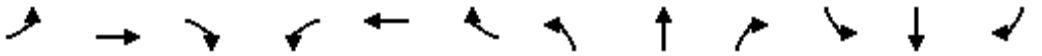
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	920	220	150	805	325	130	85	95	750	225	490
Future Volume (veh/h)	290	920	220	150	805	325	130	85	95	750	225	490
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	1000	239	163	875	353	116	126	103	530	644	533
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1469	350	82	1842	822	168	177	150	333	350	296
Arrive On Green	0.04	0.52	0.52	0.05	0.52	0.52	0.09	0.09	0.09	0.19	0.19	0.19
Sat Flow, veh/h	1781	2847	678	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	315	623	616	163	875	353	116	126	103	530	644	533
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	30.1	30.3	5.3	18.1	15.9	7.3	7.5	7.2	21.5	21.5	21.5
Cycle Q Clear(g_c), s	5.0	30.1	30.3	5.3	18.1	15.9	7.3	7.5	7.2	21.5	21.5	21.5
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	917	902	82	1842	822	168	177	150	333	350	296
V/C Ratio(X)	4.07	0.68	0.68	1.99	0.47	0.43	0.69	0.71	0.69	1.59	1.84	1.80
Avail Cap(c_a), veh/h	77	917	902	82	1842	822	527	553	469	333	350	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	20.8	20.8	54.8	17.7	17.2	50.4	50.5	50.4	46.8	46.8	46.8
Incr Delay (d2), s/veh	1401.5	2.9	2.9	484.0	0.9	1.6	4.9	5.2	5.5	280.0	389.7	372.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.4	12.3	12.3	13.4	7.2	5.8	3.5	3.8	3.0	35.4	47.8	38.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1456.5	23.6	23.8	538.8	18.6	18.8	55.3	55.8	55.9	326.7	436.5	419.3
LnGrp LOS	F	C	C	F	B	B	E	E	E	F	F	F
Approach Vol, veh/h		1554			1391			345			1707	
Approach Delay, s/veh		314.1			79.6			55.7			397.0	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.4	9.8	63.8	26.0	9.5	64.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	5.3	36.2	21.5	5.0	36.5
Max Q Clear Time (g_c+I1), s	9.5	7.3	32.3	23.5	7.0	20.1
Green Ext Time (p_c), s	1.4	0.0	2.6	0.0	0.0	6.5

Intersection Summary	
HCM 6th Ctrl Delay	259.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.



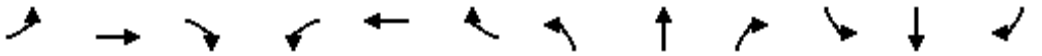
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	110	90	230	120	350	140	510	250	300	470	160
Future Volume (veh/h)	90	110	90	230	120	350	140	510	250	300	470	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	120	98	250	130	380	152	554	272	326	511	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	170	144	274	143	688	185	665	326	363	1011	343
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.10	0.29	0.29	0.20	0.39	0.39
Sat Flow, veh/h	1781	1870	1585	1191	619	1585	1781	2311	1132	1781	2606	883
Grp Volume(v), veh/h	98	120	98	380	0	380	152	426	400	326	348	337
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1667	1781	1777	1711
Q Serve(g_s), s	5.5	6.5	6.2	21.3	0.0	18.6	8.7	23.4	23.5	18.6	15.5	15.7
Cycle Q Clear(g_c), s	5.5	6.5	6.2	21.3	0.0	18.6	8.7	23.4	23.5	18.6	15.5	15.7
Prop In Lane	1.00		1.00	0.66		1.00	1.00		0.68	1.00		0.52
Lane Grp Cap(c), veh/h	162	170	144	417	0	688	185	512	480	363	690	664
V/C Ratio(X)	0.61	0.71	0.68	0.91	0.00	0.55	0.82	0.83	0.83	0.90	0.50	0.51
Avail Cap(c_a), veh/h	342	359	304	434	0	704	342	682	639	513	690	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	46.1	45.9	39.1	0.0	21.9	45.8	34.8	34.8	40.4	24.3	24.3
Incr Delay (d2), s/veh	3.6	5.3	5.6	22.7	0.0	0.9	8.7	6.6	7.1	14.2	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.3	2.6	11.9	0.0	6.8	4.2	10.7	10.2	9.4	6.4	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	51.4	51.5	61.8	0.0	22.8	54.5	41.4	41.9	54.6	24.8	24.9
LnGrp LOS	D	D	D	E	A	C	D	D	D	D	C	C
Approach Vol, veh/h		316			760			978			1011	
Approach Delay, s/veh		50.8			42.3			43.6			34.5	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.0	35.1		14.1	15.5	45.6		29.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	20.6	25.5		8.5	10.7	17.7		23.3				
Green Ext Time (p_c), s	0.7	4.5		1.0	0.2	4.3		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		41.0	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	50	70	15	45	30	50	830	20	45	1095	120
Future Volume (veh/h)	165	50	70	15	45	30	50	830	20	45	1095	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	54	76	16	49	33	54	902	22	49	1190	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	81	505	93	213	114	93	660	16	87	662	561
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.05	0.36	0.36	0.05	0.35	0.35
Sat Flow, veh/h	607	253	1585	34	669	357	1781	1818	44	1781	1870	1585
Grp Volume(v), veh/h	233	0	76	98	0	0	54	0	924	49	1190	130
Grp Sat Flow(s),veh/h/ln	860	0	1585	1061	0	0	1781	0	1862	1781	1870	1585
Q Serve(g_s), s	0.2	0.0	1.7	0.4	0.0	0.0	1.5	0.0	18.5	1.4	18.0	2.9
Cycle Q Clear(g_c), s	14.4	0.0	1.7	14.6	0.0	0.0	1.5	0.0	18.5	1.4	18.0	2.9
Prop In Lane	0.77		1.00	0.16		0.34	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	399	0	505	420	0	0	93	0	676	87	662	561
V/C Ratio(X)	0.58	0.00	0.15	0.23	0.00	0.00	0.58	0.00	1.37	0.56	1.80	0.23
Avail Cap(c_a), veh/h	449	0	561	478	0	0	175	0	676	186	662	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	12.4	12.9	0.0	0.0	23.6	0.0	16.2	23.7	16.4	11.6
Incr Delay (d2), s/veh	1.5	0.0	0.1	0.3	0.0	0.0	5.6	0.0	174.3	5.6	365.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.6	0.7	0.0	0.0	0.7	0.0	39.5	0.7	73.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	12.5	13.2	0.0	0.0	29.2	0.0	190.5	29.3	381.6	11.8
LnGrp LOS	B	A	B	B	A	A	C	A	F	C	F	B
Approach Vol, veh/h		309			98			978			1369	
Approach Delay, s/veh		16.6			13.2			181.6			333.9	
Approach LOS		B			B			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	23.5		20.9	7.2	23.0		20.9				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	3.4	20.5		16.4	3.5	20.0		16.6				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			232.8									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2050 BUILDOUT
WITH COAST HIGHWAY
IMPROVEMENT PROJECT
WITH PROJECT
AM PEAK HOUR

MOVEMENT SUMMARY

Site: 1 [Coast Hwy & Civic Center Dr (Site Folder: 2050 Buildout With Project - AM Peak Hour)]

Site Category: 2050 Buildout With Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	90	3.0	98	3.0	0.602	11.3	LOS B	5.1	131.7	0.62	0.50	0.68	31.8
8	T1	377	3.0	410	3.0	0.602	11.3	LOS B	5.1	131.7	0.62	0.50	0.68	31.7
18	R2	130	3.0	141	3.0	0.602	11.3	LOS B	5.1	131.7	0.62	0.50	0.68	30.9
Approach		597	3.0	649	3.0	0.602	11.3	LOS B	5.1	131.7	0.62	0.50	0.68	31.5
East: Civic Center Dr														
1	L2	40	3.0	43	3.0	0.215	7.1	LOS A	0.9	23.3	0.59	0.56	0.59	33.4
6	T1	55	3.0	60	3.0	0.215	7.1	LOS A	0.9	23.3	0.59	0.56	0.59	33.3
16	R2	55	3.0	60	3.0	0.215	7.1	LOS A	0.9	23.3	0.59	0.56	0.59	32.4
Approach		150	3.0	163	3.0	0.215	7.1	LOS A	0.9	23.3	0.59	0.56	0.59	33.0
North: Coast Hwy														
7	L2	115	3.0	125	3.0	0.651	12.5	LOS B	7.5	190.9	0.67	0.58	0.82	31.2
4	T1	435	3.0	473	3.0	0.651	12.5	LOS B	7.5	190.9	0.67	0.58	0.82	31.1
14	R2	100	3.0	109	3.0	0.651	12.5	LOS B	7.5	190.9	0.67	0.58	0.82	30.3
Approach		650	3.0	707	3.0	0.651	12.5	LOS B	7.5	190.9	0.67	0.58	0.82	31.0
West: Civic Center Dr														
5	L2	30	3.0	33	3.0	0.183	7.4	LOS A	0.7	18.9	0.62	0.61	0.62	33.3
2	T1	45	3.0	49	3.0	0.183	7.4	LOS A	0.7	18.9	0.62	0.61	0.62	33.2
12	R2	40	3.0	43	3.0	0.183	7.4	LOS A	0.7	18.9	0.62	0.61	0.62	32.3
Approach		115	3.0	125	3.0	0.183	7.4	LOS A	0.7	18.9	0.62	0.61	0.62	32.9
All Vehicles		1512	3.0	1643	3.0	0.651	11.1	LOS B	7.5	190.9	0.64	0.55	0.73	31.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	60	40	63	60	55	140	647	190	120	565	120
Future Volume (veh/h)	40	60	40	63	60	55	140	647	190	120	565	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	65	43	68	65	60	152	703	207	130	614	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	147	81	172	112	85	482	1211	1026	408	1211	1026
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	343	892	492	466	681	518	716	1870	1585	613	1870	1585
Grp Volume(v), veh/h	151	0	0	193	0	0	152	703	207	130	614	130
Grp Sat Flow(s),veh/h/ln	1727	0	0	1665	0	0	716	1870	1585	613	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	1.4	0.0	0.0	7.2	10.8	2.7	7.7	8.8	1.6
Cycle Q Clear(g_c), s	3.9	0.0	0.0	5.3	0.0	0.0	16.0	10.8	2.7	18.6	8.8	1.6
Prop In Lane	0.28		0.28	0.35		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	0	0	369	0	0	482	1211	1026	408	1211	1026
V/C Ratio(X)	0.40	0.00	0.00	0.52	0.00	0.00	0.32	0.58	0.20	0.32	0.51	0.13
Avail Cap(c_a), veh/h	1042	0	0	1021	0	0	580	1467	1243	492	1467	1243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	0.0	20.0	0.0	0.0	8.9	5.1	3.6	10.3	4.7	3.4
Incr Delay (d2), s/veh	0.7	0.0	0.0	1.2	0.0	0.0	1.3	1.6	0.3	1.6	1.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.1	0.0	0.0	1.1	3.2	0.7	1.1	2.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	0.0	21.1	0.0	0.0	10.3	6.7	4.0	11.9	5.9	3.6
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		151			193			1062			874	
Approach Delay, s/veh		20.2			21.1			6.7			6.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		13.0		38.0		13.0				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		18.0		5.9		20.6		7.3				
Green Ext Time (p_c), s		15.0		0.8		11.9		1.1				

Intersection Summary												
HCM 6th Ctrl Delay			8.7									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	407	5	0	0	0	0	15	10	15	100	0
Future Vol, veh/h	22	407	5	0	0	0	0	15	10	15	100	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	442	5	0	0	0	0	16	11	16	109	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10	8.1	9.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	13%
Vol Thru, %	60%	90%	98%	87%
Vol Right, %	40%	0%	2%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	226	209	115
LT Vol	0	22	0	15
Through Vol	15	204	204	100
RT Vol	10	0	5	0
Lane Flow Rate	27	245	227	125
Geometry Grp	2	5	5	2
Degree of Util (X)	0.037	0.338	0.309	0.175
Departure Headway (Hd)	4.903	4.968	4.902	5.032
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	726	734	714
Service Time	2.937	2.695	2.629	3.057
HCM Lane V/C Ratio	0.037	0.337	0.309	0.175
HCM Control Delay	8.1	10.2	9.8	9.1
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	1.5	1.3	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	172	245	5	5	0	5	0	20	10	0	0	0
Future Vol, veh/h	172	245	5	5	0	5	0	20	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	187	266	5	5	0	5	0	22	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	643	269
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	392	770
Stage 1	-	-	-	0	468	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	770
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		9.9
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	770	-	-	-
HCM Lane V/C Ratio	0.042	-	-	-
HCM Control Delay (s)	9.9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	110	36	48	170	30	28	25	25	15	34	35
Future Volume (veh/h)	20	110	36	48	170	30	28	25	25	15	34	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	120	39	52	185	33	30	27	27	16	37	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	637	763	239	717	1042	182	307	226	371	153	198	165
Arrive On Green	0.06	0.29	0.29	0.11	0.34	0.34	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	2664	833	1781	3022	529	639	968	1585	138	847	706
Grp Volume(v), veh/h	22	78	81	52	107	111	57	0	27	91	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1781	1777	1775	1607	0	1585	1690	0	0
Q Serve(g_s), s	0.3	1.2	1.2	0.6	1.5	1.5	0.0	0.0	0.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	1.2	1.2	0.6	1.5	1.5	0.8	0.0	0.5	1.5	0.0	0.0
Prop In Lane	1.00		0.48	1.00		0.30	0.53		1.00	0.18		0.42
Lane Grp Cap(c), veh/h	637	509	492	717	612	612	533	0	371	516	0	0
V/C Ratio(X)	0.03	0.15	0.16	0.07	0.18	0.18	0.11	0.00	0.07	0.18	0.00	0.00
Avail Cap(c_a), veh/h	1049	1526	1477	1024	1526	1524	1318	0	1180	1492	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	9.3	9.3	6.5	8.0	8.0	10.6	0.0	10.4	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.4	0.4	0.2	0.4	0.4	0.3	0.0	0.1	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	9.5	9.6	6.5	8.2	8.2	10.6	0.0	10.5	10.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		181			270			84			91	
Approach Delay, s/veh		9.3			7.9			10.6			10.9	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	14.6		12.4	5.9	16.6		12.4				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	2.6	3.2		3.5	2.3	3.5		2.8				
Green Ext Time (p_c), s	0.0	1.2		0.3	0.0	1.8		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

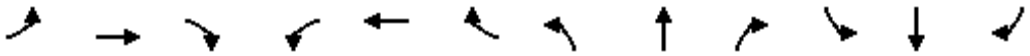
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	80	191	210	70	50	357	0	0	463	50
Future Volume (veh/h)	60	0	80	191	210	70	50	357	0	0	463	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	65	0	87	208	228	76	54	388	0	0	503	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	158	0	141	391	579	188	87	847	0	0	619	525
Arrive On Green	0.09	0.00	0.09	0.22	0.22	0.22	0.05	0.45	0.00	0.00	0.33	0.33
Sat Flow, veh/h	1781	0	1585	1781	2637	856	1781	1870	0	0	1870	1585
Grp Volume(v), veh/h	65	0	87	208	152	152	54	388	0	0	503	54
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1716	1781	1870	0	0	1870	1585
Q Serve(g_s), s	2.2	0.0	3.3	6.5	4.6	4.8	1.9	9.0	0.0	0.0	15.5	1.5
Cycle Q Clear(g_c), s	2.2	0.0	3.3	6.5	4.6	4.8	1.9	9.0	0.0	0.0	15.5	1.5
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	158	0	141	391	390	377	87	847	0	0	619	525
V/C Ratio(X)	0.41	0.00	0.62	0.53	0.39	0.40	0.62	0.46	0.00	0.00	0.81	0.10
Avail Cap(c_a), veh/h	652	0	580	709	707	683	425	893	0	0	744	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	27.6	21.7	20.9	21.0	29.3	11.9	0.0	0.0	19.2	14.6
Incr Delay (d2), s/veh	1.7	0.0	4.4	4.0	2.3	2.5	7.2	0.8	0.0	0.0	7.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.4	3.0	2.0	2.1	0.9	3.6	0.0	0.0	7.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	32.0	25.7	23.2	23.5	36.5	12.7	0.0	0.0	26.8	14.7
LnGrp LOS	C	A	C	C	C	C	D	B	A	A	C	B
Approach Vol, veh/h		152			512			442			557	
Approach Delay, s/veh		30.6			24.3			15.6			25.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		33.5		10.6	7.7	25.8		18.8				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		11.0		5.3	3.9	17.5		8.5				
Green Ext Time (p_c), s		4.3		0.6	0.1	3.3		5.3				

Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	95	464	75	12	20	0	0	20	30
Future Volume (veh/h)	0	0	0	95	464	75	12	20	0	0	20	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				103	504	82	13	22	0	0	22	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				255	1306	223	252	106	0	0	76	114
Arrive On Green				0.49	0.49	0.49	0.11	0.11	0.00	0.00	0.11	0.11
Sat Flow, veh/h				520	2660	453	446	942	0	0	675	1013
Grp Volume(v), veh/h				366	0	323	35	0	0	0	0	55
Grp Sat Flow(s),veh/h/ln				1844	0	1789	1388	0	0	0	0	1688
Q Serve(g_s), s				3.1	0.0	2.7	0.2	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s				3.1	0.0	2.7	0.9	0.0	0.0	0.0	0.0	0.7
Prop In Lane				0.28		0.25	0.37		0.00	0.00		0.60
Lane Grp Cap(c), veh/h				905	0	878	358	0	0	0	0	189
V/C Ratio(X)				0.40	0.00	0.37	0.10	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				3018	0	2927	1379	0	0	0	0	1243
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				4.0	0.0	3.9	10.0	0.0	0.0	0.0	0.0	10.0
Incr Delay (d2), s/veh				0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				4.2	0.0	4.1	10.1	0.0	0.0	0.0	0.0	10.8
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					689			35			55	
Approach Delay, s/veh					4.2			10.1			10.8	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.3		17.1		7.3				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				2.7		5.1		2.9				
Green Ext Time (p_c), s				0.2		4.9		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		4.9
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	105	484	40	15	10	0	0	25	10
Future Vol, veh/h	0	0	0	105	484	40	15	10	0	0	25	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	114	526	43	16	11	0	0	27	11

Major/Minor	Major2			Minor1			Minor2			
Conflicting Flow All	0	0	0	505	797	-	-	776	285	
Stage 1	-	-	-	0	0	-	-	776	-	
Stage 2	-	-	-	505	797	-	-	0	-	
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-	
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-	
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32	
Pot Cap-1 Maneuver	-	-	-	450	318	0	0	327	712	
Stage 1	-	-	-	-	-	0	0	406	-	
Stage 2	-	-	-	518	397	0	0	-	-	
Platoon blocked, %		-	-							
Mov Cap-1 Maneuver	-	-	-	415	318	-	-	327	712	
Mov Cap-2 Maneuver	-	-	-	415	318	-	-	327	-	
Stage 1	-	-	-	-	-	-	-	406	-	
Stage 2	-	-	-	476	397	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s		15.5	15.3
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	370	-	-	-	387
HCM Lane V/C Ratio	0.073	-	-	-	0.098
HCM Control Delay (s)	15.5	-	-	-	15.3
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	554	70	0	0	187	0	0	10
Future Vol, veh/h	0	0	0	0	554	70	0	0	187	0	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	602	76	0	0	203	0	0	11

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	339
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	657
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	657
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	10.6
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	657
HCM Lane V/C Ratio	-	-	0.017
HCM Control Delay (s)	-	-	10.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	152	60	245	624	305	50	105	275	285	100	45
Future Volume (veh/h)	35	152	60	245	624	305	50	105	275	285	100	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	165	65	266	678	332	54	114	299	234	215	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	720	273	247	1060	750	132	278	353	311	257	59
Arrive On Green	0.13	0.29	0.29	0.14	0.30	0.30	0.22	0.22	0.22	0.17	0.17	0.17
Sat Flow, veh/h	1781	2520	955	1781	3554	1585	592	1249	1585	1781	1474	336
Grp Volume(v), veh/h	38	114	116	266	678	332	168	0	299	234	0	264
Grp Sat Flow(s),veh/h/ln	1781	1777	1698	1781	1777	1585	1841	0	1585	1781	0	1810
Q Serve(g_s), s	2.1	5.3	5.6	15.0	17.9	15.1	8.4	0.0	19.6	13.5	0.0	15.3
Cycle Q Clear(g_c), s	2.1	5.3	5.6	15.0	17.9	15.1	8.4	0.0	19.6	13.5	0.0	15.3
Prop In Lane	1.00		0.56	1.00		1.00	0.32		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	224	508	485	247	1060	750	410	0	353	311	0	316
V/C Ratio(X)	0.17	0.23	0.24	1.08	0.64	0.44	0.41	0.00	0.85	0.75	0.00	0.84
Avail Cap(c_a), veh/h	494	657	628	247	1313	863	595	0	513	378	0	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.3	29.5	29.6	46.6	32.9	19.0	36.0	0.0	40.3	42.4	0.0	43.2
Incr Delay (d2), s/veh	0.3	1.0	1.2	79.4	2.4	1.5	0.9	0.0	10.3	7.7	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.4	2.5	12.0	8.0	8.0	3.9	0.0	8.6	6.6	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	30.6	30.8	126.1	35.3	20.5	36.9	0.0	50.6	50.2	0.0	56.9
LnGrp LOS	D	C	C	F	D	C	D	A	D	D	A	E
Approach Vol, veh/h		268			1276			467			498	
Approach Delay, s/veh		32.4			50.4			45.7			53.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	36.3		23.5	18.3	37.7		28.7				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	7.6		17.3	4.1	19.9		21.6				
Green Ext Time (p_c), s	0.0	5.1		1.6	0.0	12.4		2.6				

Intersection Summary												
HCM 6th Ctrl Delay			48.2									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	40	10	41	35	40	0	23	45	68	25	30
Future Vol, veh/h	10	40	10	41	35	40	0	23	45	68	25	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	43	11	45	38	43	0	25	49	74	27	33
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.1	8.3	7.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	35%	55%
Vol Thru, %	34%	0%	80%	30%	20%
Vol Right, %	66%	0%	20%	34%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	10	50	116	123
LT Vol	0	10	0	41	68
Through Vol	23	0	40	35	25
RT Vol	45	0	10	40	30
Lane Flow Rate	74	11	54	126	134
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.085	0.017	0.075	0.156	0.165
Departure Headway (Hd)	4.142	5.609	4.966	4.446	4.431
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	866	639	722	808	812
Service Time	2.162	3.333	2.689	2.467	2.448
HCM Lane V/C Ratio	0.085	0.017	0.075	0.156	0.165
HCM Control Delay	7.5	8.4	8.1	8.3	8.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0.2	0.6	0.6

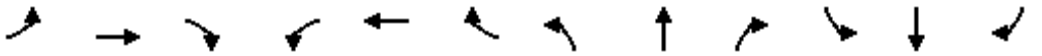
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	137	49	56	124	33	76
Future Vol, veh/h	137	49	56	124	33	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	149	53	61	135	36	83

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	202	0	433	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	257	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1370	-	580	867
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1370	-	552	867
Mov Cap-2 Maneuver	-	-	-	-	552	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1370	-
HCM Lane V/C Ratio	0.16	-	-	0.044	-
HCM Control Delay (s)	10.8	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	95	38	0	0	0	80	400	140	195	580	259
Future Volume (veh/h)	92	95	38	0	0	0	80	400	140	195	580	259
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	103	41				87	435	152	212	630	282
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	247	176	70				134	752	637	265	890	754
Arrive On Green	0.14	0.14	0.14				0.08	0.40	0.40	0.15	0.48	0.48
Sat Flow, veh/h	1781	1273	507				1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	100	0	144				87	435	152	212	630	282
Grp Sat Flow(s),veh/h/ln	1781	0	1779				1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.2	0.0	3.3				2.0	7.8	2.7	5.0	11.5	4.9
Cycle Q Clear(g_c), s	2.2	0.0	3.3				2.0	7.8	2.7	5.0	11.5	4.9
Prop In Lane	1.00		0.28				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	0	246				134	752	637	265	890	754
V/C Ratio(X)	0.41	0.00	0.58				0.65	0.58	0.24	0.80	0.71	0.37
Avail Cap(c_a), veh/h	1115	0	1114				239	1045	885	297	1106	937
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	17.4				19.4	10.1	8.5	17.7	8.9	7.2
Incr Delay (d2), s/veh	1.1	0.0	2.2				5.2	1.5	0.4	13.0	2.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.3				1.0	2.9	0.8	2.8	4.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	0.0	19.6				24.7	11.6	8.9	30.7	11.5	7.9
LnGrp LOS	B	A	B				C	B	A	C	B	A
Approach Vol, veh/h		244						674			1124	
Approach Delay, s/veh		19.0						12.7			14.2	
Approach LOS		B						B			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	10.6	22.3		10.2	7.4	25.5
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	7.0	9.8		5.3	4.0	13.5
Green Ext Time (p_c), s	0.0	5.2		1.0	0.0	7.0

Intersection Summary	
HCM 6th Ctrl Delay	14.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	15	570	15	10	677
Future Vol, veh/h	15	15	570	15	10	677
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	620	16	11	736

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1386	628	0	0	636	0
Stage 1	628	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	158	483	-	-	947	-
Stage 1	532	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	483	-	-	947	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	454	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	235	947	-
HCM Lane V/C Ratio	-	-	0.139	0.011	-
HCM Control Delay (s)	-	-	22.8	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	7	99	15	18	92
Future Vol, veh/h	34	7	99	15	18	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	8	108	16	20	100

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	256	116	0	0	124	0
Stage 1	116	-	-	-	-	-
Stage 2	140	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	733	936	-	-	1463	-
Stage 1	909	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	723	936	-	-	1463	-
Mov Cap-2 Maneuver	723	-	-	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	752	1463	-
HCM Lane V/C Ratio	-	-	0.059	0.013	-
HCM Control Delay (s)	-	-	10.1	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	23	12	490	649	44
Future Vol, veh/h	10	23	12	490	649	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	25	13	533	705	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1288	729	753	0	-	0
Stage 1	729	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	181	423	857	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	177	423	857	-	-	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	572	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	857	-	298	-	-
HCM Lane V/C Ratio	0.015	-	0.12	-	-
HCM Control Delay (s)	9.3	0	18.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	37	43	126	56	42
Future Vol, veh/h	0	37	43	126	56	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	47	137	61	46
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.1	8.3	7.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	25%	0%	0%
Vol Thru, %	75%	0%	57%
Vol Right, %	0%	100%	43%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	169	37	98
LT Vol	43	0	0
Through Vol	126	0	56
RT Vol	0	37	42
Lane Flow Rate	184	40	107
Geometry Grp	1	1	1
Degree of Util (X)	0.211	0.044	0.115
Departure Headway (Hd)	4.137	3.951	3.886
Convergence, Y/N	Yes	Yes	Yes
Cap	865	912	915
Service Time	2.17	1.951	1.943
HCM Lane V/C Ratio	0.213	0.044	0.117
HCM Control Delay	8.3	7.1	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.1	0.4

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	65	17	5	32	53	11	73	10	42	38	7
Future Vol, veh/h	38	65	17	5	32	53	11	73	10	42	38	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	71	18	5	35	58	12	79	11	46	41	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	7.8	8.2	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	32%	6%	48%
Vol Thru, %	78%	54%	36%	44%
Vol Right, %	11%	14%	59%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	120	90	87
LT Vol	11	38	5	42
Through Vol	73	65	32	38
RT Vol	10	17	53	7
Lane Flow Rate	102	130	98	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.162	0.114	0.121
Departure Headway (Hd)	4.518	4.479	4.202	4.614
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	795	802	854	778
Service Time	2.539	2.499	2.222	2.635
HCM Lane V/C Ratio	0.128	0.162	0.115	0.122
HCM Control Delay	8.2	8.4	7.8	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.6	0.4	0.4

MOVEMENT SUMMARY

Site: 19 [Coast Hwy & Michigan Ave (Site Folder: 2050 Buildout With Project - AM Peak Hour)]

Site Category: 2050 Buildout With Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	90	3.0	98	3.0	0.504	9.3	LOS A	3.3	83.6	0.55	0.41	0.55	32.6
8	T1	357	3.0	388	3.0	0.504	9.3	LOS A	3.3	83.6	0.55	0.41	0.55	32.6
18	R2	50	3.0	54	3.0	0.504	9.3	LOS A	3.3	83.6	0.55	0.41	0.55	31.7
Approach		497	3.0	540	3.0	0.504	9.3	LOS A	3.3	83.6	0.55	0.41	0.55	32.5
East: Michigan Ave														
1	L2	50	3.0	54	3.0	0.116	6.1	LOS A	0.5	11.8	0.57	0.52	0.57	32.9
6	T1	19	3.0	21	3.0	0.116	6.1	LOS A	0.5	11.8	0.57	0.52	0.57	32.9
16	R2	10	3.0	11	3.0	0.116	6.1	LOS A	0.5	11.8	0.57	0.52	0.57	32.0
Approach		79	3.0	86	3.0	0.116	6.1	LOS A	0.5	11.8	0.57	0.52	0.57	32.8
North: Coast Hwy														
7	L2	78	3.0	85	3.0	0.693	13.6	LOS B	8.9	226.7	0.69	0.57	0.83	30.9
4	T1	548	3.0	596	3.0	0.693	13.6	LOS B	8.9	226.7	0.69	0.57	0.83	30.8
14	R2	86	3.0	93	3.0	0.693	13.6	LOS B	8.9	226.7	0.69	0.57	0.83	30.0
Approach		712	3.0	774	3.0	0.693	13.6	LOS B	8.9	226.7	0.69	0.57	0.83	30.7
West: Michigan Ave														
5	L2	75	3.0	82	3.0	0.374	11.1	LOS B	1.8	46.5	0.71	0.76	0.86	31.3
2	T1	43	3.0	47	3.0	0.374	11.1	LOS B	1.8	46.5	0.71	0.76	0.86	31.3
12	R2	95	3.0	103	3.0	0.374	11.1	LOS B	1.8	46.5	0.71	0.76	0.86	30.4
Approach		213	3.0	232	3.0	0.374	11.1	LOS B	1.8	46.5	0.71	0.76	0.86	30.9
All Vehicles		1501	3.0	1632	3.0	0.693	11.4	LOS B	8.9	226.7	0.64	0.54	0.73	31.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	0	15	5	0	5	0	10	5	0	0
Future Vol, veh/h	0	5	0	15	5	0	5	0	10	5	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	0	16	5	0	5	0	11	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7.2	6.7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	0%	75%	100%
Vol Thru, %	0%	100%	25%	0%
Vol Right, %	67%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	5	20	5
LT Vol	5	0	15	5
Through Vol	0	5	5	0
RT Vol	10	0	0	0
Lane Flow Rate	16	5	22	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.017	0.006	0.025	0.006
Departure Headway (Hd)	3.652	3.987	4.125	4.193
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	982	900	871	855
Service Time	1.666	2	2.134	2.209
HCM Lane V/C Ratio	0.016	0.006	0.025	0.006
HCM Control Delay	6.7	7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	27	15	5	16	5	5	64	5	5	45	11
Future Vol, veh/h	25	27	15	5	16	5	5	64	5	5	45	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	29	16	5	17	5	5	70	5	5	49	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	45	0	0	151	123	37	159	129	20
Stage 1	-	-	-	-	-	-	91	91	-	30	30	-
Stage 2	-	-	-	-	-	-	60	32	-	129	99	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1593	-	-	1563	-	-	816	767	1035	807	762	1058
Stage 1	-	-	-	-	-	-	916	820	-	987	870	-
Stage 2	-	-	-	-	-	-	951	868	-	875	813	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1563	-	-	755	752	1035	734	747	1058
Mov Cap-2 Maneuver	-	-	-	-	-	-	755	752	-	734	747	-
Stage 1	-	-	-	-	-	-	900	806	-	970	867	-
Stage 2	-	-	-	-	-	-	885	865	-	782	799	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	1.4	10.3	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	766	1593	-	-	1563	-	-	788
HCM Lane V/C Ratio	0.105	0.017	-	-	0.003	-	-	0.084
HCM Control Delay (s)	10.3	7.3	0	-	7.3	0	-	10
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	38	0	0	45	16	487	30	15	657	15
Future Vol, veh/h	0	0	38	0	0	45	16	487	30	15	657	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	41	0	0	49	17	529	33	16	714	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	722	-	-	546	730	0	0	562	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	0	427	0	0	538	874	-	-	1009	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	427	-	-	538	874	-	-	1009	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	12.4	0.3	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	874	-	-	427	538	1009	-	-
HCM Lane V/C Ratio	0.02	-	-	0.097	0.091	0.016	-	-
HCM Control Delay (s)	9.2	-	-	14.3	12.4	8.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.3	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	70	494	60	280	85	270	490	100	166	40
Future Volume (veh/h)	0	0	70	494	60	280	85	270	490	100	166	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	583	0	0	92	293	0	109	180	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	440		1167	0		127	403		192	336	83
Arrive On Green	0.00	0.00	0.00	0.24	0.00	0.00	0.29	0.29	0.00	0.17	0.17	0.17
Sat Flow, veh/h	0	1870	0	3563	0	1585	442	1407	1585	1132	1977	487
Grp Volume(v), veh/h	0	0	0	583	0	0	385	0	0	175	0	157
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1848	0	1585	1814	0	1783
Q Serve(g_s), s	0.0	0.0	0.0	6.6	0.0	0.0	8.2	0.0	0.0	3.9	0.0	3.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	6.6	0.0	0.0	8.2	0.0	0.0	3.9	0.0	3.5
Prop In Lane	0.00		0.00	1.00		1.00	0.24		1.00	0.62		0.27
Lane Grp Cap(c), veh/h	0	440		1167	0		530	0		308	0	303
V/C Ratio(X)	0.00	0.00		0.50	0.00		0.73	0.00		0.57	0.00	0.52
Avail Cap(c_a), veh/h	0	1067		2361	0		1202	0		745	0	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	15.3	0.0	0.0	14.1	0.0	0.0	16.7	0.0	16.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	1.9	0.0	0.0	1.6	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.9	0.0	0.0	3.2	0.0	0.0	1.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	15.7	0.0	0.0	16.0	0.0	0.0	18.3	0.0	17.9
LnGrp LOS	A	A		B	A		B	A		B	A	B
Approach Vol, veh/h		0			583			385			332	
Approach Delay, s/veh		0.0			15.7			16.0			18.2	
Approach LOS					B			B			B	

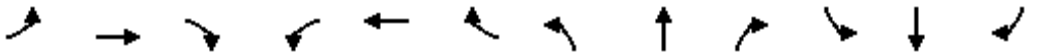
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.1		14.8		11.9		14.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		10.2		0.0		5.9		8.6				
Green Ext Time (p_c), s		2.3		0.0		1.6		1.8				

Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	572	40	270	944	750	50	0	250	120	100	110
Future Volume (veh/h)	0	572	40	270	944	750	50	0	250	120	100	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	622	43	293	1026	0	54	0	272	120	124	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	820	57	344	1806		270	0	240	223	234	198
Arrive On Green	0.00	0.24	0.24	0.19	0.51	0.00	0.15	0.00	0.15	0.13	0.13	0.13
Sat Flow, veh/h	0	3466	233	1781	3554	1585	1781	0	1585	1781	1870	1585
Grp Volume(v), veh/h	0	327	338	293	1026	0	54	0	272	120	124	120
Grp Sat Flow(s),veh/h/ln	0	1777	1828	1781	1777	1585	1781	0	1585	1781	1870	1585
Q Serve(g_s), s	0.0	10.7	10.8	10.0	12.5	0.0	1.7	0.0	9.5	4.0	3.9	4.5
Cycle Q Clear(g_c), s	0.0	10.7	10.8	10.0	12.5	0.0	1.7	0.0	9.5	4.0	3.9	4.5
Prop In Lane	0.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	432	445	344	1806		270	0	240	223	234	198
V/C Ratio(X)	0.00	0.76	0.76	0.85	0.57		0.20	0.00	1.13	0.54	0.53	0.61
Avail Cap(c_a), veh/h	0	595	612	412	2266		270	0	240	767	805	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.0	22.0	24.4	10.7	0.0	23.3	0.0	26.6	25.7	25.7	26.0
Incr Delay (d2), s/veh	0.0	3.7	3.7	13.6	0.3	0.0	0.4	0.0	98.6	2.0	1.9	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.5	4.6	5.1	4.0	0.0	0.7	0.0	9.9	1.7	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.7	25.7	38.1	10.9	0.0	23.6	0.0	125.3	27.8	27.6	28.9
LnGrp LOS	A	C	C	D	B		C	A	F	C	C	C
Approach Vol, veh/h		665			1319			326			364	
Approach Delay, s/veh		25.7			17.0			108.4			28.1	
Approach LOS		C			B			F			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	14.0	16.6	19.8	12.3	36.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	14.5	21.0	27.0	40.0
Max Q Clear Time (g_c+I1), s	11.5	12.0	12.8	6.5	14.5
Green Ext Time (p_c), s	0.0	0.2	2.5	1.4	8.0

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	135	15	20	110	55	5	17	30	50	18	13
Future Vol, veh/h	17	135	15	20	110	55	5	17	30	50	18	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	147	16	22	120	60	5	18	33	54	20	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	180	0	0	163	0	0	402	415	155	411	393	150
Stage 1	-	-	-	-	-	-	191	191	-	194	194	-
Stage 2	-	-	-	-	-	-	211	224	-	217	199	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1396	-	-	1416	-	-	559	528	891	551	543	896
Stage 1	-	-	-	-	-	-	811	742	-	808	740	-
Stage 2	-	-	-	-	-	-	791	718	-	785	736	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1396	-	-	1416	-	-	522	512	891	504	526	896
Mov Cap-2 Maneuver	-	-	-	-	-	-	522	512	-	504	526	-
Stage 1	-	-	-	-	-	-	800	732	-	797	727	-
Stage 2	-	-	-	-	-	-	745	706	-	727	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.8	10.8	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	680	1396	-	-	1416	-	-	548
HCM Lane V/C Ratio	0.083	0.013	-	-	0.015	-	-	0.161
HCM Control Delay (s)	10.8	7.6	0	-	7.6	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.6

MOVEMENT SUMMARY

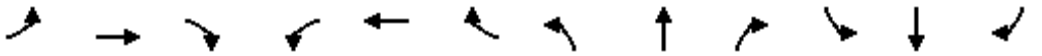
Site: 27 [Coast Hwy & Wisconsin Ave (Site Folder: 2050 Buildout With Project - AM Peak Hour)]

Site Category: 2050 Buildout With Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	110	3.0	120	3.0	0.604	10.6	LOS B	5.0	128.3	0.51	0.31	0.51	32.0
8	T1	487	3.0	529	3.0	0.604	10.6	LOS B	5.0	128.3	0.51	0.31	0.51	32.0
18	R2	60	3.0	65	3.0	0.604	10.6	LOS B	5.0	128.3	0.51	0.31	0.51	31.1
Approach		657	3.0	714	3.0	0.604	10.6	LOS B	5.0	128.3	0.51	0.31	0.51	31.9
East: Wisconsin Ave														
1	L2	90	3.0	98	3.0	0.287	9.3	LOS A	1.2	30.8	0.67	0.67	0.67	31.7
6	T1	50	3.0	54	3.0	0.287	9.3	LOS A	1.2	30.8	0.67	0.67	0.67	31.7
16	R2	29	3.0	32	3.0	0.287	9.3	LOS A	1.2	30.8	0.67	0.67	0.67	30.8
Approach		169	3.0	184	3.0	0.287	9.3	LOS A	1.2	30.8	0.67	0.67	0.67	31.5
North: Coast Hwy														
7	L2	25	3.0	27	3.0	0.628	12.6	LOS B	7.2	184.7	0.70	0.72	1.00	31.5
4	T1	507	3.0	551	3.0	0.628	12.6	LOS B	7.2	184.7	0.70	0.72	1.00	31.4
14	R2	50	3.0	54	3.0	0.628	12.6	LOS B	7.2	184.7	0.70	0.72	1.00	30.6
Approach		582	3.0	633	3.0	0.628	12.6	LOS B	7.2	184.7	0.70	0.72	1.00	31.4
West: Wisconsin Ave														
5	L2	50	3.0	54	3.0	0.338	9.9	LOS A	1.5	39.6	0.68	0.70	0.74	32.1
2	T1	35	3.0	38	3.0	0.338	9.9	LOS A	1.5	39.6	0.68	0.70	0.74	32.0
12	R2	120	3.0	130	3.0	0.338	9.9	LOS A	1.5	39.6	0.68	0.70	0.74	31.2
Approach		205	3.0	223	3.0	0.338	9.9	LOS A	1.5	39.6	0.68	0.70	0.74	31.5
All Vehicles		1613	3.0	1753	3.0	0.628	11.1	LOS B	7.2	184.7	0.62	0.55	0.73	31.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	170	120	200	190	204	110	408	110	180	454	53
Future Volume (veh/h)	52	170	120	200	190	204	110	408	110	180	454	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	185	130	212	214	222	120	443	120	196	493	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	237	266	294	308	474	155	840	226	239	576	68
Arrive On Green	0.17	0.17	0.17	0.16	0.16	0.16	0.09	0.30	0.30	0.13	0.35	0.35
Sat Flow, veh/h	435	1413	1585	1781	1870	1585	1781	2769	744	1781	1642	193
Grp Volume(v), veh/h	242	0	130	212	214	222	120	283	280	196	0	551
Grp Sat Flow(s),veh/h/ln	1849	0	1585	1781	1870	1585	1781	1777	1736	1781	0	1836
Q Serve(g_s), s	10.3	0.0	6.1	9.3	8.9	9.4	5.4	10.8	11.0	8.8	0.0	22.9
Cycle Q Clear(g_c), s	10.3	0.0	6.1	9.3	8.9	9.4	5.4	10.8	11.0	8.8	0.0	22.9
Prop In Lane	0.24		1.00	1.00		1.00	1.00		0.43	1.00		0.11
Lane Grp Cap(c), veh/h	310	0	266	294	308	474	155	539	527	239	0	644
V/C Ratio(X)	0.78	0.00	0.49	0.72	0.69	0.47	0.78	0.52	0.53	0.82	0.00	0.86
Avail Cap(c_a), veh/h	562	0	482	542	569	695	433	1297	1268	433	0	1340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	31.0	32.5	32.4	23.5	36.7	23.7	23.8	34.6	0.0	24.8
Incr Delay (d2), s/veh	4.3	0.0	1.4	3.3	2.8	0.7	8.0	0.8	0.8	6.9	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	2.3	4.1	4.0	3.4	2.6	4.4	4.4	4.1	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	0.0	32.4	35.9	35.2	24.2	44.8	24.5	24.6	41.5	0.0	28.2
LnGrp LOS	D	A	C	D	D	C	D	C	C	D	A	C
Approach Vol, veh/h		372			648			683			747	
Approach Delay, s/veh		35.4			31.6			28.1			31.7	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.6	30.0		18.4	11.7	33.9		18.2				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	10.8	13.0		12.3	7.4	24.9		11.4				
Green Ext Time (p_c), s	0.3	3.7		1.5	0.2	3.9		2.2				

Intersection Summary			
HCM 6th Ctrl Delay		31.2	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	545	165	600	764	600	35	55	75	315	45	110
Future Volume (veh/h)	270	545	165	600	764	600	35	55	75	315	45	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	293	592	179	652	830	652	38	60	82	256	170	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1391	420	107	1532	989	52	83	117	343	197	139
Arrive On Green	0.15	0.52	0.52	0.08	0.57	0.57	0.07	0.07	0.07	0.19	0.19	0.19
Sat Flow, veh/h	1781	2690	811	1781	3554	1585	711	1123	1585	1781	1020	720
Grp Volume(v), veh/h	293	391	380	652	830	652	98	0	82	256	0	290
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1585	1835	0	1585	1781	0	1741
Q Serve(g_s), s	16.8	15.6	15.7	6.9	16.6	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Cycle Q Clear(g_c), s	16.8	15.6	15.7	6.9	16.6	29.5	6.0	0.0	5.8	15.6	0.0	18.6
Prop In Lane	1.00		0.47	1.00		1.00	0.39		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	260	919	892	107	1532	989	135	0	117	343	0	335
V/C Ratio(X)	1.13	0.43	0.43	6.10	0.54	0.66	0.72	0.00	0.70	0.75	0.00	0.86
Avail Cap(c_a), veh/h	260	919	892	107	1532	989	287	0	248	434	0	424
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.56	0.56	0.56	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	17.2	17.2	52.9	17.5	10.3	52.1	0.0	52.0	43.8	0.0	45.0
Incr Delay (d2), s/veh	94.0	1.4	1.5	2306.4	0.8	2.0	7.1	0.0	7.4	5.3	0.0	14.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	6.4	6.3	71.4	5.8	13.8	3.0	0.0	2.5	7.4	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	143.1	18.6	18.7	2359.3	18.3	12.2	59.3	0.0	59.4	49.0	0.0	59.1
LnGrp LOS	F	B	B	F	B	B	E	A	E	D	A	E
Approach Vol, veh/h		1064			2134			180			546	
Approach Delay, s/veh		52.9			731.7			59.3			54.4	
Approach LOS		D			F			E			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.0	11.4	64.0		26.7	21.3	54.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.0	6.9	44.1		28.0	16.8	34.2				
Max Q Clear Time (g_c+I1), s		8.0	8.9	17.7		20.6	18.8	31.5				
Green Ext Time (p_c), s		0.5	0.0	4.9		1.6	0.0	1.9				

Intersection Summary												
HCM 6th Ctrl Delay			422.6									
HCM 6th LOS			F									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	690	235	150	877	355	149	100	65	395	180	278
Future Volume (veh/h)	155	690	235	150	877	355	149	100	65	395	180	278
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	750	255	163	953	386	136	146	71	312	359	302
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1321	449	108	1788	798	188	197	167	302	317	269
Arrive On Green	0.07	0.51	0.51	0.06	0.50	0.50	0.11	0.11	0.11	0.17	0.17	0.17
Sat Flow, veh/h	1781	2603	885	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	168	512	493	163	953	386	136	146	71	312	359	302
Grp Sat Flow(s),veh/h/ln	1781	1777	1711	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	7.5	22.9	22.9	7.0	20.9	18.4	8.5	8.7	4.8	19.5	19.5	19.5
Cycle Q Clear(g_c), s	7.5	22.9	22.9	7.0	20.9	18.4	8.5	8.7	4.8	19.5	19.5	19.5
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	902	869	108	1788	798	188	197	167	302	317	269
V/C Ratio(X)	1.45	0.57	0.57	1.50	0.53	0.48	0.72	0.74	0.42	1.03	1.13	1.12
Avail Cap(c_a), veh/h	116	902	869	108	1788	798	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	19.6	19.6	54.0	19.4	18.8	49.8	49.9	48.2	47.7	47.8	47.8
Incr Delay (d2), s/veh	233.6	2.0	2.0	268.3	1.1	2.1	5.2	5.4	1.7	60.6	91.1	92.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	9.4	9.1	11.2	8.4	6.9	4.1	4.4	2.0	13.7	17.0	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	287.3	21.6	21.6	322.3	20.5	20.9	55.0	55.3	49.9	108.3	138.9	140.1
LnGrp LOS	F	C	C	F	C	C	E	E	D	F	F	F
Approach Vol, veh/h		1173			1502			353			973	
Approach Delay, s/veh		59.6			53.4			54.1			129.4	
Approach LOS		E			D			D			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.6	11.5	62.9		24.0	12.0	62.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	7.0	36.5		19.5	7.5	36.0				
Max Q Clear Time (g_c+I1), s		10.7	9.0	24.9		21.5	9.5	22.9				
Green Ext Time (p_c), s		1.4	0.0	4.8		0.0	0.0	6.3				

Intersection Summary	
HCM 6th Ctrl Delay	73.8
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	90	60	215	80	262	50	218	100	207	492	100
Future Volume (veh/h)	60	90	60	215	80	262	50	218	100	207	492	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	98	65	234	87	285	54	237	109	225	535	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	169	143	305	113	618	85	540	241	282	991	201
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.05	0.23	0.23	0.16	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	1315	489	1585	1781	2391	1065	1781	2943	597
Grp Volume(v), veh/h	65	98	65	321	0	285	54	174	172	225	322	322
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1805	0	1585	1781	1777	1679	1781	1777	1763
Q Serve(g_s), s	2.3	3.3	2.6	11.0	0.0	8.9	2.0	5.6	5.9	8.1	9.7	9.8
Cycle Q Clear(g_c), s	2.3	3.3	2.6	11.0	0.0	8.9	2.0	5.6	5.9	8.1	9.7	9.8
Prop In Lane	1.00		1.00	0.73		1.00	1.00		0.63	1.00		0.34
Lane Grp Cap(c), veh/h	161	169	143	418	0	618	85	402	380	282	598	594
V/C Ratio(X)	0.40	0.58	0.45	0.77	0.00	0.46	0.64	0.43	0.45	0.80	0.54	0.54
Avail Cap(c_a), veh/h	537	564	478	680	0	848	537	1071	1012	805	1071	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	29.0	28.6	23.8	0.0	15.1	31.0	22.0	22.1	26.9	17.8	17.9
Incr Delay (d2), s/veh	1.6	3.1	2.2	3.0	0.0	0.5	7.7	0.7	0.8	5.2	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.6	1.0	4.7	0.0	2.9	1.0	2.2	2.2	3.6	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	32.1	30.9	26.8	0.0	15.6	38.8	22.8	23.0	32.1	18.6	18.6
LnGrp LOS	C	C	C	C	A	B	D	C	C	C	B	B
Approach Vol, veh/h		228			606			400			869	
Approach Delay, s/veh		31.2			21.5			25.0			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.2	20.1		10.6	7.9	27.4		20.5				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	10.1	7.9		5.3	4.0	11.8		13.0				
Green Ext Time (p_c), s	0.6	2.1		0.7	0.1	4.1		2.3				

Intersection Summary			
HCM 6th Ctrl Delay		23.5	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Future Vol, veh/h	15	0	0	12	0	32	0	25	20	17	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	0	0	13	0	35	0	27	22	18	2	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	6.9	7	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	27%	89%
Vol Thru, %	56%	0%	0%	11%
Vol Right, %	44%	0%	73%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	15	44	19
LT Vol	0	15	12	17
Through Vol	25	0	0	2
RT Vol	20	0	32	0
Lane Flow Rate	49	16	48	21
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.019	0.049	0.024
Departure Headway (Hd)	3.794	4.29	3.683	4.261
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	943	833	969	839
Service Time	1.82	2.325	1.716	2.291
HCM Lane V/C Ratio	0.052	0.019	0.05	0.025
HCM Control Delay	7	7.4	6.9	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.2	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	15	35	10	25	45	30	519	15	20	624	65
Future Volume (veh/h)	115	15	35	10	25	45	30	519	15	20	624	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	125	16	38	11	27	49	33	564	16	22	678	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	396	27	241	126	91	138	69	812	23	49	803	680
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.04	0.45	0.45	0.03	0.43	0.43
Sat Flow, veh/h	1392	178	1585	108	596	908	1781	1810	51	1781	1870	1585
Grp Volume(v), veh/h	141	0	38	87	0	0	33	0	580	22	678	71
Grp Sat Flow(s),veh/h/ln	1571	0	1585	1612	0	0	1781	0	1861	1781	1870	1585
Q Serve(g_s), s	0.0	0.0	0.8	0.0	0.0	0.0	0.7	0.0	9.2	0.4	12.0	1.0
Cycle Q Clear(g_c), s	2.7	0.0	0.8	2.7	0.0	0.0	0.7	0.0	9.2	0.4	12.0	1.0
Prop In Lane	0.89		1.00	0.13		0.56	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	423	0	241	355	0	0	69	0	835	49	803	680
V/C Ratio(X)	0.33	0.00	0.16	0.24	0.00	0.00	0.48	0.00	0.69	0.45	0.84	0.10
Avail Cap(c_a), veh/h	884	0	774	902	0	0	242	0	909	256	914	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	13.6	14.0	0.0	0.0	17.3	0.0	8.1	17.7	9.4	6.3
Incr Delay (d2), s/veh	0.5	0.0	0.3	0.4	0.0	0.0	5.0	0.0	2.1	6.4	6.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.2	0.6	0.0	0.0	0.3	0.0	3.0	0.2	4.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	0.0	13.9	14.3	0.0	0.0	22.3	0.0	10.2	24.1	16.1	6.4
LnGrp LOS	B	A	B	B	A	A	C	A	B	C	B	A
Approach Vol, veh/h		179			87			613			771	
Approach Delay, s/veh		14.6			14.3			10.9			15.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	21.5		10.1	5.9	20.8		10.1				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	2.4	11.2		4.7	2.7	14.0		4.7				
Green Ext Time (p_c), s	0.0	2.2		0.7	0.0	1.9		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			13.6									
HCM 6th LOS			B									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2050 BUILDOUT
WITH COAST HIGHWAY
IMPROVEMENT PROJECT
WITH PROJECT
PM PEAK HOUR

MOVEMENT SUMMARY

Site: 1 [Coast Hwy & Civic Center Dr (Site Folder: 2050 Buildout With Project - PM Peak Hour)]

Site Category: 2050 Buildout With Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	165	3.0	179	3.0	1.295	156.2	LOS F	127.9	3275.4	1.00	3.97	7.78	10.5
8	T1	789	3.0	858	3.0	1.295	156.2	LOS F	127.9	3275.4	1.00	3.97	7.78	10.5
18	R2	205	3.0	223	3.0	1.295	156.2	LOS F	127.9	3275.4	1.00	3.97	7.78	10.4
Approach		1159	3.0	1260	3.0	1.295	156.2	LOS F	127.9	3275.4	1.00	3.97	7.78	10.5
East: Civic Center Dr														
1	L2	50	3.0	54	3.0	0.463	14.6	LOS B	2.5	63.3	0.76	0.86	1.10	30.2
6	T1	85	3.0	92	3.0	0.463	14.6	LOS B	2.5	63.3	0.76	0.86	1.10	30.1
16	R2	95	3.0	103	3.0	0.463	14.6	LOS B	2.5	63.3	0.76	0.86	1.10	29.4
Approach		230	3.0	250	3.0	0.463	14.6	LOS B	2.5	63.3	0.76	0.86	1.10	29.8
North: Coast Hwy														
7	L2	200	3.0	217	3.0	1.553	267.5	LOS F	212.3	5435.9	1.00	5.22	10.37	6.9
4	T1	1004	3.0	1091	3.0	1.553	267.5	LOS F	212.3	5435.9	1.00	5.22	10.37	6.9
14	R2	215	3.0	234	3.0	1.553	267.5	LOS F	212.3	5435.9	1.00	5.22	10.37	6.9
Approach		1419	3.0	1542	3.0	1.553	267.5	LOS F	212.3	5435.9	1.00	5.22	10.37	6.9
West: Civic Center Dr														
5	L2	60	3.0	65	3.0	0.441	14.5	LOS B	2.2	56.9	0.75	0.85	1.06	30.1
2	T1	90	3.0	98	3.0	0.441	14.5	LOS B	2.2	56.9	0.75	0.85	1.06	30.1
12	R2	60	3.0	65	3.0	0.441	14.5	LOS B	2.2	56.9	0.75	0.85	1.06	29.3
Approach		210	3.0	228	3.0	0.441	14.5	LOS B	2.2	56.9	0.75	0.85	1.06	29.9
All Vehicles		3018	3.0	3280	3.0	1.553	187.8	LOS F	212.3	5435.9	0.96	4.10	8.02	9.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: STANTEC CONSULTING SERVICES INC. | Licence: NETWORK / 1PC | Processed: Thursday, April 18, 2024 3:54:54 PM
Project: U:\2042217900\traffic_trans\models\sidra\2050_coast_hwy_prj.sip9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	25	25	38	35	35	65	339	111	60	334	55
Future Volume (veh/h)	20	25	25	38	35	35	65	339	111	60	334	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	27	27	41	38	38	71	368	121	65	363	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	203	120	93	228	106	83	633	981	832	608	981	832
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	313	755	588	425	666	525	964	1870	1585	907	1870	1585
Grp Volume(v), veh/h	76	0	0	117	0	0	71	368	121	65	363	60
Grp Sat Flow(s),veh/h/ln	1656	0	0	1616	0	0	964	1870	1585	907	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	1.4	3.5	1.2	1.4	3.5	0.6
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.9	0.0	0.0	4.9	3.5	1.2	4.9	3.5	0.6
Prop In Lane	0.29		0.36	0.35		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	416	0	0	417	0	0	633	981	832	608	981	832
V/C Ratio(X)	0.18	0.00	0.00	0.28	0.00	0.00	0.11	0.37	0.15	0.11	0.37	0.07
Avail Cap(c_a), veh/h	1727	0	0	1717	0	0	1398	2466	2090	1328	2466	2090
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	0.0	11.5	0.0	0.0	5.7	4.3	3.7	5.7	4.3	3.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.4	0.0	0.0	0.3	0.9	0.3	0.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.6	0.0	0.0	0.2	0.9	0.2	0.2	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	0.0	0.0	11.9	0.0	0.0	6.0	5.1	4.0	6.0	5.1	3.7
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		76			117			560			488	
Approach Delay, s/veh		11.4			11.9			5.0			5.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.9		9.4		20.9		9.4				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		6.9		3.2		6.9		3.9				
Green Ext Time (p_c), s		9.0		0.4		8.1		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			6.1									
HCM 6th LOS			A									

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	583	20	0	0	0	0	20	35	35	145	0
Future Vol, veh/h	33	583	20	0	0	0	0	20	35	35	145	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	634	22	0	0	0	0	22	38	38	158	0
Number of Lanes	0	2	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	13.2	8.9	10.9
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	0%	10%	0%	19%
Vol Thru, %	36%	90%	94%	81%
Vol Right, %	64%	0%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	325	312	180
LT Vol	0	33	0	35
Through Vol	20	292	292	145
RT Vol	35	0	20	0
Lane Flow Rate	60	353	339	196
Geometry Grp	2	5	5	2
Degree of Util (X)	0.088	0.516	0.486	0.298
Departure Headway (Hd)	5.282	5.263	5.167	5.482
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	681	694	653
Service Time	3.359	3.025	2.929	3.54
HCM Lane V/C Ratio	0.089	0.518	0.488	0.3
HCM Control Delay	8.9	13.6	12.8	10.9
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.3	3	2.7	1.2

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	215	387	20	10	0	5	0	10	10	0	0	0
Future Vol, veh/h	215	387	20	10	0	5	0	10	10	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	234	421	22	11	0	5	0	11	11	0	0	0

Major/Minor	Major1			Minor1		
Conflicting Flow All	0	0	0	-	900	432
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	4.018	3.318
Pot Cap-1 Maneuver	-	-	-	0	278	624
Stage 1	-	-	-	0	357	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	624
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s		11
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR
Capacity (veh/h)	624	-	-	-
HCM Lane V/C Ratio	0.035	-	-	-
HCM Control Delay (s)	11	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

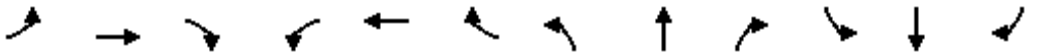
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	245	75	133	355	190	68	71	86	60	76	55
Future Volume (veh/h)	55	245	75	133	355	190	68	71	86	60	76	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	266	82	145	386	207	74	77	93	65	83	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	661	199	694	724	383	283	250	386	198	195	113
Arrive On Green	0.12	0.25	0.25	0.20	0.32	0.32	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	2690	811	1781	2246	1188	624	1027	1585	340	801	463
Grp Volume(v), veh/h	60	174	174	145	304	289	151	0	93	208	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1724	1781	1777	1657	1651	0	1585	1604	0	0
Q Serve(g_s), s	0.9	3.3	3.5	1.9	5.7	5.8	0.0	0.0	1.9	1.4	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.3	3.5	1.9	5.7	5.8	2.7	0.0	1.9	4.3	0.0	0.0
Prop In Lane	1.00		0.47	1.00		0.72	0.49		1.00	0.31		0.29
Lane Grp Cap(c), veh/h	539	437	424	694	573	534	533	0	386	506	0	0
V/C Ratio(X)	0.11	0.40	0.41	0.21	0.53	0.54	0.28	0.00	0.24	0.41	0.00	0.00
Avail Cap(c_a), veh/h	760	1305	1266	779	1305	1217	1123	0	1009	1221	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.6	12.9	12.9	6.5	11.3	11.4	12.7	0.0	12.4	13.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.9	0.1	1.1	1.2	0.1	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.2	0.5	1.9	1.9	1.0	0.0	0.6	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	13.7	13.8	6.6	12.4	12.6	12.8	0.0	12.5	13.5	0.0	0.0
LnGrp LOS	A	B	B	A	B	B	B	A	B	B	A	A
Approach Vol, veh/h		408			738			244			208	
Approach Delay, s/veh		13.0			11.3			12.7			13.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.1	14.6		14.1	8.9	17.8		14.1				
Change Period (Y+Rc), s	4.0	4.6		* 4.2	4.0	4.6		* 4.2				
Max Green Setting (Gmax), s	10.0	30.0		* 29	10.0	30.0		* 26				
Max Q Clear Time (g_c+I1), s	3.9	5.5		6.3	2.9	7.8		4.7				
Green Ext Time (p_c), s	0.1	3.0		0.8	0.0	5.3		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		12.2	
HCM 6th LOS		B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



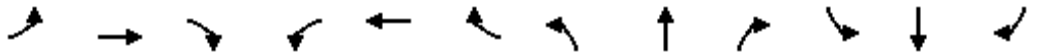
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	0	190	273	385	155	100	676	0	0	697	345
Future Volume (veh/h)	205	0	190	273	385	155	100	676	0	0	697	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h	223	0	207	297	418	168	109	735	0	0	758	375
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	278	0	248	384	535	213	137	915	0	0	692	586
Arrive On Green	0.16	0.00	0.16	0.22	0.22	0.22	0.08	0.49	0.00	0.00	0.37	0.37
Sat Flow, veh/h	1781	0	1585	1781	2483	987	1781	1870	0	0	1870	1585
Grp Volume(v), veh/h	223	0	207	297	298	288	109	735	0	0	758	375
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1693	1781	1870	0	0	1870	1585
Q Serve(g_s), s	13.0	0.0	13.7	17.0	17.1	17.4	6.5	35.7	0.0	0.0	40.0	21.1
Cycle Q Clear(g_c), s	13.0	0.0	13.7	17.0	17.1	17.4	6.5	35.7	0.0	0.0	40.0	21.1
Prop In Lane	1.00		1.00	1.00		0.58	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h	278	0	248	384	383	365	137	915	0	0	692	586
V/C Ratio(X)	0.80	0.00	0.84	0.77	0.78	0.79	0.80	0.80	0.00	0.00	1.10	0.64
Avail Cap(c_a), veh/h	379	0	338	412	411	392	247	915	0	0	692	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	0.95	0.95	0.95	0.09	0.09	0.00	0.00	0.96	0.96
Uniform Delay (d), s/veh	43.9	0.0	44.2	39.9	39.9	40.1	49.0	23.2	0.0	0.0	34.0	28.1
Incr Delay (d2), s/veh	8.2	0.0	12.1	12.0	12.3	13.7	1.0	0.7	0.0	0.0	62.6	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	6.2	8.6	8.7	8.6	2.9	15.5	0.0	0.0	29.9	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.1	0.0	56.3	51.9	52.2	53.7	50.0	23.9	0.0	0.0	96.6	33.1
LnGrp LOS	D	A	E	D	D	D	D	C	A	A	F	C
Approach Vol, veh/h		430			883			844			1133	
Approach Delay, s/veh		54.1			52.6			27.3			75.6	
Approach LOS		D			D			C			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		57.9		21.9	12.9	45.0		28.3				
Change Period (Y+Rc), s		5.0		5.0	4.6	5.0		5.0				
Max Green Setting (Gmax), s		30.0		23.0	15.0	25.0		25.0				
Max Q Clear Time (g_c+I1), s		37.7		15.7	8.5	42.0		19.4				
Green Ext Time (p_c), s		0.0		1.2	0.1	0.0		3.9				

Intersection Summary												
HCM 6th Ctrl Delay			54.2									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	150	600	145	23	40	0	0	35	30
Future Volume (veh/h)	0	0	0	150	600	145	23	40	0	0	35	30
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				163	652	158	25	43	0	0	38	33
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				302	1262	322	232	167	0	0	129	112
Arrive On Green				0.52	0.52	0.52	0.14	0.14	0.00	0.00	0.14	0.14
Sat Flow, veh/h				577	2410	614	440	1197	0	0	924	802
Grp Volume(v), veh/h				520	0	453	68	0	0	0	0	71
Grp Sat Flow(s),veh/h/ln				1842	0	1760	1637	0	0	0	0	1726
Q Serve(g_s), s				5.4	0.0	4.8	0.0	0.0	0.0	0.0	0.0	1.1
Cycle Q Clear(g_c), s				5.4	0.0	4.8	1.1	0.0	0.0	0.0	0.0	1.1
Prop In Lane				0.31		0.35	0.37		0.00	0.00		0.46
Lane Grp Cap(c), veh/h				964	0	922	400	0	0	0	0	241
V/C Ratio(X)				0.54	0.00	0.49	0.17	0.00	0.00	0.00	0.00	0.29
Avail Cap(c_a), veh/h				2556	0	2442	1188	0	0	0	0	1078
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				4.6	0.0	4.4	11.1	0.0	0.0	0.0	0.0	11.1
Incr Delay (d2), s/veh				0.5	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.8	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				5.0	0.0	4.8	11.3	0.0	0.0	0.0	0.0	11.8
LnGrp LOS				A	A	A	B	A	A	A	A	B
Approach Vol, veh/h					973			68			71	
Approach Delay, s/veh					4.9			11.3			11.8	
Approach LOS					A			B			B	

Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				8.6		20.2		8.6				
Change Period (Y+Rc), s				4.6		5.1		4.6				
Max Green Setting (Gmax), s				18.0		40.0		18.0				
Max Q Clear Time (g_c+I1), s				3.1		7.4		3.1				
Green Ext Time (p_c), s				0.2		7.7		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		5.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	95	655	45	15	15	0	0	25	15
Future Vol, veh/h	0	0	0	95	655	45	15	15	0	0	25	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	103	712	49	16	16	0	0	27	16

Major/Minor	Major2			Minor1			Minor2		
Conflicting Flow All	0	0	0	576	967	-	-	943	381
Stage 1	-	-	-	0	0	-	-	943	-
Stage 2	-	-	-	576	967	-	-	0	-
Critical Hdwy	4.14	-	-	7.54	6.54	-	-	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	2.22	-	-	3.52	4.02	-	-	4.02	3.32
Pot Cap-1 Maneuver	-	-	-	400	253	0	0	261	617
Stage 1	-	-	-	-	-	0	0	339	-
Stage 2	-	-	-	470	331	0	0	-	-
Platoon blocked, %		-	-						
Mov Cap-1 Maneuver	-	-	-	358	253	-	-	261	617
Mov Cap-2 Maneuver	-	-	-	358	253	-	-	261	-
Stage 1	-	-	-	-	-	-	-	339	-
Stage 2	-	-	-	421	331	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		18.7	17.4
HCM LOS		C	C

Minor Lane/Major Mvmt	NBLn1	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	296	-	-	-	333
HCM Lane V/C Ratio	0.11	-	-	-	0.131
HCM Control Delay (s)	18.7	-	-	-	17.4
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	695	45	0	0	145	0	0	25
Future Vol, veh/h	0	0	0	0	695	45	0	0	145	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	755	49	0	0	158	0	0	27

Major/Minor	Major2			Minor2		
Conflicting Flow All	-	-	0	-	-	402
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	0	0	598
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	0	598
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-

Approach	WB	SB
HCM Control Delay, s	0	11.3
HCM LOS		B

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	598
HCM Lane V/C Ratio	-	-	0.045
HCM Control Delay (s)	-	-	11.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	190	65	260	710	350	75	115	532	690	140	90
Future Volume (veh/h)	25	190	65	260	710	350	75	115	532	690	140	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	207	71	283	772	380	82	125	578	500	502	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	825	275	198	988	711	189	288	412	304	259	51
Arrive On Green	0.15	0.32	0.32	0.11	0.28	0.28	0.26	0.26	0.26	0.17	0.17	0.17
Sat Flow, veh/h	1781	2618	872	1781	3554	1585	727	1108	1585	1781	1520	297
Grp Volume(v), veh/h	27	138	140	283	772	380	207	0	578	500	0	600
Grp Sat Flow(s),veh/h/ln	1781	1777	1713	1781	1777	1585	1834	0	1585	1781	0	1817
Q Serve(g_s), s	1.8	7.8	8.2	15.0	27.0	23.4	12.7	0.0	35.0	23.0	0.0	23.0
Cycle Q Clear(g_c), s	1.8	7.8	8.2	15.0	27.0	23.4	12.7	0.0	35.0	23.0	0.0	23.0
Prop In Lane	1.00		0.51	1.00		1.00	0.40		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	264	560	540	198	988	711	476	0	412	304	0	310
V/C Ratio(X)	0.10	0.25	0.26	1.43	0.78	0.53	0.43	0.00	1.40	1.64	0.00	1.93
Avail Cap(c_a), veh/h	397	560	540	198	1055	741	476	0	412	304	0	310
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	34.3	34.4	59.9	44.9	26.9	41.6	0.0	49.9	55.9	0.0	55.9
Incr Delay (d2), s/veh	0.1	1.1	1.2	218.9	5.5	2.3	0.9	0.0	195.9	304.4	0.0	432.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.6	3.6	18.8	12.7	12.5	6.0	0.0	36.3	36.1	0.0	47.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	35.3	35.6	278.8	50.3	29.2	42.5	0.0	245.8	360.3	0.0	488.2
LnGrp LOS	D	D	D	F	D	C	D	A	F	F	A	F
Approach Vol, veh/h		305			1435			785			1100	
Approach Delay, s/veh		36.7			89.8			192.2			430.1	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	47.9		27.6	24.7	42.9		39.6				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	10.2		25.0	3.8	29.0		37.0				
Green Ext Time (p_c), s	0.0	6.1		0.0	0.0	8.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		210.8	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	95	30	61	160	131	5	29	60	123	64	135
Future Vol, veh/h	50	95	30	61	160	131	5	29	60	123	64	135
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	103	33	66	174	142	5	32	65	134	70	147
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	10.9	16.1	10.1	15
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	5%	100%	0%	17%	38%
Vol Thru, %	31%	0%	76%	45%	20%
Vol Right, %	64%	0%	24%	37%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	50	125	352	322
LT Vol	5	50	0	61	123
Through Vol	29	0	95	160	64
RT Vol	60	0	30	131	135
Lane Flow Rate	102	54	136	383	350
Geometry Grp	2	5	5	4a	2
Degree of Util (X)	0.166	0.105	0.236	0.584	0.539
Departure Headway (Hd)	5.852	6.923	6.243	5.498	5.549
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	608	515	572	654	648
Service Time	3.941	4.698	4.017	3.56	3.615
HCM Lane V/C Ratio	0.168	0.105	0.238	0.586	0.54
HCM Control Delay	10.1	10.5	11	16.1	15
HCM Lane LOS	B	B	B	C	B
HCM 95th-tile Q	0.6	0.3	0.9	3.8	3.2

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	64	105	271	81	112
Future Vol, veh/h	256	64	105	271	81	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	70	114	295	88	122

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	348	0	836	313
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	523	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1211	-	337	727
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1211	-	299	727
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	528	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	19.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	454	-	-	1211	-
HCM Lane V/C Ratio	0.462	-	-	0.094	-
HCM Control Delay (s)	19.6	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.4	-	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	177	73	0	0	0	203	748	238	220	845	321
Future Volume (veh/h)	137	177	73	0	0	0	203	748	238	220	845	321
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	192	79				221	813	259	239	918	349
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	351	248	102				143	967	819	178	1003	850
Arrive On Green	0.20	0.20	0.20				0.08	0.52	0.52	0.10	0.54	0.54
Sat Flow, veh/h	1781	1259	518				1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	149	0	271				221	813	259	239	918	349
Grp Sat Flow(s),veh/h/ln	1781	0	1777				1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.3	0.0	10.4				5.8	26.7	6.8	7.2	32.2	9.4
Cycle Q Clear(g_c), s	5.3	0.0	10.4				5.8	26.7	6.8	7.2	32.2	9.4
Prop In Lane	1.00		0.29				1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	351	0	350				143	967	819	178	1003	850
V/C Ratio(X)	0.42	0.00	0.77				1.54	0.84	0.32	1.34	0.92	0.41
Avail Cap(c_a), veh/h	668	0	666				143	967	819	178	1003	850
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	25.3	0.0	27.4				33.1	14.9	10.0	32.4	15.2	9.9
Incr Delay (d2), s/veh	0.8	0.0	3.7				274.7	8.8	1.0	157.3	1.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	4.6				13.4	12.4	2.4	10.8	12.4	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	31.1				307.8	23.6	11.1	189.7	16.9	10.1
LnGrp LOS	C	A	C				F	C	B	F	B	B
Approach Vol, veh/h		420						1293			1506	
Approach Delay, s/veh		29.3						69.7			42.7	
Approach LOS		C						E			D	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	11.4	42.2		18.4	10.0	43.6
Change Period (Y+Rc), s	* 4.2	5.0		* 4.2	* 4.2	5.0
Max Green Setting (Gmax), s	* 7.2	24.1		* 27	* 5.8	25.5
Max Q Clear Time (g_c+I1), s	9.2	28.7		12.4	7.8	34.2
Green Ext Time (p_c), s	0.0	0.0		1.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	30	1080	15	10	1052
Future Vol, veh/h	10	30	1080	15	10	1052
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	33	1174	16	11	1143

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2347	1182	0	0	1190	0
Stage 1	1182	-	-	-	-	-
Stage 2	1165	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	40	231	-	-	587	-
Stage 1	291	-	-	-	-	-
Stage 2	297	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	38	231	-	-	587	-
Mov Cap-2 Maneuver	38	-	-	-	-	-
Stage 1	291	-	-	-	-	-
Stage 2	282	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	64.3	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	102	587	-
HCM Lane V/C Ratio	-	-	0.426	0.019	-
HCM Control Delay (s)	-	-	64.3	11.2	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	1.8	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	20	161	18	16	143
Future Vol, veh/h	44	20	161	18	16	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	22	175	20	17	155

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	374	185	0	0	195	0
Stage 1	185	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	627	857	-	-	1378	-
Stage 1	847	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	618	857	-	-	1378	-
Mov Cap-2 Maneuver	618	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	677	1378	-
HCM Lane V/C Ratio	-	-	0.103	0.013	-
HCM Control Delay (s)	-	-	10.9	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	11	20	1022	1128	59
Future Vol, veh/h	13	11	20	1022	1128	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	12	22	1111	1226	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2413	1258	1290	0	-	0
Stage 1	1258	-	-	-	-	-
Stage 2	1155	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	36	209	538	-	-	-
Stage 1	268	-	-	-	-	-
Stage 2	300	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	32	209	538	-	-	-
Mov Cap-2 Maneuver	32	-	-	-	-	-
Stage 1	239	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	130	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	538	-	52	-	-
HCM Lane V/C Ratio	0.04	-	0.502	-	-
HCM Control Delay (s)	12	0	130	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	1.9	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	62	72	147	129	54
Future Vol, veh/h	3	62	72	147	129	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	67	78	160	140	59
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	9.1	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	33%	5%	0%
Vol Thru, %	67%	0%	70%
Vol Right, %	0%	95%	30%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	219	65	183
LT Vol	72	3	0
Through Vol	147	0	129
RT Vol	0	62	54
Lane Flow Rate	238	71	199
Geometry Grp	1	1	1
Degree of Util (X)	0.283	0.085	0.23
Departure Headway (Hd)	4.276	4.314	4.17
Convergence, Y/N	Yes	Yes	Yes
Cap	828	834	867
Service Time	2.368	2.324	2.17
HCM Lane V/C Ratio	0.287	0.085	0.23
HCM Control Delay	9.1	7.7	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	0.3	0.9

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	91	11	15	61	70	15	115	20	68	103	21
Future Vol, veh/h	34	91	11	15	61	70	15	115	20	68	103	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	99	12	16	66	76	16	125	22	74	112	23
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	9.1	9.4	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	25%	10%	35%
Vol Thru, %	77%	67%	42%	54%
Vol Right, %	13%	8%	48%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	136	146	192
LT Vol	15	34	15	68
Through Vol	115	91	61	103
RT Vol	20	11	70	21
Lane Flow Rate	163	148	159	209
Geometry Grp	1	1	1	1
Degree of Util (X)	0.221	0.207	0.21	0.283
Departure Headway (Hd)	4.885	5.04	4.766	4.889
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	729	707	746	728
Service Time	2.96	3.114	2.839	2.96
HCM Lane V/C Ratio	0.224	0.209	0.213	0.287
HCM Control Delay	9.4	9.4	9.1	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.8	0.8	1.2

MOVEMENT SUMMARY

Site: 19 [Coast Hwy & Michigan Ave (Site Folder: 2050 Buildout With Project - PM Peak Hour)]

Site Category: 2050 Buildout With Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	179	3.0	195	3.0	1.295	157.2	LOS F	118.1	3022.9	1.00	4.09	8.36	10.5
8	T1	806	3.0	876	3.0	1.295	157.2	LOS F	118.1	3022.9	1.00	4.09	8.36	10.5
18	R2	115	3.0	125	3.0	1.295	157.2	LOS F	118.1	3022.9	1.00	4.09	8.36	10.4
Approach		1100	3.0	1196	3.0	1.295	157.2	LOS F	118.1	3022.9	1.00	4.09	8.36	10.5
East: Michigan Ave														
1	L2	100	3.0	109	3.0	0.464	16.0	LOS B	2.3	60.1	0.77	0.87	1.13	29.1
6	T1	71	3.0	77	3.0	0.464	16.0	LOS B	2.3	60.1	0.77	0.87	1.13	29.1
16	R2	35	3.0	38	3.0	0.464	16.0	LOS B	2.3	60.1	0.77	0.87	1.13	28.4
Approach		206	3.0	224	3.0	0.464	16.0	LOS B	2.3	60.1	0.77	0.87	1.13	29.0
North: Coast Hwy														
7	L2	125	3.0	136	3.0	1.445	221.0	LOS F	164.8	4219.4	1.00	4.88	10.07	8.1
4	T1	973	3.0	1058	3.0	1.445	221.0	LOS F	164.8	4219.4	1.00	4.88	10.07	8.1
14	R2	151	3.0	164	3.0	1.445	221.0	LOS F	164.8	4219.4	1.00	4.88	10.07	8.0
Approach		1249	3.0	1358	3.0	1.445	221.0	LOS F	164.8	4219.4	1.00	4.88	10.07	8.1
West: Michigan Ave														
5	L2	126	3.0	137	3.0	0.914	50.2	LOS D	12.4	317.3	0.95	1.61	3.15	20.4
2	T1	116	3.0	126	3.0	0.914	50.2	LOS D	12.4	317.3	0.95	1.61	3.15	20.4
12	R2	178	3.0	193	3.0	0.914	50.2	LOS D	12.4	317.3	0.95	1.61	3.15	20.0
Approach		420	3.0	457	3.0	0.914	50.2	LOS D	12.4	317.3	0.95	1.61	3.15	20.2
All Vehicles		2975	3.0	3234	3.0	1.445	159.1	LOS F	164.8	4219.4	0.98	3.85	7.84	10.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	5	10	0	0	5	0	10	5	0	0
Future Vol, veh/h	0	5	5	10	0	0	5	0	10	5	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	5	11	0	0	5	0	11	5	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.7	7.2	6.7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	0%	100%	100%
Vol Thru, %	0%	50%	0%	0%
Vol Right, %	67%	50%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	10	10	5
LT Vol	5	0	10	5
Through Vol	0	5	0	0
RT Vol	10	5	0	0
Lane Flow Rate	16	11	11	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.017	0.011	0.013	0.006
Departure Headway (Hd)	3.644	3.679	4.18	4.185
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	986	976	860	858
Service Time	1.653	1.69	2.188	2.195
HCM Lane V/C Ratio	0.016	0.011	0.013	0.006
HCM Control Delay	6.7	6.7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0	0

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	26	8	10	29	10	8	127	15	5	92	16
Future Vol, veh/h	13	26	8	10	29	10	8	127	15	5	92	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	28	9	11	32	11	9	138	16	5	100	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	43	0	0	37	0	0	179	126	33	198	125	38
Stage 1	-	-	-	-	-	-	61	61	-	60	60	-
Stage 2	-	-	-	-	-	-	118	65	-	138	65	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1566	-	-	1574	-	-	783	764	1041	761	765	1034
Stage 1	-	-	-	-	-	-	950	844	-	951	845	-
Stage 2	-	-	-	-	-	-	887	841	-	865	841	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1574	-	-	684	752	1041	635	753	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	684	752	-	635	753	-
Stage 1	-	-	-	-	-	-	941	836	-	942	839	-
Stage 2	-	-	-	-	-	-	763	835	-	704	833	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	1.5	10.9	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	769	1566	-	-	1574	-	-	776
HCM Lane V/C Ratio	0.212	0.009	-	-	0.007	-	-	0.158
HCM Control Delay (s)	10.9	7.3	0	-	7.3	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.6

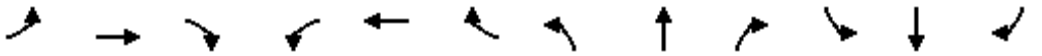
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	51	0	0	30	25	1000	35	15	1036	30
Future Vol, veh/h	0	0	51	0	0	30	25	1000	35	15	1036	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	55	0	0	33	27	1087	38	16	1126	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1143	-	-	1106	1159	0	0	1125	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	-	-	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	-	-	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	0	244	0	0	256	603	-	-	621	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	244	-	-	256	603	-	-	621	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24	21.1	0.3	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	603	-	-	244	256	621	-	-
HCM Lane V/C Ratio	0.045	-	-	0.227	0.127	0.026	-	-
HCM Control Delay (s)	11.3	-	-	24	21.1	11	-	-
HCM Lane LOS	B	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.4	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	80	619	75	170	115	452	514	330	566	85
Future Volume (veh/h)	0	0	80	619	75	170	115	452	514	330	566	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	732	0	0	125	491	0	359	615	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	454		1049	0		133	523		268	490	75
Arrive On Green	0.00	0.00	0.00	0.24	0.00	0.00	0.35	0.35	0.00	0.23	0.23	0.23
Sat Flow, veh/h	0	1870	0	3563	0	1585	376	1476	1585	1165	2130	328
Grp Volume(v), veh/h	0	0	0	732	0	0	616	0	0	558	0	508
Grp Sat Flow(s),veh/h/ln	0	1870	0	1781	0	1585	1852	0	1585	1812	0	1811
Q Serve(g_s), s	0.0	0.0	0.0	15.3	0.0	0.0	25.2	0.0	0.0	18.0	0.0	18.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	15.3	0.0	0.0	25.2	0.0	0.0	18.0	0.0	18.0
Prop In Lane	0.00		0.00	1.00		1.00	0.20		1.00	0.64		0.18
Lane Grp Cap(c), veh/h	0	454		1049	0		657	0		417	0	417
V/C Ratio(X)	0.00	0.00		0.70	0.00		0.94	0.00		1.34	0.00	1.22
Avail Cap(c_a), veh/h	0	598		1322	0		674	0		417	0	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	28.2	0.0	0.0	24.4	0.0	0.0	30.1	0.0	30.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	20.6	0.0	0.0	168.2	0.0	118.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	5.9	0.0	0.0	14.2	0.0	0.0	27.1	0.0	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	29.4	0.0	0.0	45.0	0.0	0.0	198.3	0.0	148.6
LnGrp LOS	A	A		C	A		D	A		F	A	F
Approach Vol, veh/h		0			732			616			1066	
Approach Delay, s/veh		0.0			29.4			45.0			174.6	
Approach LOS					C			D			F	

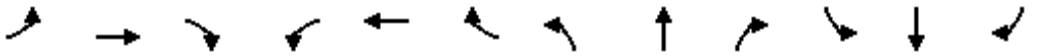
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.3		23.5		22.5		23.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.5		25.0		18.0		25.0				
Max Q Clear Time (g_c+I1), s		27.2		0.0		20.0		17.3				
Green Ext Time (p_c), s		0.6		0.0		0.0		1.7				

Intersection Summary												
HCM 6th Ctrl Delay			97.5									
HCM 6th LOS			F									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1168	40	250	1175	460	40	0	90	350	50	150
Future Volume (veh/h)	0	1168	40	250	1175	460	40	0	90	350	50	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1270	43	272	1277	0	43	0	98	419	0	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1249	42	275	2030		148	0	131	586	0	261
Arrive On Green	0.00	0.36	0.36	0.15	0.57	0.00	0.08	0.00	0.08	0.16	0.00	0.16
Sat Flow, veh/h	0	3601	119	1781	3554	1585	1781	0	1585	3563	0	1585
Grp Volume(v), veh/h	0	643	670	272	1277	0	43	0	98	419	0	163
Grp Sat Flow(s),veh/h/ln	0	1777	1849	1781	1777	1585	1781	0	1585	1781	0	1585
Q Serve(g_s), s	0.0	26.5	26.5	11.3	17.9	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Cycle Q Clear(g_c), s	0.0	26.5	26.5	11.3	17.9	0.0	1.7	0.0	4.5	8.3	0.0	7.1
Prop In Lane	0.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	633	659	275	2030		148	0	131	586	0	261
V/C Ratio(X)	0.00	1.02	1.02	0.99	0.63		0.29	0.00	0.75	0.72	0.00	0.63
Avail Cap(c_a), veh/h	0	633	659	275	2030		168	0	149	1293	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.0	24.0	31.4	10.7	0.0	32.1	0.0	33.3	29.4	0.0	29.0
Incr Delay (d2), s/veh	0.0	39.8	39.5	50.7	0.6	0.0	1.1	0.0	16.2	1.6	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.0	17.7	8.5	5.9	0.0	0.8	0.0	2.3	3.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	63.8	63.4	82.1	11.3	0.0	33.1	0.0	49.6	31.1	0.0	31.4
LnGrp LOS	A	F	F	F	B		C	A	D	C	A	C
Approach Vol, veh/h		1313			1549			141			582	
Approach Delay, s/veh		63.6			23.7			44.6			31.2	
Approach LOS		E			C			D			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		10.7	16.0	31.0		16.7		47.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		7.0	11.5	26.5		27.0		42.5				
Max Q Clear Time (g_c+I1), s		6.5	13.3	28.5		10.3		19.9				
Green Ext Time (p_c), s		0.0	0.0	0.0		1.9		10.0				

Intersection Summary												
HCM 6th Ctrl Delay			40.4									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	200	15	30	170	83	30	18	35	79	33	23
Future Vol, veh/h	18	200	15	30	170	83	30	18	35	79	33	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	217	16	33	185	90	33	20	38	86	36	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	275	0	0	233	0	0	592	606	225	590	569	230
Stage 1	-	-	-	-	-	-	265	265	-	296	296	-
Stage 2	-	-	-	-	-	-	327	341	-	294	273	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1288	-	-	1335	-	-	418	411	814	419	432	809
Stage 1	-	-	-	-	-	-	740	689	-	712	668	-
Stage 2	-	-	-	-	-	-	686	639	-	714	684	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1288	-	-	1335	-	-	364	392	814	370	412	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	364	392	-	370	412	-
Stage 1	-	-	-	-	-	-	727	677	-	699	648	-
Stage 2	-	-	-	-	-	-	609	620	-	649	672	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.8	14.1	18.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	484	1288	-	-	1335	-	-	419
HCM Lane V/C Ratio	0.186	0.015	-	-	0.024	-	-	0.35
HCM Control Delay (s)	14.1	7.8	0	-	7.8	0	-	18.2
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	1.5

MOVEMENT SUMMARY

Site: 27 [Coast Hwy & Wisconsin Ave (Site Folder: 2050 Buildout With Project - PM Peak Hour)]

Site Category: 2050 Buildout With Project
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Coast Hwy														
3	L2	178	3.0	185	3.0	1.077	69.9	LOS F	82.2	2103.8	1.00	2.39	4.12	17.5
8	T1	852	3.0	888	3.0	1.077	69.9	LOS F	82.2	2103.8	1.00	2.39	4.12	17.5
18	R2	70	3.0	73	3.0	1.077	69.9	LOS F	82.2	2103.8	1.00	2.39	4.12	17.2
Approach		1100	3.0	1146	3.0	1.077	69.9	LOS E	82.2	2103.8	1.00	2.39	4.12	17.5
East: Wisconsin Ave														
1	L2	85	3.0	89	3.0	0.397	15.9	LOS B	1.8	44.8	0.78	0.85	1.05	29.1
6	T1	50	3.0	52	3.0	0.397	15.9	LOS B	1.8	44.8	0.78	0.85	1.05	29.0
16	R2	26	3.0	27	3.0	0.397	15.9	LOS B	1.8	44.8	0.78	0.85	1.05	28.3
Approach		161	3.0	168	3.0	0.397	15.9	LOS B	1.8	44.8	0.78	0.85	1.05	28.9
North: Coast Hwy														
7	L2	41	3.0	43	3.0	0.872	27.2	LOS C	25.0	640.1	1.00	1.53	2.40	26.2
4	T1	715	3.0	745	3.0	0.872	27.2	LOS C	25.0	640.1	1.00	1.53	2.40	26.1
14	R2	50	3.0	52	3.0	0.872	27.2	LOS C	25.0	640.1	1.00	1.53	2.40	25.6
Approach		806	3.0	840	3.0	0.872	27.2	LOS C	25.0	640.1	1.00	1.53	2.40	26.1
West: Wisconsin Ave														
5	L2	90	3.0	94	3.0	0.603	19.5	LOS B	4.0	102.2	0.81	1.00	1.42	28.2
2	T1	80	3.0	83	3.0	0.603	19.5	LOS B	4.0	102.2	0.81	1.00	1.42	28.1
12	R2	139	3.0	145	3.0	0.603	19.5	LOS B	4.0	102.2	0.81	1.00	1.42	27.5
Approach		309	3.0	322	3.0	0.603	19.5	LOS B	4.0	102.2	0.81	1.00	1.42	27.9
All Vehicles		2376	3.0	2475	3.0	1.077	45.2	LOS D	82.2	2103.8	0.96	1.81	2.98	21.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	230	140	200	230	308	150	587	180	254	517	63
Future Volume (veh/h)	63	230	140	200	230	308	150	587	180	254	517	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	250	152	217	250	335	163	638	196	276	562	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	271	295	340	357	545	190	872	268	272	609	74
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.33	0.33	0.15	0.37	0.37
Sat Flow, veh/h	396	1455	1585	1781	1870	1585	1781	2678	822	1781	1637	198
Grp Volume(v), veh/h	318	0	152	217	250	335	163	423	411	276	0	630
Grp Sat Flow(s),veh/h/ln	1851	0	1585	1781	1870	1585	1781	1777	1722	1781	0	1835
Q Serve(g_s), s	22.1	0.0	11.3	14.7	16.3	23.0	11.8	27.6	27.6	20.0	0.0	43.0
Cycle Q Clear(g_c), s	22.1	0.0	11.3	14.7	16.3	23.0	11.8	27.6	27.6	20.0	0.0	43.0
Prop In Lane	0.21		1.00	1.00		1.00	1.00		0.48	1.00		0.11
Lane Grp Cap(c), veh/h	344	0	295	340	357	545	190	578	561	272	0	682
V/C Ratio(X)	0.92	0.00	0.52	0.64	0.70	0.61	0.86	0.73	0.73	1.01	0.00	0.92
Avail Cap(c_a), veh/h	354	0	303	340	357	545	272	815	790	272	0	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.3	0.0	47.9	48.7	49.4	35.7	57.5	39.1	39.1	55.4	0.0	39.3
Incr Delay (d2), s/veh	28.9	0.0	1.4	3.9	5.9	2.1	16.9	2.1	2.1	58.1	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.0	0.0	4.5	6.8	8.1	9.0	6.2	12.2	11.9	13.3	0.0	21.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.3	0.0	49.4	52.7	55.4	37.8	74.4	41.1	41.2	113.5	0.0	53.1
LnGrp LOS	F	A	D	D	E	D	E	D	D	F	A	D
Approach Vol, veh/h		470			802			997			906	
Approach Delay, s/veh		70.9			47.3			46.6			71.5	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.6	47.7		28.9	18.5	53.8		29.6				
Change Period (Y+Rc), s	4.6	5.1		4.6	4.6	5.1		4.6				
Max Green Setting (Gmax), s	20.0	60.0		25.0	20.0	60.0		25.0				
Max Q Clear Time (g_c+I1), s	22.0	29.6		24.1	13.8	45.0		25.0				
Green Ext Time (p_c), s	0.0	5.8		0.2	0.2	3.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		57.5	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	622	140	210	913	485	30	20	50	455	65	110
Future Volume (veh/h)	261	622	140	210	913	485	30	20	50	455	65	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	284	676	152	228	992	527	33	22	54	343	284	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	1275	286	192	1444	1028	56	38	82	431	302	128
Arrive On Green	0.14	0.44	0.44	0.22	0.81	0.81	0.05	0.05	0.05	0.24	0.24	0.24
Sat Flow, veh/h	1781	2883	648	1781	3554	1585	1090	726	1585	1781	1248	527
Grp Volume(v), veh/h	284	416	412	228	992	527	55	0	54	343	0	404
Grp Sat Flow(s),veh/h/ln	1781	1777	1754	1781	1777	1585	1816	0	1585	1781	0	1775
Q Serve(g_s), s	16.5	19.6	19.7	12.4	13.6	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Cycle Q Clear(g_c), s	16.5	19.6	19.7	12.4	13.6	12.7	3.4	0.0	3.8	20.8	0.0	25.7
Prop In Lane	1.00		0.37	1.00		1.00	0.60		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	256	786	775	192	1444	1028	94	0	82	431	0	430
V/C Ratio(X)	1.11	0.53	0.53	1.19	0.69	0.51	0.59	0.00	0.66	0.80	0.00	0.94
Avail Cap(c_a), veh/h	256	786	775	192	1444	1028	284	0	248	434	0	432
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.59	0.59	0.59	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	23.4	23.4	45.1	7.7	2.9	53.3	0.0	53.5	40.9	0.0	42.8
Incr Delay (d2), s/veh	89.4	2.6	2.6	110.8	1.6	1.1	5.7	0.0	8.7	9.9	0.0	28.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.5	8.4	8.3	10.6	3.0	3.2	1.7	0.0	1.7	10.2	0.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.7	25.9	26.0	155.9	9.3	4.0	59.0	0.0	62.3	50.8	0.0	71.5
LnGrp LOS	F	C	C	F	A	A	E	A	E	D	A	E
Approach Vol, veh/h		1112			1747			109			747	
Approach Delay, s/veh		54.7			26.8			60.6			62.0	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.4	16.9	55.3	32.3	21.0	51.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	12.4	38.6	28.0	16.5	34.5
Max Q Clear Time (g_c+I1), s	5.8	14.4	21.7	27.7	18.5	15.6
Green Ext Time (p_c), s	0.3	0.0	4.6	0.1	0.0	8.7

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

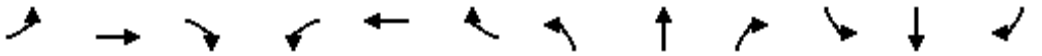
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	937	226	150	824	325	136	85	95	750	225	503
Future Volume (veh/h)	290	937	226	150	824	325	136	85	95	750	225	503
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	1018	246	163	896	353	120	131	103	530	644	547
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1457	351	82	1832	817	174	182	155	333	350	296
Arrive On Green	0.04	0.51	0.51	0.05	0.52	0.52	0.10	0.10	0.10	0.19	0.19	0.19
Sat Flow, veh/h	1781	2840	684	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	315	635	629	163	896	353	120	131	103	530	644	547
Grp Sat Flow(s),veh/h/ln	1781	1777	1747	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.0	31.2	31.5	5.3	18.8	16.0	7.5	7.8	7.2	21.5	21.5	21.5
Cycle Q Clear(g_c), s	5.0	31.2	31.5	5.3	18.8	16.0	7.5	7.8	7.2	21.5	21.5	21.5
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	911	896	82	1832	817	174	182	155	333	350	296
V/C Ratio(X)	4.07	0.70	0.70	1.99	0.49	0.43	0.69	0.72	0.67	1.59	1.84	1.85
Avail Cap(c_a), veh/h	77	911	896	82	1832	817	527	553	469	333	350	296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	21.2	21.3	54.8	18.0	17.4	50.2	50.4	50.1	46.8	46.8	46.8
Incr Delay (d2), s/veh	1400.9	3.0	3.1	484.0	0.9	1.7	4.8	5.2	4.9	280.0	389.7	393.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.3	12.9	12.8	13.4	7.5	5.9	3.6	3.9	3.0	35.4	47.8	40.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1455.9	24.3	24.4	538.8	19.0	19.0	55.1	55.6	55.0	326.7	436.5	440.2
LnGrp LOS	F	C	C	F	B	B	E	E	D	F	F	F
Approach Vol, veh/h		1579			1412			354			1721	
Approach Delay, s/veh		309.9			79.0			55.2			403.9	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	15.7	9.8	63.5	26.0	9.5	63.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	5.3	36.2	21.5	5.0	36.5
Max Q Clear Time (g_c+I1), s	9.8	7.3	33.5	23.5	7.0	20.8
Green Ext Time (p_c), s	1.4	0.0	1.9	0.0	0.0	6.5

Intersection Summary	
HCM 6th Ctrl Delay	259.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	110	90	230	120	386	140	539	250	331	495	160
Future Volume (veh/h)	90	110	90	230	120	386	140	539	250	331	495	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	120	98	250	130	420	152	586	272	360	538	174
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	166	141	267	139	705	183	686	318	393	1081	348
Arrive On Green	0.09	0.09	0.09	0.22	0.22	0.22	0.10	0.29	0.29	0.22	0.41	0.41
Sat Flow, veh/h	1781	1870	1585	1191	619	1585	1781	2357	1093	1781	2643	851
Grp Volume(v), veh/h	98	120	98	380	0	420	152	442	416	360	361	351
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1811	0	1585	1781	1777	1674	1781	1777	1717
Q Serve(g_s), s	5.9	7.0	6.7	22.9	0.0	22.3	9.3	26.1	26.1	22.0	16.8	16.9
Cycle Q Clear(g_c), s	5.9	7.0	6.7	22.9	0.0	22.3	9.3	26.1	26.1	22.0	16.8	16.9
Prop In Lane	1.00		1.00	0.66		1.00	1.00		0.65	1.00		0.50
Lane Grp Cap(c), veh/h	158	166	141	406	0	705	183	517	487	393	727	702
V/C Ratio(X)	0.62	0.72	0.70	0.94	0.00	0.60	0.83	0.85	0.86	0.92	0.50	0.50
Avail Cap(c_a), veh/h	320	336	285	407	0	706	320	638	601	480	727	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	49.4	49.3	42.4	0.0	23.3	49.0	37.2	37.2	42.4	24.4	24.4
Incr Delay (d2), s/veh	3.9	5.8	6.1	29.0	0.0	1.4	9.2	9.2	9.8	19.8	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.5	2.9	13.3	0.0	8.3	4.6	12.4	11.8	11.6	7.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	55.2	55.3	71.4	0.0	24.7	58.2	46.4	47.1	62.2	24.9	25.0
LnGrp LOS	D	E	E	E	A	C	E	D	D	E	C	C
Approach Vol, veh/h		316			800			1010			1072	
Approach Delay, s/veh		54.5			46.9			48.5			37.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.3	37.5		14.5	16.1	50.6		30.1				
Change Period (Y+Rc), s	* 4.7	5.1		4.6	* 4.7	5.1		5.1				
Max Green Setting (Gmax), s	* 30	40.0		20.0	* 20	40.0		25.0				
Max Q Clear Time (g_c+I1), s	24.0	28.1		9.0	11.3	18.9		24.9				
Green Ext Time (p_c), s	0.6	4.3		0.9	0.2	4.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		45.0	
HCM 6th LOS		D	

Notes

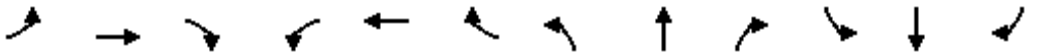
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Future Vol, veh/h	3	0	0	42	0	35	0	6	14	51	3	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	0	46	0	38	0	7	15	55	3	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.4	6.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	55%	76%
Vol Thru, %	30%	0%	0%	4%
Vol Right, %	70%	0%	45%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	3	77	67
LT Vol	0	3	42	51
Through Vol	6	0	0	3
RT Vol	14	0	35	13
Lane Flow Rate	22	3	84	73
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.004	0.092	0.084
Departure Headway (Hd)	3.72	4.363	3.937	4.137
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	954	814	906	863
Service Time	1.774	2.422	1.98	2.177
HCM Lane V/C Ratio	0.023	0.004	0.093	0.085
HCM Control Delay	6.9	7.4	7.4	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.3	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	50	70	15	45	30	50	886	20	45	1160	120
Future Volume (veh/h)	165	50	70	15	45	30	50	886	20	45	1160	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	54	76	16	49	33	54	963	22	49	1261	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	81	505	93	213	114	93	661	15	87	662	561
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.05	0.36	0.36	0.05	0.35	0.35
Sat Flow, veh/h	607	253	1585	34	669	357	1781	1821	42	1781	1870	1585
Grp Volume(v), veh/h	233	0	76	98	0	0	54	0	985	49	1261	130
Grp Sat Flow(s),veh/h/ln	860	0	1585	1061	0	0	1781	0	1863	1781	1870	1585
Q Serve(g_s), s	0.2	0.0	1.7	0.4	0.0	0.0	1.5	0.0	18.5	1.4	18.0	2.9
Cycle Q Clear(g_c), s	14.4	0.0	1.7	14.6	0.0	0.0	1.5	0.0	18.5	1.4	18.0	2.9
Prop In Lane	0.77		1.00	0.16		0.34	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	399	0	505	420	0	0	93	0	676	87	662	561
V/C Ratio(X)	0.58	0.00	0.15	0.23	0.00	0.00	0.58	0.00	1.46	0.56	1.91	0.23
Avail Cap(c_a), veh/h	449	0	561	478	0	0	175	0	676	186	662	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	0.0	12.4	12.9	0.0	0.0	23.6	0.0	16.2	23.7	16.4	11.6
Incr Delay (d2), s/veh	1.5	0.0	0.1	0.3	0.0	0.0	5.6	0.0	213.5	5.6	413.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.6	0.7	0.0	0.0	0.7	0.0	46.9	0.7	82.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.9	0.0	12.5	13.2	0.0	0.0	29.2	0.0	229.7	29.3	429.5	11.8
LnGrp LOS	B	A	B	B	A	A	C	A	F	C	F	B
Approach Vol, veh/h		309			98			1039			1440	
Approach Delay, s/veh		16.6			13.2			219.3			378.2	
Approach LOS		B			B			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	23.5		20.9	7.2	23.0		20.9				
Change Period (Y+Rc), s	* 4.2	5.0		4.5	4.5	* 5		4.5				
Max Green Setting (Gmax), s	* 5.3	18.0		18.0	5.0	* 18		18.0				
Max Q Clear Time (g_c+I1), s	3.4	20.5		16.4	3.5	20.0		16.6				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		269.9	
HCM 6th LOS		F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EXISTING PLUS PROJECT WITH IMPROVEMENTS AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	606	124	41	768	245	122	73	38	327	110	208
Future Volume (veh/h)	74	606	124	41	768	245	122	73	38	327	110	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	631	129	43	800	255	102	112	40	228	273	217
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1654	338	58	1920	856	150	158	134	292	306	260
Arrive On Green	0.06	0.56	0.56	0.03	0.54	0.54	0.08	0.08	0.08	0.16	0.16	0.16
Sat Flow, veh/h	1781	2939	600	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	77	381	379	43	800	255	102	112	40	228	273	217
Grp Sat Flow(s),veh/h/ln	1781	1777	1762	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.9	13.7	13.8	2.8	15.4	10.1	6.4	6.7	2.7	14.1	16.4	15.3
Cycle Q Clear(g_c), s	4.9	13.7	13.8	2.8	15.4	10.1	6.4	6.7	2.7	14.1	16.4	15.3
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	98	1000	992	58	1920	856	150	158	134	292	306	260
V/C Ratio(X)	0.79	0.38	0.38	0.74	0.42	0.30	0.68	0.71	0.30	0.78	0.89	0.84
Avail Cap(c_a), veh/h	116	1000	992	108	1920	856	527	553	469	302	317	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	14.0	14.0	55.2	15.7	14.5	51.1	51.3	49.4	46.1	47.1	46.6
Incr Delay (d2), s/veh	24.1	1.0	1.1	17.0	0.7	0.9	5.3	5.7	1.2	12.1	24.9	19.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.4	5.4	1.5	6.0	3.7	3.1	3.4	1.1	7.2	9.7	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.8	15.0	15.1	72.1	16.4	15.4	56.4	57.0	50.7	58.2	72.0	66.1
LnGrp LOS	E	B	B	E	B	B	E	E	D	E	E	E
Approach Vol, veh/h		837			1098			254			718	
Approach Delay, s/veh		20.8			18.3			55.8			65.8	
Approach LOS		C			B			E			E	

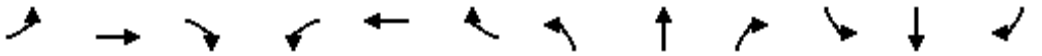
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.2	8.2	69.2	23.3	10.8	66.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	7.0	36.5	19.5	7.5	36.0
Max Q Clear Time (g_c+I1), s	8.7	4.8	15.8	18.4	6.9	17.4
Green Ext Time (p_c), s	1.0	0.0	4.5	0.4	0.0	6.0

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

EXISTING PLUS PROJECT
WITH IMPROVEMENTS
PM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	823	126	46	723	222	110	61	67	632	107	386
Future Volume (veh/h)	59	823	126	46	723	222	110	61	67	632	107	386
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	857	131	48	753	231	90	100	70	737	0	402
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1680	257	62	1901	848	139	146	124	666	0	365
Arrive On Green	0.04	0.54	0.54	0.03	0.53	0.53	0.08	0.08	0.08	0.19	0.00	0.19
Sat Flow, veh/h	1781	3090	472	1781	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	61	493	495	48	753	231	90	100	70	737	0	402
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	3.9	20.1	20.1	3.1	14.4	9.1	5.6	6.0	4.9	21.5	0.0	21.5
Cycle Q Clear(g_c), s	3.9	20.1	20.1	3.1	14.4	9.1	5.6	6.0	4.9	21.5	0.0	21.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	966	971	62	1901	848	139	146	124	666	0	365
V/C Ratio(X)	0.79	0.51	0.51	0.78	0.40	0.27	0.65	0.68	0.56	1.11	0.00	1.10
Avail Cap(c_a), veh/h	77	966	971	82	1901	848	527	553	469	666	0	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.5	16.6	16.6	55.1	15.8	14.6	51.5	51.6	51.1	46.8	0.0	44.3
Incr Delay (d2), s/veh	37.6	1.8	1.7	28.0	0.6	0.8	4.9	5.5	4.0	67.8	0.0	77.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	8.1	8.2	1.8	5.7	3.3	2.7	3.0	2.0	15.7	0.0	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	18.3	18.3	83.0	16.4	15.4	56.4	57.1	55.1	114.5	0.0	121.2
LnGrp LOS	F	B	B	F	B	B	E	E	E	F	A	F
Approach Vol, veh/h		1049			1032			260			1139	
Approach Delay, s/veh		22.6			19.3			56.3			116.9	
Approach LOS		C			B			E			F	

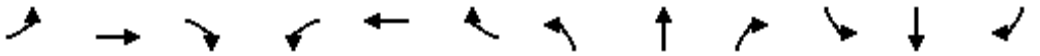
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	13.5	8.5	67.0	26.0	9.5	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	5.3	36.2	21.5	5.0	36.5
Max Q Clear Time (g_c+I1), s	8.0	5.1	22.1	23.5	5.9	16.4
Green Ext Time (p_c), s	1.0	0.0	5.2	0.0	0.0	5.7

Intersection Summary	
HCM 6th Ctrl Delay	55.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

NEAR TERM (2030)
WITH PROJECT
WITH IMPROVEMENTS
AM PEAK HOUR



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	152	2	203	628	229	28	80	364	320	97	12
Future Volume (veh/h)	25	152	2	203	628	229	28	80	364	320	97	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	188	2	251	775	283	35	99	449	265	302	15
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	871	9	280	1047	790	119	335	390	364	361	18
Arrive On Green	0.10	0.24	0.24	0.16	0.29	0.29	0.25	0.25	0.25	0.20	0.20	0.20
Sat Flow, veh/h	1781	3602	38	1781	3554	1585	482	1364	1585	1781	1767	88
Grp Volume(v), veh/h	31	93	97	251	775	283	134	0	449	265	0	317
Grp Sat Flow(s),veh/h/ln	1781	1777	1863	1781	1777	1585	1846	0	1585	1781	0	1855
Q Serve(g_s), s	2.0	5.3	5.3	17.7	25.1	13.9	7.5	0.0	31.4	17.8	0.0	21.0
Cycle Q Clear(g_c), s	2.0	5.3	5.3	17.7	25.1	13.9	7.5	0.0	31.4	17.8	0.0	21.0
Prop In Lane	1.00		0.02	1.00		1.00	0.26		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	186	429	450	280	1047	790	454	0	390	364	0	379
V/C Ratio(X)	0.17	0.22	0.22	0.90	0.74	0.36	0.30	0.00	1.15	0.73	0.00	0.84
Avail Cap(c_a), veh/h	279	429	450	450	1174	847	454	0	390	480	0	499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.1	38.7	38.8	52.8	40.7	19.5	39.2	0.0	48.2	47.5	0.0	48.8
Incr Delay (d2), s/veh	0.3	1.1	1.1	11.4	4.1	1.0	0.5	0.0	94.1	4.9	0.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.5	2.6	8.8	11.6	7.9	3.5	0.0	22.6	8.4	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	39.9	39.9	64.3	44.7	20.5	39.7	0.0	142.3	52.4	0.0	59.3
LnGrp LOS	D	D	D	E	D	C	D	A	F	D	A	E
Approach Vol, veh/h		221			1309			583			582	
Approach Delay, s/veh		41.6			43.2			118.7			56.2	
Approach LOS		D			D			F			E	

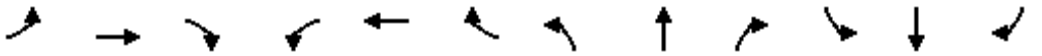
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.8	36.3		30.7	18.0	43.0		36.0				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 32	29.9		34.4	* 20	42.2		31.4				
Max Q Clear Time (g_c+I1), s	19.7	7.3		23.0	4.0	27.1		33.4				
Green Ext Time (p_c), s	0.4	3.4		3.1	0.0	10.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		62.2	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

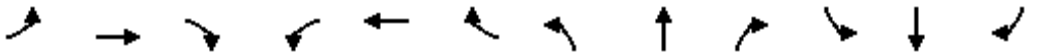
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1	18	19	1	12	20	483	23	12	910	8
Future Volume (veh/h)	11	1	18	19	1	12	20	483	23	12	910	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	1	20	21	1	13	22	537	26	13	1011	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	4	73	305	3	43	180	1814	86	157	1956	17
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	581	48	968	928	44	574	40	3254	155	13	3508	31
Grp Volume(v), veh/h	33	0	0	35	0	0	303	0	282	540	0	493
Grp Sat Flow(s),veh/h/ln	1597	0	0	1546	0	0	1774	0	1674	1855	0	1696
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	4.4
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.5	0.0	0.0	2.1	0.0	2.2	4.4	0.0	4.4
Prop In Lane	0.36		0.61	0.60		0.37	0.07		0.09	0.02		0.02
Lane Grp Cap(c), veh/h	321	0	0	352	0	0	1147	0	934	1185	0	946
V/C Ratio(X)	0.10	0.00	0.00	0.10	0.00	0.00	0.26	0.00	0.30	0.46	0.00	0.52
Avail Cap(c_a), veh/h	1753	0	0	1737	0	0	1947	0	1774	2097	0	1797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	10.7	0.0	0.0	2.9	0.0	2.9	3.4	0.0	3.4
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.2	0.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	0.0	0.0	10.8	0.0	0.0	3.0	0.0	3.1	3.7	0.0	3.8
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		33			35			585			1033	
Approach Delay, s/veh		10.8			10.8			3.0			3.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.2		6.4		18.2		6.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.0		25.0		26.0		25.0				
Max Q Clear Time (g_c+I1), s		4.2		2.4		6.4		2.5				
Green Ext Time (p_c), s		4.0		0.1		7.2		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			3.8									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	732	134	44	851	265	131	79	41	353	119	227
Future Volume (veh/h)	91	732	134	44	851	265	131	79	41	353	119	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	762	140	46	886	276	109	120	43	246	295	236
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1652	303	60	1846	823	159	167	141	302	317	372
Arrive On Green	0.07	0.55	0.55	0.03	0.52	0.52	0.09	0.09	0.09	0.17	0.17	0.17
Sat Flow, veh/h	1781	2997	551	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	95	452	450	46	886	276	109	120	43	246	295	236
Grp Sat Flow(s),veh/h/ln	1781	1777	1771	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.1	17.6	17.6	2.9	18.4	11.7	6.8	7.2	2.9	15.3	17.9	15.4
Cycle Q Clear(g_c), s	6.1	17.6	17.6	2.9	18.4	11.7	6.8	7.2	2.9	15.3	17.9	15.4
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	979	976	60	1846	823	159	167	141	302	317	372
V/C Ratio(X)	0.82	0.46	0.46	0.77	0.48	0.34	0.69	0.72	0.30	0.81	0.93	0.63
Avail Cap(c_a), veh/h	116	979	976	108	1846	823	527	553	469	302	317	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	15.5	15.5	55.1	17.7	16.1	50.8	51.0	49.0	46.0	47.1	39.6
Incr Delay (d2), s/veh	32.7	1.4	1.4	18.6	0.9	1.1	5.1	5.7	1.2	15.6	32.9	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	7.1	7.0	1.6	7.3	4.3	3.3	3.6	1.2	8.1	11.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.7	17.0	17.0	73.8	18.6	17.2	55.9	56.7	50.2	61.6	80.0	43.1
LnGrp LOS	F	B	B	E	B	B	E	E	D	E	E	D
Approach Vol, veh/h		997			1208			272			777	
Approach Delay, s/veh		23.5			20.4			55.4			63.0	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	14.8	8.3	67.9	24.0	12.0	64.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	34.0	7.0	36.5	19.5	7.5	36.0
Max Q Clear Time (g_c+I1), s	9.2	4.9	19.6	19.9	8.1	20.4
Green Ext Time (p_c), s	1.1	0.0	5.1	0.0	0.0	6.2

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

NEAR TERM (2030)
WITH PROJECT
WITH IMPROVEMENTS
PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	160	1	201	833	274	63	62	410	599	54	18
Future Volume (veh/h)	3	160	1	201	833	274	63	62	410	599	54	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	198	1	248	1028	338	78	77	506	808	0	0
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	820	4	225	1179	912	221	219	382	867	455	0
Arrive On Green	0.02	0.23	0.23	0.13	0.33	0.33	0.24	0.24	0.24	0.24	0.00	0.00
Sat Flow, veh/h	1781	3626	18	1781	3554	1585	918	906	1585	3563	1870	0
Grp Volume(v), veh/h	4	97	102	248	1028	338	155	0	506	808	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	1585	1824	0	1585	1781	1870	0
Q Serve(g_s), s	0.3	5.3	5.3	15.0	32.3	13.7	8.4	0.0	28.6	26.3	0.0	0.0
Cycle Q Clear(g_c), s	0.3	5.3	5.3	15.0	32.3	13.7	8.4	0.0	28.6	26.3	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.50		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	37	402	422	225	1179	912	440	0	382	867	455	0
V/C Ratio(X)	0.11	0.24	0.24	1.10	0.87	0.37	0.35	0.00	1.32	0.93	0.00	0.00
Avail Cap(c_a), veh/h	451	599	630	225	1198	920	440	0	382	883	464	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	57.0	37.6	37.6	51.8	37.2	13.6	37.3	0.0	45.0	43.9	0.0	0.0
Incr Delay (d2), s/veh	0.9	1.4	1.4	89.6	8.5	0.9	0.7	0.0	163.0	16.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.6	12.3	15.2	8.4	3.9	0.0	28.5	13.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	39.0	38.9	141.4	45.7	14.5	38.0	0.0	208.0	60.2	0.0	0.0
LnGrp LOS	E	D	D	F	D	B	D	A	F	E	A	A
Approach Vol, veh/h		203			1614			661			808	
Approach Delay, s/veh		39.3			53.9			168.1			60.2	
Approach LOS		D			D			F			E	

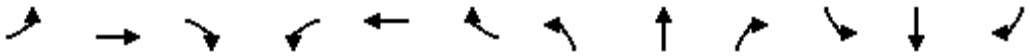
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	32.2		33.5	7.2	44.8		33.2				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		29.4	* 30	40.0		28.6				
Max Q Clear Time (g_c+I1), s	17.0	7.3		28.3	2.3	34.3		30.6				
Green Ext Time (p_c), s	0.0	4.3		0.6	0.0	5.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		77.5
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

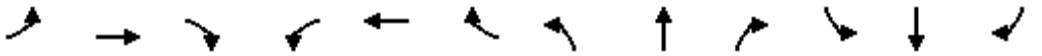
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	3	39	10	2	17	25	991	29	12	817	22
Future Volume (veh/h)	9	3	39	10	2	17	25	991	29	12	817	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	3	43	11	2	19	28	1101	32	13	908	24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	8	110	226	10	86	155	1959	56	143	1989	52
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	280	93	1234	550	110	965	30	3365	97	13	3418	90
Grp Volume(v), veh/h	56	0	0	32	0	0	603	0	558	493	0	452
Grp Sat Flow(s),veh/h/ln	1608	0	0	1625	0	0	1807	0	1685	1835	0	1686
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	0.0	4.2
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.4	0.0	0.0	5.4	0.0	5.7	4.1	0.0	4.2
Prop In Lane	0.18		0.77	0.34		0.59	0.05		0.06	0.03		0.05
Lane Grp Cap(c), veh/h	298	0	0	322	0	0	1189	0	980	1203	0	981
V/C Ratio(X)	0.19	0.00	0.00	0.10	0.00	0.00	0.51	0.00	0.57	0.41	0.00	0.46
Avail Cap(c_a), veh/h	1584	0	0	1569	0	0	1816	0	1601	1845	0	1602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	0.0	11.6	0.0	0.0	3.5	0.0	3.6	3.2	0.0	3.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.5	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.6	0.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	0.0	0.0	11.7	0.0	0.0	3.9	0.0	4.1	3.5	0.0	3.6
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		56			32			1161			945	
Approach Delay, s/veh		12.0			11.7			4.0			3.5	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.4		6.9		20.4		6.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.0		25.0		26.0		25.0				
Max Q Clear Time (g_c+I1), s		7.7		2.8		6.2		2.4				
Green Ext Time (p_c), s		8.3		0.2		6.6		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			4.1									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	923	136	50	859	240	118	66	72	683	116	428
Future Volume (veh/h)	69	923	136	50	859	240	118	66	72	683	116	428
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	72	961	142	52	895	250	96	107	75	797	0	446
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1666	246	67	1885	841	147	154	131	666	0	365
Arrive On Green	0.04	0.54	0.54	0.04	0.53	0.53	0.08	0.08	0.08	0.19	0.00	0.19
Sat Flow, veh/h	1781	3106	459	1781	3554	1585	1781	1870	1585	3563	0	1585
Grp Volume(v), veh/h	72	550	553	52	895	250	96	107	75	797	0	446
Grp Sat Flow(s),veh/h/ln	1781	1777	1788	1781	1777	1585	1781	1870	1585	1781	0	1585
Q Serve(g_s), s	4.6	23.9	23.9	3.3	18.2	10.1	6.0	6.4	5.2	21.5	0.0	21.5
Cycle Q Clear(g_c), s	4.6	23.9	23.9	3.3	18.2	10.1	6.0	6.4	5.2	21.5	0.0	21.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	953	959	67	1885	841	147	154	131	666	0	365
V/C Ratio(X)	0.93	0.58	0.58	0.78	0.47	0.30	0.65	0.69	0.57	1.20	0.00	1.22
Avail Cap(c_a), veh/h	77	953	959	82	1885	841	527	553	469	666	0	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.8	17.9	17.9	54.9	16.9	15.0	51.2	51.3	50.8	46.8	0.0	44.3
Incr Delay (d2), s/veh	72.4	2.2	2.2	30.7	0.9	0.9	4.8	5.5	3.9	102.6	0.0	121.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.7	9.8	2.0	7.2	3.7	2.9	3.2	2.2	18.9	0.0	22.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	127.2	20.1	20.1	85.5	17.8	15.9	56.0	56.8	54.7	149.4	0.0	166.0
LnGrp LOS	F	C	C	F	B	B	E	E	D	F	A	F
Approach Vol, veh/h		1175			1197			278			1243	
Approach Delay, s/veh		26.7			20.4			56.0			155.3	
Approach LOS		C			C			E			F	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		14.0	8.8	66.2		26.0	9.5	65.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.0	5.3	36.2		21.5	5.0	36.5				
Max Q Clear Time (g_c+I1), s		8.4	5.3	25.9		23.5	6.6	20.2				
Green Ext Time (p_c), s		1.1	0.0	4.9		0.0	0.0	6.3				

Intersection Summary	
HCM 6th Ctrl Delay	67.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

2050 BUILDOUT WITH PROJECT WITH IMPROVEMENTS AM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	45	40	40	55	55	90	377	130	115	435	100
Future Volume (veh/h)	30	45	40	40	55	55	90	377	130	115	435	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	49	43	43	60	60	98	410	141	125	473	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	147	129	350	137	137	315	1165	388	357	1204	274
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1272	919	806	1304	858	858	321	2047	682	384	2116	481
Grp Volume(v), veh/h	33	0	92	43	0	120	323	0	326	341	0	366
Grp Sat Flow(s),veh/h/ln	1272	0	1725	1304	0	1716	1471	0	1579	1366	0	1615
Q Serve(g_s), s	0.9	0.0	1.7	1.1	0.0	2.2	0.0	0.0	4.0	0.2	0.0	4.5
Cycle Q Clear(g_c), s	3.1	0.0	1.7	2.7	0.0	2.2	3.2	0.0	4.0	4.2	0.0	4.5
Prop In Lane	1.00		0.47	1.00		0.50	0.30		0.43	0.37		0.30
Lane Grp Cap(c), veh/h	326	0	275	350	0	274	970	0	899	916	0	920
V/C Ratio(X)	0.10	0.00	0.33	0.12	0.00	0.44	0.33	0.00	0.36	0.37	0.00	0.40
Avail Cap(c_a), veh/h	1201	0	1462	1247	0	1454	1731	0	1785	1648	0	1826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	13.2	14.4	0.0	13.4	4.0	0.0	4.1	4.0	0.0	4.2
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.2	0.0	1.1	0.7	0.0	0.9	0.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.6	0.3	0.0	0.8	0.8	0.0	0.9	0.9	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	0.0	13.9	14.6	0.0	14.5	4.7	0.0	5.0	4.9	0.0	5.3
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		125			163			649			707	
Approach Delay, s/veh		14.2			14.6			4.9			5.1	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.1		10.2		25.1		10.2				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		30.0		40.0		30.0				
Max Q Clear Time (g_c+I1), s		6.0		5.1		6.5		4.7				
Green Ext Time (p_c), s		12.5		0.6		13.7		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	152	60	245	624	305	50	105	275	285	100	45
Future Volume (veh/h)	35	152	60	245	624	305	50	105	275	285	100	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	165	65	266	678	332	54	114	299	234	215	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	720	273	247	1060	750	132	278	353	311	257	59
Arrive On Green	0.13	0.29	0.29	0.14	0.30	0.30	0.22	0.22	0.22	0.17	0.17	0.17
Sat Flow, veh/h	1781	2520	955	1781	3554	1585	592	1249	1585	1781	1474	336
Grp Volume(v), veh/h	38	114	116	266	678	332	168	0	299	234	0	264
Grp Sat Flow(s),veh/h/ln	1781	1777	1698	1781	1777	1585	1841	0	1585	1781	0	1810
Q Serve(g_s), s	2.1	5.3	5.6	15.0	17.9	15.1	8.4	0.0	19.6	13.5	0.0	15.3
Cycle Q Clear(g_c), s	2.1	5.3	5.6	15.0	17.9	15.1	8.4	0.0	19.6	13.5	0.0	15.3
Prop In Lane	1.00		0.56	1.00		1.00	0.32		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	224	508	485	247	1060	750	410	0	353	311	0	316
V/C Ratio(X)	0.17	0.23	0.24	1.08	0.64	0.44	0.41	0.00	0.85	0.75	0.00	0.84
Avail Cap(c_a), veh/h	494	657	628	247	1313	863	595	0	513	378	0	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.3	29.5	29.6	46.6	32.9	19.0	36.0	0.0	40.3	42.4	0.0	43.2
Incr Delay (d2), s/veh	0.3	1.0	1.2	79.4	2.4	1.5	0.9	0.0	10.3	7.7	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.4	2.5	12.0	8.0	8.0	3.9	0.0	8.6	6.6	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	30.6	30.8	126.1	35.3	20.5	36.9	0.0	50.6	50.2	0.0	56.9
LnGrp LOS	D	C	C	F	D	C	D	A	D	D	A	E
Approach Vol, veh/h		268			1276			467			498	
Approach Delay, s/veh		32.4			50.4			45.7			53.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.7	36.3		23.5	18.3	37.7		28.7				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 15	40.0		23.0	* 30	40.0		35.0				
Max Q Clear Time (g_c+I1), s	17.0	7.6		17.3	4.1	19.9		21.6				
Green Ext Time (p_c), s	0.0	5.1		1.6	0.0	12.4		2.6				

Intersection Summary												
HCM 6th Ctrl Delay			48.2									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

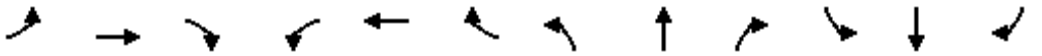
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	33	12	490	649	44
Future Vol, veh/h	0	33	12	490	649	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	36	13	533	705	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	377	753	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	621	853	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	621	853	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	853	-	621	-	-
HCM Lane V/C Ratio	0.015	-	0.058	-	-
HCM Control Delay (s)	9.3	0.1	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th Signalized Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	43	95	50	19	10	90	357	50	78	548	86
Future Volume (veh/h)	75	43	95	50	19	10	90	357	50	78	548	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	47	103	54	21	11	98	388	54	85	596	93
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	411	91	200	306	202	106	337	1235	175	246	1512	228
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1377	522	1143	1237	1156	605	358	2164	307	229	2650	400
Grp Volume(v), veh/h	82	0	150	54	0	32	250	0	290	395	0	379
Grp Sat Flow(s),veh/h/ln	1377	0	1665	1237	0	1761	1182	0	1647	1648	0	1630
Q Serve(g_s), s	2.0	0.0	3.1	1.6	0.0	0.6	0.5	0.0	3.5	0.0	0.0	4.9
Cycle Q Clear(g_c), s	2.6	0.0	3.1	4.6	0.0	0.6	5.4	0.0	3.5	4.3	0.0	4.9
Prop In Lane	1.00		0.69	1.00		0.34	0.39		0.19	0.22		0.25
Lane Grp Cap(c), veh/h	411	0	291	306	0	308	807	0	940	1056	0	930
V/C Ratio(X)	0.20	0.00	0.51	0.18	0.00	0.10	0.31	0.00	0.31	0.37	0.00	0.41
Avail Cap(c_a), veh/h	900	0	882	745	0	933	1387	0	1745	1813	0	1728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	14.1	16.2	0.0	13.1	4.1	0.0	4.2	4.4	0.0	4.5
Incr Delay (d2), s/veh	0.2	0.0	1.4	0.3	0.0	0.1	0.8	0.0	0.7	0.8	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.1	0.4	0.0	0.2	0.7	0.0	0.8	1.2	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	0.0	15.5	16.5	0.0	13.2	4.9	0.0	4.9	5.2	0.0	5.6
LnGrp LOS	B	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		232			86			540			774	
Approach Delay, s/veh		15.1			15.3			4.9			5.4	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.5		11.2		26.5		11.2				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		7.4		5.1		6.9		6.6				
Green Ext Time (p_c), s		10.1		0.9		14.6		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	5	18	20	5	15	16	472	25	15	632	10
Future Volume (veh/h)	15	5	18	20	5	15	16	472	25	15	632	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	5	20	22	5	16	17	513	27	16	687	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	18	73	341	17	54	203	1532	80	196	1611	26
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	626	195	782	805	183	585	36	3281	170	27	3449	55
Grp Volume(v), veh/h	41	0	0	43	0	0	292	0	265	374	0	340
Grp Sat Flow(s),veh/h/ln	1603	0	0	1573	0	0	1816	0	1671	1839	0	1692
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	2.7
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.5	0.0	0.0	2.0	0.0	2.1	2.7	0.0	2.7
Prop In Lane	0.39		0.49	0.51		0.37	0.06		0.10	0.04		0.03
Lane Grp Cap(c), veh/h	394	0	0	412	0	0	1034	0	781	1042	0	790
V/C Ratio(X)	0.10	0.00	0.00	0.10	0.00	0.00	0.28	0.00	0.34	0.36	0.00	0.43
Avail Cap(c_a), veh/h	2123	0	0	2109	0	0	2418	0	2125	2476	0	2152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.6	0.0	0.0	8.6	0.0	0.0	3.4	0.0	3.5	3.6	0.0	3.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.2	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	0.0	0.0	8.7	0.0	0.0	3.6	0.0	3.7	3.8	0.0	4.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		41			43			557			714	
Approach Delay, s/veh		8.7			8.7			3.6			3.9	
Approach LOS		A			A			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.0		6.4		14.0		6.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.0		25.0		26.0		25.0				
Max Q Clear Time (g_c+I1), s		4.1		2.4		4.7		2.5				
Green Ext Time (p_c), s		3.7		0.1		4.8		0.2				

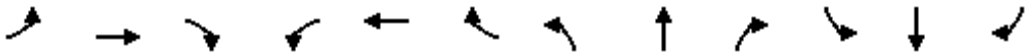
Intersection Summary												
HCM 6th Ctrl Delay			4.1									
HCM 6th LOS			A									

2050 BUILDOUT WITH PROJECT WITH IMPROVEMENTS PM PEAK HOUR

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	90	60	50	85	95	165	789	205	200	1004	215
Future Volume (veh/h)	60	90	60	50	85	95	165	789	205	200	1004	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	98	65	54	92	103	179	858	223	217	1091	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	204	135	237	157	175	138	967	296	187	1078	270
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	1188	1049	696	1223	806	902	100	1441	441	176	1606	402
Grp Volume(v), veh/h	65	0	163	54	0	195	440	0	820	595	0	947
Grp Sat Flow(s),veh/h/ln	1188	0	1745	1223	0	1708	360	0	1623	555	0	1630
Q Serve(g_s), s	3.8	0.0	5.9	2.9	0.0	7.4	15.4	0.0	24.0	24.0	0.0	32.6
Cycle Q Clear(g_c), s	11.2	0.0	5.9	8.9	0.0	7.4	48.0	0.0	24.0	48.0	0.0	32.6
Prop In Lane	1.00		0.40	1.00		0.53	0.41		0.27	0.36		0.25
Lane Grp Cap(c), veh/h	208	0	339	237	0	332	312	0	1089	441	0	1094
V/C Ratio(X)	0.31	0.00	0.48	0.23	0.00	0.59	1.41	0.00	0.75	1.35	0.00	0.87
Avail Cap(c_a), veh/h	343	0	537	375	0	526	312	0	1089	441	0	1094
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.3	0.0	25.6	29.5	0.0	26.2	20.3	0.0	7.8	21.7	0.0	9.2
Incr Delay (d2), s/veh	0.8	0.0	1.1	0.5	0.0	1.7	201.9	0.0	4.3	171.0	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	2.5	0.9	0.0	3.0	21.3	0.0	7.7	28.5	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	0.0	26.6	30.0	0.0	27.8	222.2	0.0	12.1	192.7	0.0	18.0
LnGrp LOS	C	A	C	C	A	C	F	A	B	F	A	B
Approach Vol, veh/h		228			249			1260			1542	
Approach Delay, s/veh		28.2			28.3			85.5			85.4	
Approach LOS		C			C			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.0		18.5		53.0		18.5				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		48.0		22.0		48.0		22.0				
Max Q Clear Time (g_c+I1), s		50.0		13.2		50.0		10.9				
Green Ext Time (p_c), s		0.0		0.7		0.0		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			77.1									
HCM 6th LOS			E									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	190	65	260	710	350	75	115	532	690	140	90
Future Volume (veh/h)	25	190	65	260	710	350	75	115	532	690	140	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	207	71	283	772	380	82	125	578	500	502	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	500	166	306	806	844	146	223	319	544	464	91
Arrive On Green	0.14	0.19	0.19	0.17	0.23	0.23	0.20	0.20	0.20	0.31	0.31	0.31
Sat Flow, veh/h	1781	2618	872	1781	3554	1585	727	1108	1585	1781	1520	297
Grp Volume(v), veh/h	27	138	140	283	772	380	207	0	578	500	0	600
Grp Sat Flow(s),veh/h/ln	1781	1777	1713	1781	1777	1585	1834	0	1585	1781	0	1817
Q Serve(g_s), s	2.0	10.1	10.6	23.0	31.6	21.7	15.0	0.0	29.6	39.9	0.0	45.0
Cycle Q Clear(g_c), s	2.0	10.1	10.6	23.0	31.6	21.7	15.0	0.0	29.6	39.9	0.0	45.0
Prop In Lane	1.00		0.51	1.00		1.00	0.40		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	242	339	327	306	806	844	369	0	319	544	0	555
V/C Ratio(X)	0.11	0.41	0.43	0.93	0.96	0.45	0.56	0.00	1.81	0.92	0.00	1.08
Avail Cap(c_a), veh/h	242	339	327	348	806	844	369	0	319	544	0	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.9	52.3	52.5	60.1	56.3	21.2	53.0	0.0	58.9	49.4	0.0	51.2
Incr Delay (d2), s/veh	0.1	3.6	4.0	27.5	22.7	1.4	2.4	0.0	378.8	21.1	0.0	61.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.9	5.0	12.8	16.7	14.7	7.3	0.0	45.5	21.1	0.0	30.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	55.9	56.5	87.6	79.0	22.6	55.4	0.0	437.6	70.5	0.0	113.1
LnGrp LOS	E	E	E	F	E	C	E	A	F	E	A	F
Approach Vol, veh/h		305			1435			785			1100	
Approach Delay, s/veh		56.2			65.8			336.8			93.7	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	33.5		49.6	24.7	38.8		34.2				
Change Period (Y+Rc), s	* 4.7	5.4		4.6	* 4.7	5.4		4.6				
Max Green Setting (Gmax), s	* 29	24.6		45.0	* 20	33.4		29.6				
Max Q Clear Time (g_c+I1), s	25.0	12.6		47.0	4.0	33.6		31.6				
Green Ext Time (p_c), s	0.2	3.5		0.0	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	132.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

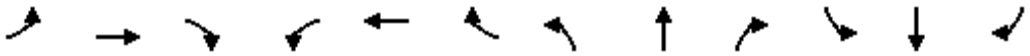
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	24	20	1022	1128	59
Future Vol, veh/h	0	24	20	1022	1128	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	26	22	1111	1226	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	645	1290	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	415	533	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	415	533	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	533	-	415	-	-
HCM Lane V/C Ratio	0.041	-	0.063	-	-
HCM Control Delay (s)	12	0.6	14.3	-	-
HCM Lane LOS	B	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	116	178	100	71	35	179	806	115	125	973	151
Future Volume (veh/h)	126	116	178	100	71	35	179	806	115	125	973	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	126	193	109	77	38	195	876	125	136	1058	164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	407	191	293	232	340	168	148	936	152	118	1053	202
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1277	666	1020	1061	1182	583	126	1629	265	95	1832	351
Grp Volume(v), veh/h	137	0	319	109	0	115	415	0	781	593	0	765
Grp Sat Flow(s),veh/h/ln	1277	0	1687	1061	0	1765	365	0	1654	639	0	1639
Q Serve(g_s), s	6.4	0.0	11.6	7.0	0.0	3.5	14.1	0.0	26.5	13.5	0.0	25.9
Cycle Q Clear(g_c), s	9.8	0.0	11.6	18.6	0.0	3.5	40.0	0.0	26.5	40.0	0.0	25.9
Prop In Lane	1.00		0.61	1.00		0.33	0.47		0.16	0.23		0.21
Lane Grp Cap(c), veh/h	407	0	485	232	0	507	286	0	951	431	0	942
V/C Ratio(X)	0.34	0.00	0.66	0.47	0.00	0.23	1.45	0.00	0.82	1.38	0.00	0.81
Avail Cap(c_a), veh/h	407	0	485	232	0	507	286	0	951	431	0	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	21.8	30.0	0.0	18.9	23.4	0.0	11.9	19.7	0.0	11.8
Incr Delay (d2), s/veh	0.5	0.0	3.2	1.5	0.0	0.2	221.8	0.0	7.4	182.9	0.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	4.7	1.8	0.0	1.4	22.4	0.0	10.1	29.1	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	0.0	25.0	31.4	0.0	19.1	245.2	0.0	19.3	202.6	0.0	18.8
LnGrp LOS	C	A	C	C	A	B	F	A	B	F	A	B
Approach Vol, veh/h		456			224			1196			1358	
Approach Delay, s/veh		24.5			25.1			97.7			99.1	
Approach LOS		C			C			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		24.6		45.0		24.6				
Change Period (Y+Rc), s		5.0		4.6		5.0		4.6				
Max Green Setting (Gmax), s		40.0		20.0		40.0		20.0				
Max Q Clear Time (g_c+I1), s		42.0		13.6		42.0		20.6				
Green Ext Time (p_c), s		0.0		1.3		0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			82.9									
HCM 6th LOS			F									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	5	33	10	5	15	25	987	30	15	1026	25
Future Volume (veh/h)	13	5	33	10	5	15	25	987	30	15	1026	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	5	36	11	5	16	27	1073	33	16	1115	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	13	93	228	23	73	155	1941	59	144	1987	48
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	409	146	1051	561	259	820	28	3345	102	14	3424	82
Grp Volume(v), veh/h	55	0	0	32	0	0	586	0	547	604	0	554
Grp Sat Flow(s),veh/h/ln	1605	0	0	1640	0	0	1791	0	1684	1833	0	1687
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	5.6
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.4	0.0	0.0	5.2	0.0	5.5	5.4	0.0	5.6
Prop In Lane	0.25		0.65	0.34		0.50	0.05		0.06	0.03		0.05
Lane Grp Cap(c), veh/h	308	0	0	323	0	0	1178	0	977	1200	0	979
V/C Ratio(X)	0.18	0.00	0.00	0.10	0.00	0.00	0.50	0.00	0.56	0.50	0.00	0.57
Avail Cap(c_a), veh/h	1598	0	0	1601	0	0	1801	0	1610	1857	0	1614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	0.0	11.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0	3.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.5	0.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.6	0.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	0.0	11.6	0.0	0.0	3.8	0.0	4.1	3.9	0.0	4.1
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		55			32			1133			1158	
Approach Delay, s/veh		11.9			11.6			3.9			4.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	20.3	6.9	20.3	6.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	26.0	25.0	26.0	25.0
Max Q Clear Time (g_c+I1), s	7.5	2.8	7.6	2.4
Green Ext Time (p_c), s	8.1	0.2	8.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	4.2
HCM 6th LOS	A

Appendix E – Cumulative Project Trips

Project/Land Use	Amount		Trip Rate	ADT	AM Peak Hour						PM Peak Hour					
					Peak %	Volume	In %	Out %	Vol. In	Vol. Out	Peak %	Volume	In %	Out %	Vol. In	Vol. Out
Alta Oceanside																
Apartments	309	DU	6	1,854	8%	148	20%	80%	30	118	9%	167	70%	30%	117	50
Specialty Retail/Strip Commercial	8.5	TSF	40	340	3%	10	60%	40%	6	4	9%	31	50%	50%	16	16
Internal Cap/Diverted/Pass-by				***-187***		***-6***	60%	40%	-4	-2		***-17***	50%	50%	-9	-9
Total				2,007		152			32	120		181			124	57
Breeze Luxury Apartments																
Apartments	146	DU	6	876	8%	70	20%	80%	14	56	9%	79	70%	30%	55	24
Total				876		70			14	56		79			55	24
1602 S. Coast Hwy																
Condominiums	54	DU	8	432	8%	35	20%	80%	7	28	10%	43	70%	30%	30	13
Specialty Retail/Strip Commercial	3.2	TSF	40	128	3%	4	60%	40%	2	2	9%	12	50%	50%	6	6
Internal Cap/Diverted/Pass-by				***-70***		***-2***	60%	40%	-1	-1		***-7***	50%	50%	-4	-4
Total				490		37			8	29		48			32	15
Sunsets 3.0																
Apartments	180	DU	6	1,080	8%	86	20%	80%	17	69	9%	97	70%	30%	68	29
Specialty Retail/Strip Commercial	5	TSF	40	200	3%	6	60%	40%	4	2	9%	18	50%	50%	9	9
Internal Cap/Diverted/Pass-by				***-110***		***-3***	60%	40%	-2	-1		***-10***	50%	50%	-5	-5
Total				1,170		89			19	70		105			72	33
901 Pier View																
Apartments	64	DU	6	384	8%	31	20%	80%	6	25	9%	35	70%	30%	25	11
Specialty Retail/Strip Commercial	2.5	TSF	40	100	3%	3	60%	40%	2	1	9%	9	50%	50%	5	5
Internal Cap/Diverted/Pass-by				***-55***		***-2***	60%	40%	-1	-1		***-5***	50%	50%	-3	-3
Total				429		32			7	25		39			27	13
712 Seagaze																
Apartments	115	DU	6	690	8%	55	20%	80%	11	44	9%	62	70%	30%	43	19
Hotel	64	Room	7	448	8%	36	40%	60%	14	22	9%	40	60%	40%	24	16
Total				1,138		91			25	66		102			67	35
Modera Melrose																
Apartments	360	DU	6	2,160	8%	173	20%	80%	35	138	9%	194	70%	30%	136	58
Hotel	62	Room	7	434	8%	35	40%	60%	14	21	9%	39	60%	40%	23	16
Total				2,594		208			49	159		233			159	74
401 Mission																
Net New Trips per Traffic Study	MXD			827		196			46	149		58			74	-15
810 Mission																
Net New Trips per Traffic Study	206	DU		823		46			-23	69		68			69	-1
1011 S. Tremont Street																
Condominiums	20	DU	8	160	8%	13	20%	80%	3	10	10%	16	70%	30%	11	5
Total				160		13			3	10		16			11	5
1128 S. Myers																
Condominiums	6	DU	8	48	8%	4	20%	80%	1	3	10%	5	70%	30%	4	2
Total				48		4			1	3		5			4	2
920 S. Cleveland																
Condominiums	3	DU	8	24	8%	2	20%	80%	0	2	10%	2	70%	30%	1	1
Total				24		2			0	2		2			1	1
1105 S. Cleveland																
Condominiums	14	DU	8	112	8%	9	20%	80%	2	7	10%	11	70%	30%	8	3
Total				112		9			2	7		11			8	3
802 S. Pacific																
Condominiums	10	DU	8	80	8%	6	20%	80%	1	5	10%	8	70%	30%	6	2
Hotel	3	Room	7	21	8%	2	40%	60%	1	1	9%	2	60%	40%	1	1
Specialty Retail/Strip Commercial	1	TSF	40	40	3%	1	60%	40%	1	0	9%	4	50%	50%	2	2
Internal Cap/Diverted/Pass-by				***-22***		***-1***	60%	40%	-1	0		***-2***	50%	50%	-1	-1
Total				119		8			2	6		12			8	4
146 S. Myers																
Condominiums	4	DU	8	32	8%	3	20%	80%	1	2	10%	3	70%	30%	2	1
Total				32		3			1	2		3			2	1
513 N. Freeman																
Condominiums	5	DU	8	40	8%	3	20%	80%	1	2	10%	4	70%	30%	3	1
Total				40		3			1	2		4			3	1
701-713 N. Freeman																
Apartments	24	DU	6	144	8%	12	20%	80%	2	10	9%	13	70%	30%	9	4
Total				144		12			2	10		13			9	4
Marriott Residence Inn																
Hotel	117	Room	7	819	8%	66	40%	60%	26	40	9%	74	60%	40%	44	30
Restaurant	3.5	TSF	100	350	1%	4	60%	40%	2	2	8%	28	70%	30%	20	8
Internal Cap/Diverted/Pass-by				***-263***		***-3***	60%	40%	-2	-1		***-21***	70%	30%	-15	-6
Total				906		67			26	41		81			49	32
Starbucks 801 N. Coast Hwy																
Coffee Shop w/Drive Through	1.1	TSF	533	586	16%	94	51%	49%	48	46	7%	41	49%	51%	20	21
Internal Cap/Diverted/Pass-by				***-293***		***-47***	51%	49%	-24	-23		***-21***	49%	51%	-10	-11
Total				293		47			24	23		20			10	10

XX Study intersection

I-5 FREEWAY

Project Site

SR 76

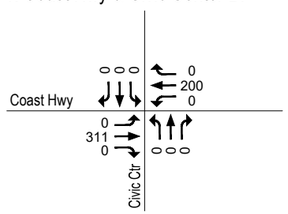
Sportfisher | Mission | Center | Division | Vine | Brooks | Garfield | Grant | N Wisconsin | Shafer | Moreno | Laguna | California | Stewart | Lincoln

Horne | Clementine | Nevada | Ditmar | Freeman | Cleveland | Tremont | Meyers | Pacific | Coast Hwy | Broadway | Alvarado

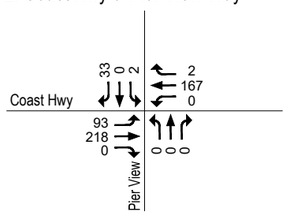
Topeka | Civic Center | Pier View | Surfrider | Seagaze | Michigan | Missouri | Washington | Minnesota | Wisconsin | Alberta | Leonard | West | Stanley | Eucalyptus | Oceanside | Godfrey | Neptune | Windward | Morse | Whaley | Cassidy | Kelly | Vista

AT & SF RR

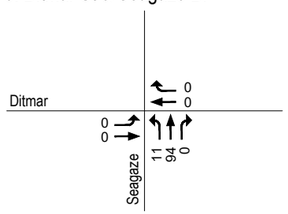
1. Coast Hwy & Civic Center Dr



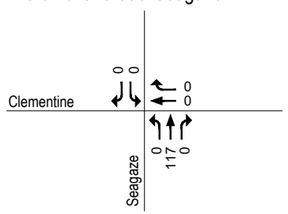
2. Coast Hwy & Pier View Way



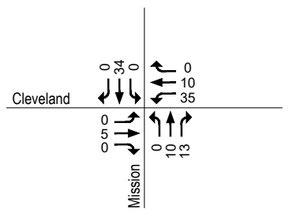
3. Ditmar St & Seagaze Dr



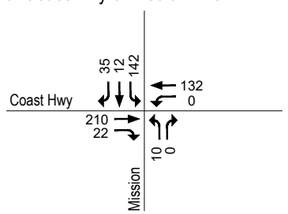
4. Clementine St & Seagaze Dr



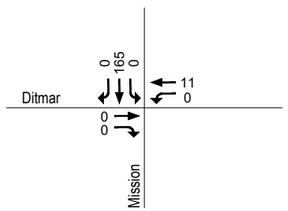
5. Cleveland St & Mission Ave



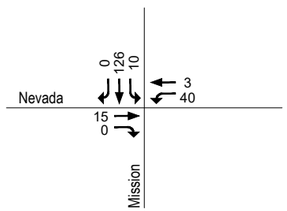
6. Coast Hwy & Mission Ave



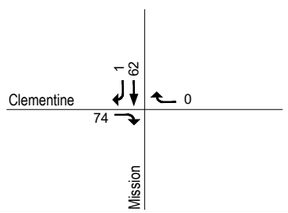
7. Ditmar St & Mission Ave



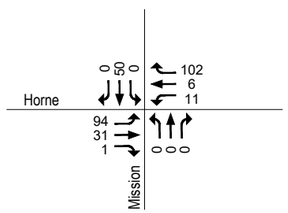
8. Nevada St & Mission Ave



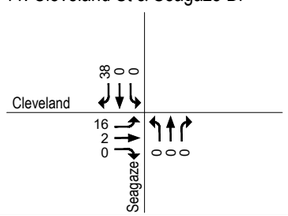
9. Clementine St & Mission Ave



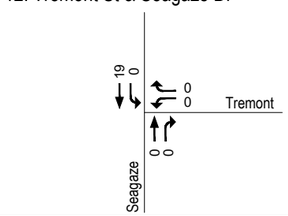
10. Horne St & Mission Ave



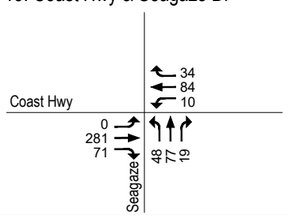
11. Cleveland St & Seagaze Dr



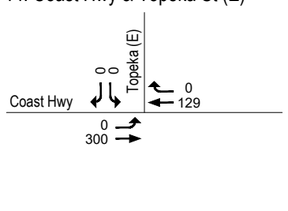
12. Tremont St & Seagaze Dr



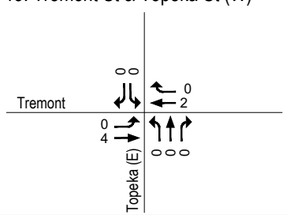
13. Coast Hwy & Seagaze Dr



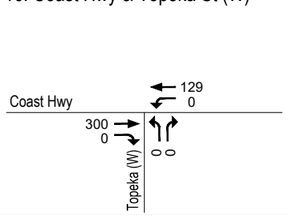
14. Coast Hwy & Topeka St (E)



15. Tremont St & Topeka St (W)

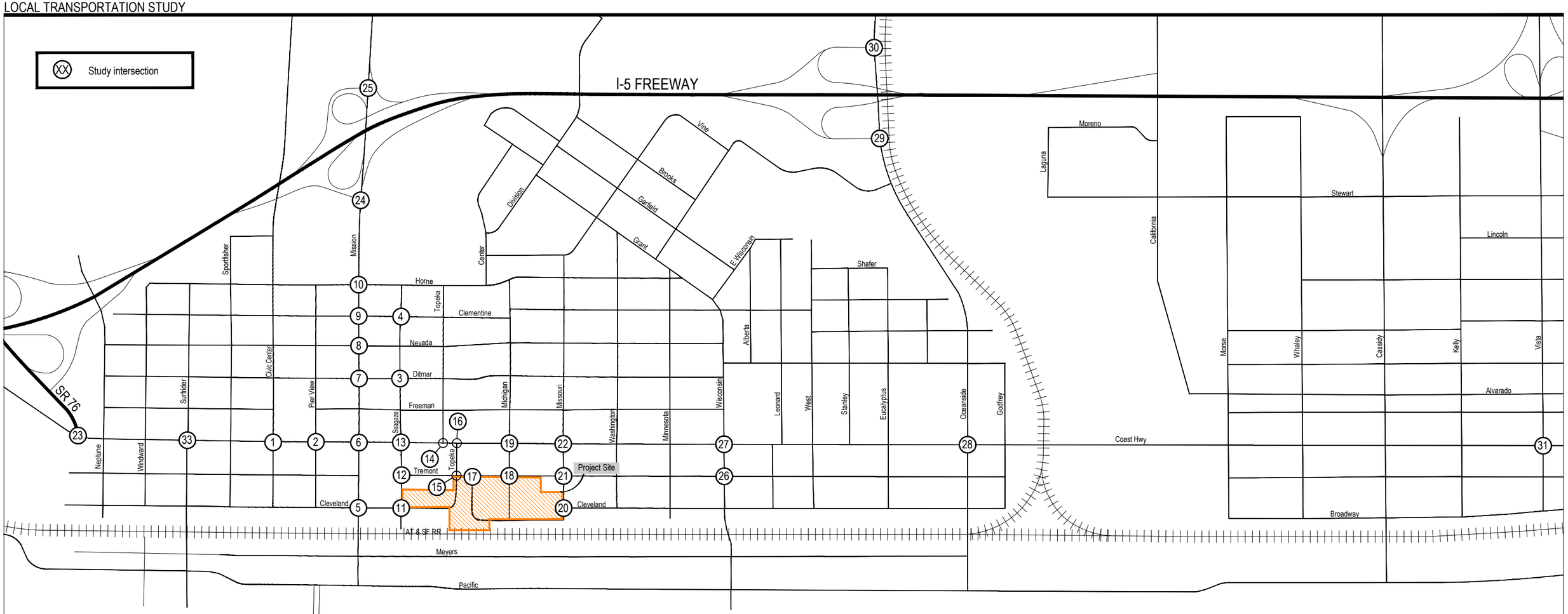


16. Coast Hwy & Topeka St (W)

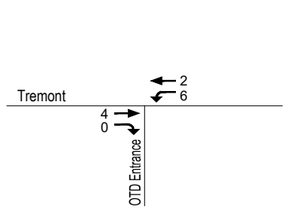


\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

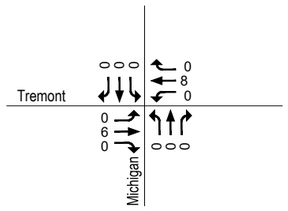
Figure E-1
Cumulative Projects Only AM Peak Hour Intersection Volumes (1 of 2)



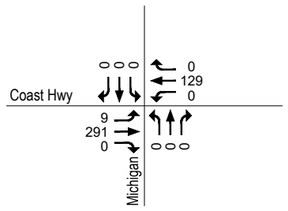
17. Tremont St & OTD Entrance



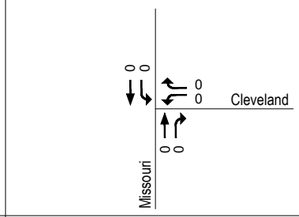
18. Tremont St & Michigan Ave



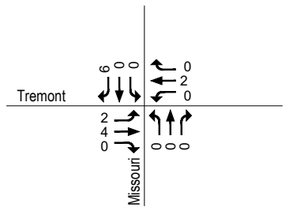
19. Coast Hwy & Michigan St



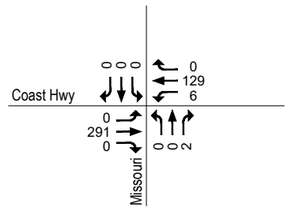
20. Cleveland St & Missouri Ave



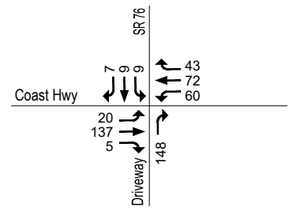
21. Tremont St & Missouri Ave



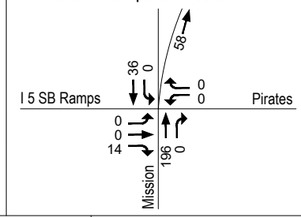
22. Coast Hwy & Missouri Ave



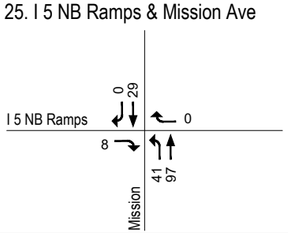
23. Coast Hwy & SR 76



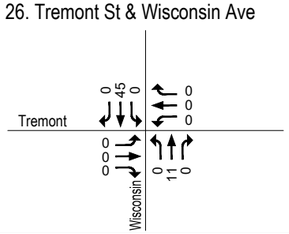
24. I 5 SB Ramps & Mission Ave



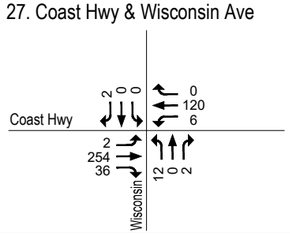
25. I 5 NB Ramps & Mission Ave



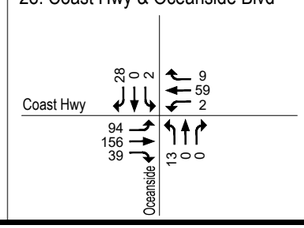
26. Tremont St & Wisconsin Ave



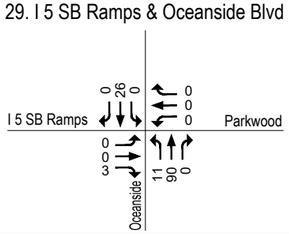
27. Coast Hwy & Wisconsin Ave



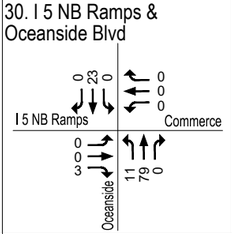
28. Coast Hwy & Oceanside Blvd



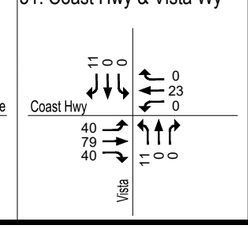
29. I 5 SB Ramps & Oceanside Blvd



30. I 5 NB Ramps & Oceanside Blvd



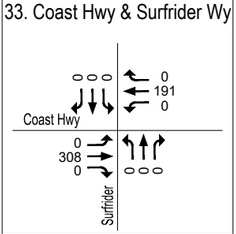
31. Coast Hwy & Vista Wy



32. Cleveland St & Topeka St (W)

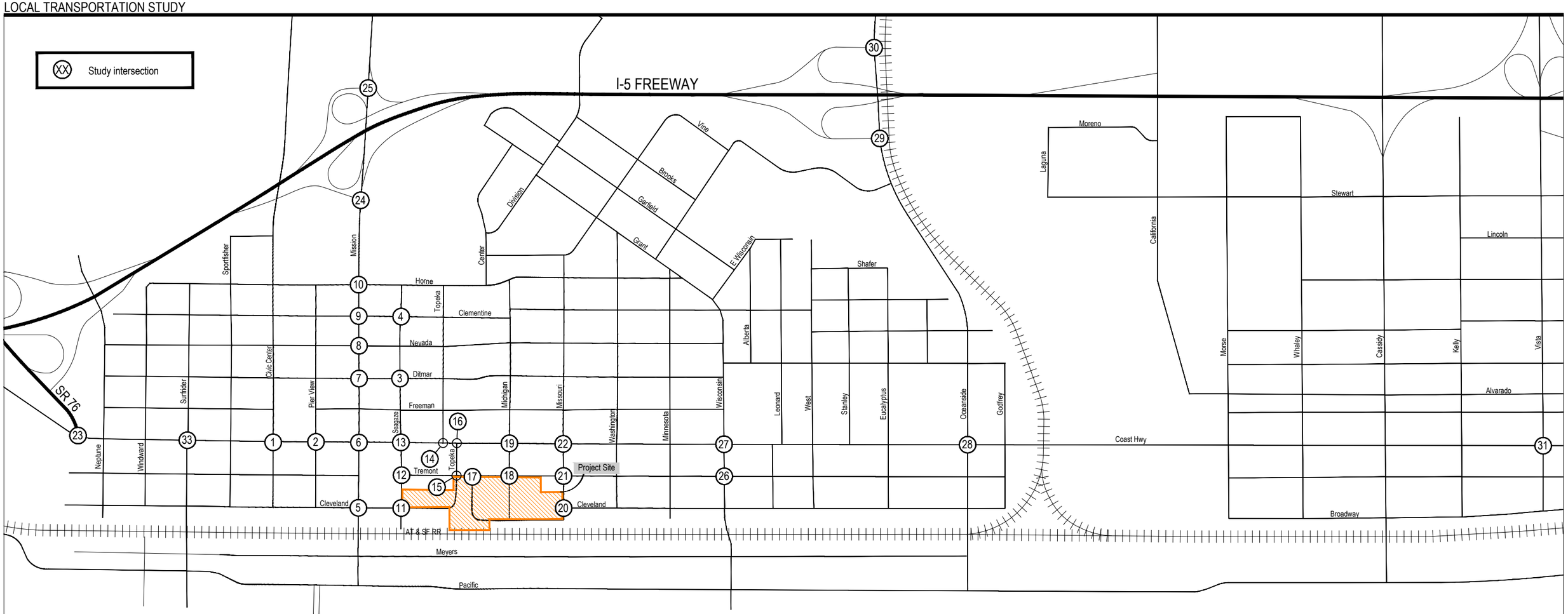
FUTURE INTERSECTION WITH PROJECT

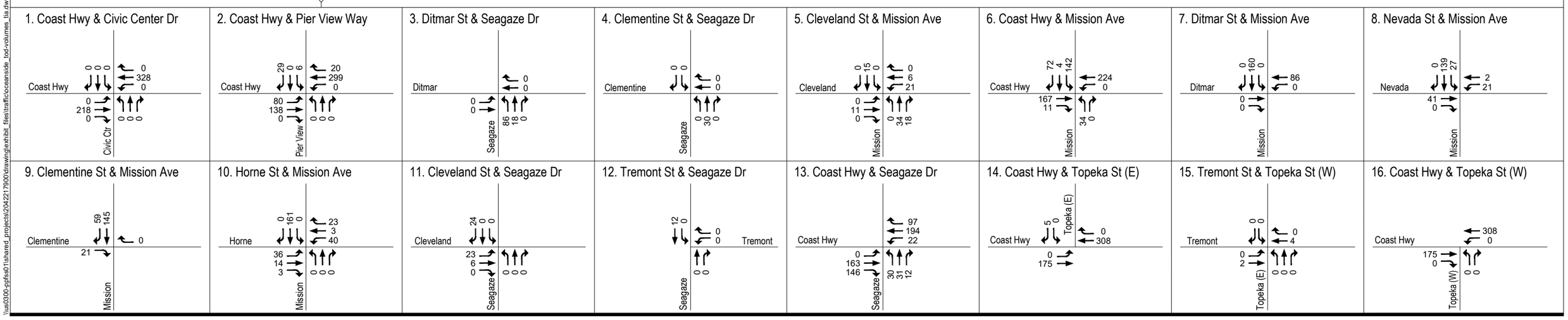
33. Coast Hwy & Surfrider Wy



\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

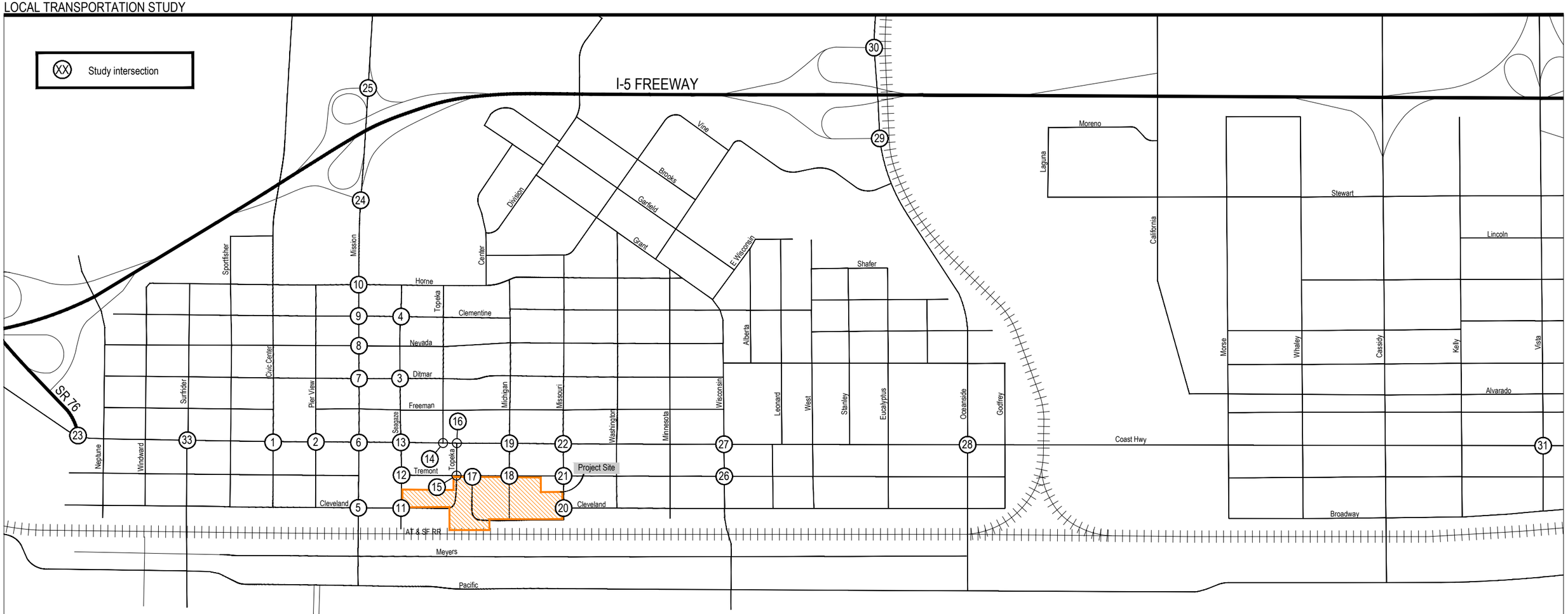
Figure E-2
Cumulative Projects Only AM Peak Hour Intersection Volumes (2 of 2)

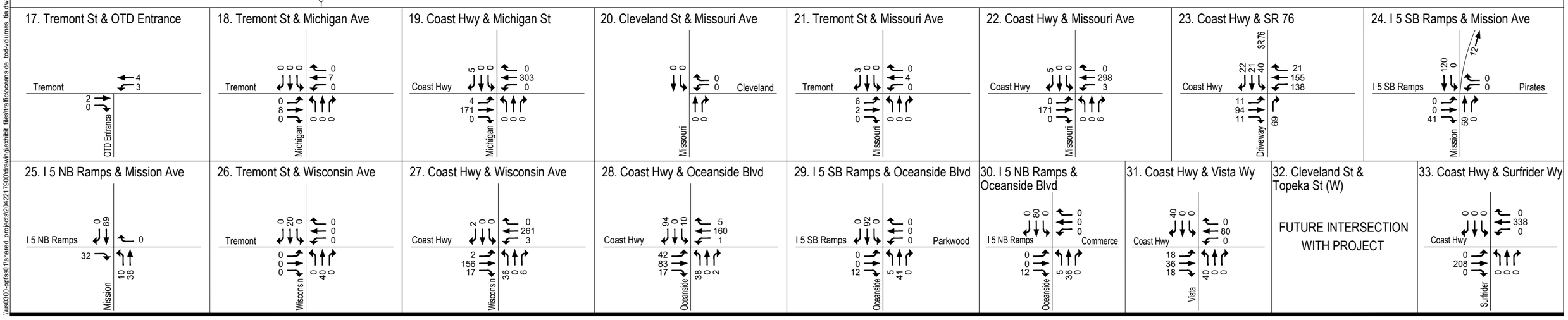




\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure E-3
Cumulative Projects Only PM Peak Hour Intersection Volumes (1 of 2)





\\us0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\traffic\oceanside_tod-volumes_tia.dwg

Figure E-4
Cumulative Projects Only PM Peak Hour Intersection Volumes (2 of 2)

Appendix F – Fair-Share Calculations

Roadway Segment Fair-Shares - Near Term Cumulative Conditions (Year 2030) (Based on ADT Volumes)						
Location	**Project Volume**	**Existing Conditions**	**Cumulative Projects**	**Year 2030**	**Cumulative + Project**	**Fair-Share Percentage**
1. Mission btwn Horne & Clementine	810	11,300	1,890	15,000	2,700	30.0%
2. Mission btwn Nevada & Ditmar	560	9,500	1,640	12,500	2,200	25.5%
3. Mission btwn Freeman & Coast Hwy	560	11,300	2,140	15,000	2,700	20.7%
4. Mission btwn Coast Hwy & Tremont	0	15,000	500	16,700	500	0.0%
5. Mission btwn Tremont & Cleveland	250	13,400	550	15,300	800	31.3%
6. Mission btwn Cleveland & Meyers	190	10,200	810	12,100	1,000	19.0%
7. Seagaze btwn Clementine & Nevada	530	5,600	170	6,800	700	75.7%
8. Seagaze btwn Freeman & Coast Hwy	560	5,500	1,240	7,800	1,800	31.1%
9. Seagaze btwn Coast Hwy & Tremont	2,130	7,200	1,370	11,300	3,500	60.9%
10. Seagaze btwn Tremont & Cleveland	970	6,900	430	8,900	1,400	69.3%
11. Coast Hwy btwn Civic Center & Pier View	1,440	16,400	5,360	24,600	6,800	21.2%
12. Coast Hwy btwn Pier View & Mission	1,690	16,700	5,010	24,800	6,700	25.2%
13. Coast Hwy btwn Mission & Seagaze	2,250	21,400	5,250	30,700	7,500	30.0%
14. Coast Hwy btwn Topeka & Michigan	380	17,800	4,820	24,500	5,200	7.3%
15. Coast Hwy btwn Missouri & Washington	1,690	17,200	4,710	25,000	6,400	26.4%
16. Tremont btwn Seagaze & Topeka	1,380	1,500	20	3,100	1,400	98.6%
17. Tremont btwn Michigan & Missouri	1,250	1,000	150	2,500	1,400	89.3%
18. Tremont btwn Missouri & Washington	1,060	1,200	140	2,500	1,200	88.3%
19. Topeka btwn Tremont & Coast Hwy	530	1,000	0	1,600	530	100.0%
20. Michigan btwn Freeman & Coast Hwy	130	1,400	0	1,700	130	100.0%
21. Michigan btwn Coast Hwy & Tremont	1,500	1,900	0	3,600	1,500	100.0%
22. Missouri btwn Coast Hwy & Tremont	530	900	70	1,600	600	88.3%
23. Cleveland btwn Pier View & Mission	130	1,800	70	2,200	200	65.0%
24. Cleveland btwn Missouri Ave & Washington	0	200	0	200	0	0.0%
25. Pier View btwn Horne & Clementine	190	500	1,310	2,100	1,500	12.7%
26. Pier View btwn Clementine & Ditmar	190	1,200	1,510	3,000	1,700	11.2%
27. Pier View btwn Ditmar & Coast Highway	250	1,200	1,350	2,900	1,600	15.6%

Roadway Segment Fair-Shares - Buildout Conditions (Year 2050) (Based on ADT Volumes)					
Location	**Project Volume**	**Existing Conditions**	**Year 2050**	**Total Growth**	**Fair-Share Percentage**
1. Mission btwn Horne & Clementine	810	11,300	15,200	3,900	20.8%
2. Mission btwn Nevada & Ditmar	560	9,500	12,600	3,100	18.1%
3. Mission btwn Freeman & Coast Hwy	560	11,300	17,400	6,100	9.2%
4. Mission btwn Coast Hwy & Tremont	0	15,000	16,800	1,800	0.0%
5. Mission btwn Tremont & Cleveland	250	13,400	15,400	2,000	12.5%
6. Mission btwn Cleveland & Meyers	190	10,200	12,200	2,000	9.5%
7. Seagaze btwn Clementine & Nevada	530	5,600	7,100	1,500	35.3%
8. Seagaze btwn Freeman & Coast Hwy	560	5,500	7,900	2,400	23.3%
9. Seagaze btwn Coast Hwy & Tremont	2,130	7,200	11,400	4,200	50.7%
10. Seagaze btwn Tremont & Cleveland	970	6,900	9,900	3,000	32.3%
11. Coast Hwy btwn Civic Center & Pier View	1,440	16,400	25,900	9,500	15.2%
12. Coast Hwy btwn Pier View & Mission	1,690	16,700	27,800	11,100	15.2%
13. Coast Hwy btwn Mission & Seagaze	2,250	21,400	30,800	9,400	23.9%
14. Coast Hwy btwn Topeka & Michigan	380	17,800	24,700	6,900	5.5%
15. Coast Hwy btwn Missouri & Washington	1,690	17,200	25,300	8,100	20.9%
16. Tremont btwn Seagaze & Topeka	1,380	1,500	3,300	1,800	76.7%
17. Tremont btwn Michigan & Missouri	1,250	1,000	2,600	1,600	78.1%
18. Tremont btwn Missouri & Washington	1,060	1,200	2,600	1,400	75.7%
19. Topeka btwn Tremont & Coast Hwy	530	1,000	1,800	800	66.3%
20. Michigan btwn Freeman & Coast Hwy	130	1,400	1,900	500	26.0%
21. Michigan btwn Coast Hwy & Tremont	1,500	1,900	4,000	2,100	71.4%
22. Missouri btwn Coast Hwy & Tremont	530	900	1,700	800	66.3%

23. Cleveland btwn Pier View & Mission	130	1,800	2,400	600	21.7%
24. Cleveland btwn Missouri Ave & Washington	0	200	300	100	0.0%
25. Pier View btwn Horne & Clementine	190	500	2,200	1,700	11.2%
26. Pier View btwn Clementine & Ditmar	190	1,200	3,100	1,900	10.0%
27. Pier View btwn Ditmar & Coast Highway	250	1,200	3,000	1,800	13.9%

Intersection Fair-Shares of Near-Term Cumulative Conditions (Year 2030)
(Based on PM Peak Hour Volumes)

Intersection	Project Volume	Cumulative Project Volume	Total Volume (Project + Cumulative)	Fair-Share Percentage
1. Coast Hwy & Civic Center	138	546	684	20.2%
2. Coast Hwy & Pier View	162	572	734	22.1%
3. Ditmar & Seagaze	51	104	155	32.9%
4. Clementine & Seagaze	47	30	77	61.0%
5. Cleveland & Mission	54	105	159	34.0%
6. Coast Hwy & Mission	221	654	875	25.3%
7. Ditmar & Mission	58	246	304	19.1%
8. Nevada & Mission	55	194	249	22.1%
9. Clementine & Mission	80	225	305	26.2%
10. Horne & Mission	102	280	382	26.7%
11. Seagaze & Cleveland	128	56	184	69.6%
12. Tremont & Seagaze	226	204	430	52.6%
13. Coast Hwy & Seagaze	277	695	972	28.5%
14. Coast Hwy & Topeka	87	488	575	15.1%
15. Tremont & Topeka	168	6	174	96.6%
16. Coast Hwy & W Topeka	93	483	576	16.1%
17. Tremont & OTC Parking	281	15	296	94.9%
18. Tremont & Michigan	339	15	354	95.8%
19. Coast Hwy & Michigan	209	483	692	30.2%
20. Cleveland & Missouri	0	0	0	--
21. Tremont & Missouri	149	15	164	90.9%
22. Coast Hwy & Missouri	179	483	662	27.0%
23. Coast Hwy & SR 76 / Driveway	121	598	719	16.8%
24. I 5 SB Ramps & Mission Ave	103	220	323	31.9%
25. I 5 NB Ramps & Mission Ave	77	169	246	31.3%
26. Tremont & Wisconsin	99	60	159	62.3%
27. Coast Hwy & Wisconsin	246	483	729	33.7%
28. Coast Hwy & Oceanside	222	452	674	32.9%
29. I 5 SB Ramps & Oceanside	71	150	221	32.1%
30. I 5 NB Ramps & Oceanside	61	133	194	31.4%
31. Coast Hwy & Vista	121	232	353	34.3%
32. Cleveland & Topeka	167	0	167	100.0%
33. Coast Hwy & Surfrider	121	546	667	18.14%

Fair Share Formulas

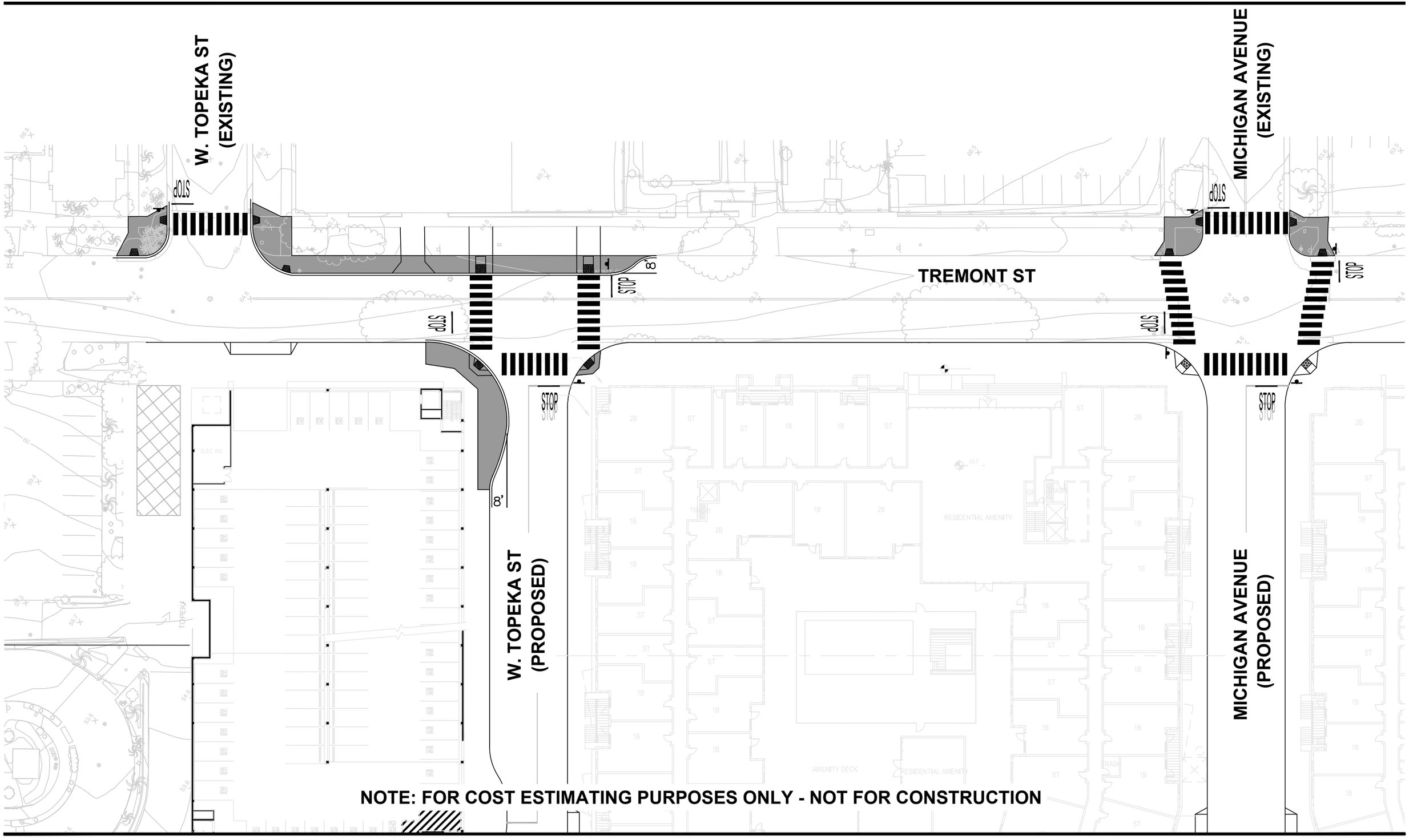
Near-Term Cumulative Conditions (Year 2030)

$$\% = \frac{\text{Project Traffic}}{\text{(Traffic from Cumulative Projects + Project Traffic)}}$$

Buildout Conditions (Year 2050)

$$\% = \frac{\text{Project Traffic}}{\text{(Buildout Traffic + Project Traffic - Existing Traffic)}}$$

Appendix G – Conceptual Design Improvements



NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

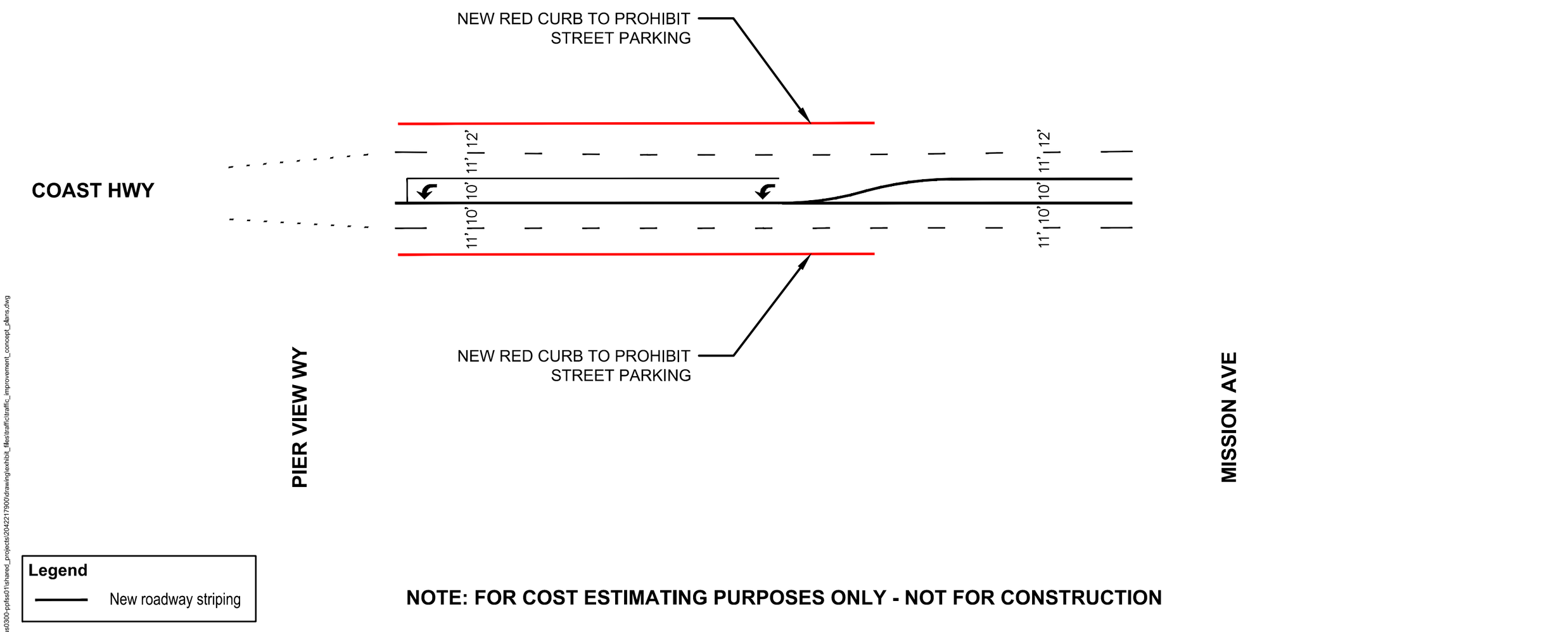
GRAPHIC SCALE:

40' 0' 40' 80'

1 inch = 40 ft.

Figure G-1

Tremont St Between W. Topeka St and Michigan Avenue - Conceptual Improvement Plans



NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

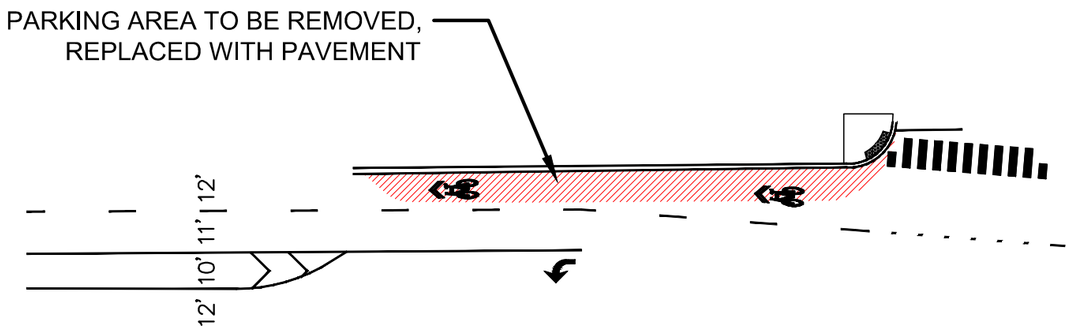
\\ue0300-ppfss01\shared_projects\204221700\drawing\exhibit_files\traffic\traffic_improvement_concept_plans.dwg

GRAPHIC SCALE: 40’ 0’ 40’ 80’

1 inch = 40 ft.

Figure G-2

Coast Highway Between Pier View Way and Mission Avenue - Conceptual Improvement Plans



MISSION AVE

COAST HWY

FREEMAN ST

Legend

Remove existing

New roadway striping

NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

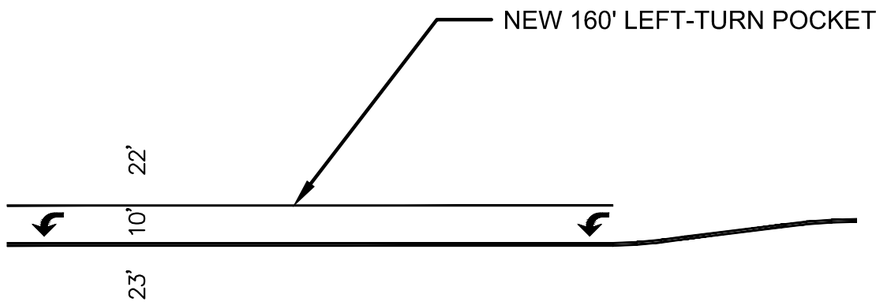
GRAPHIC SCALE: 40' 0' 40' 80'

1 inch = 40 ft.

Figure G-3

Mission Avenue Between Coast Highway and Freeman Street - Conceptual Improvement Plans

\\us0300-pofss01\shared_projects\204221790\0\drawing\exhibit_files\traffic\traffic_improvement_concept_plans.dwg



Legend

New roadway striping

NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

GRAPHIC SCALE: 40' 0' 40' 80'

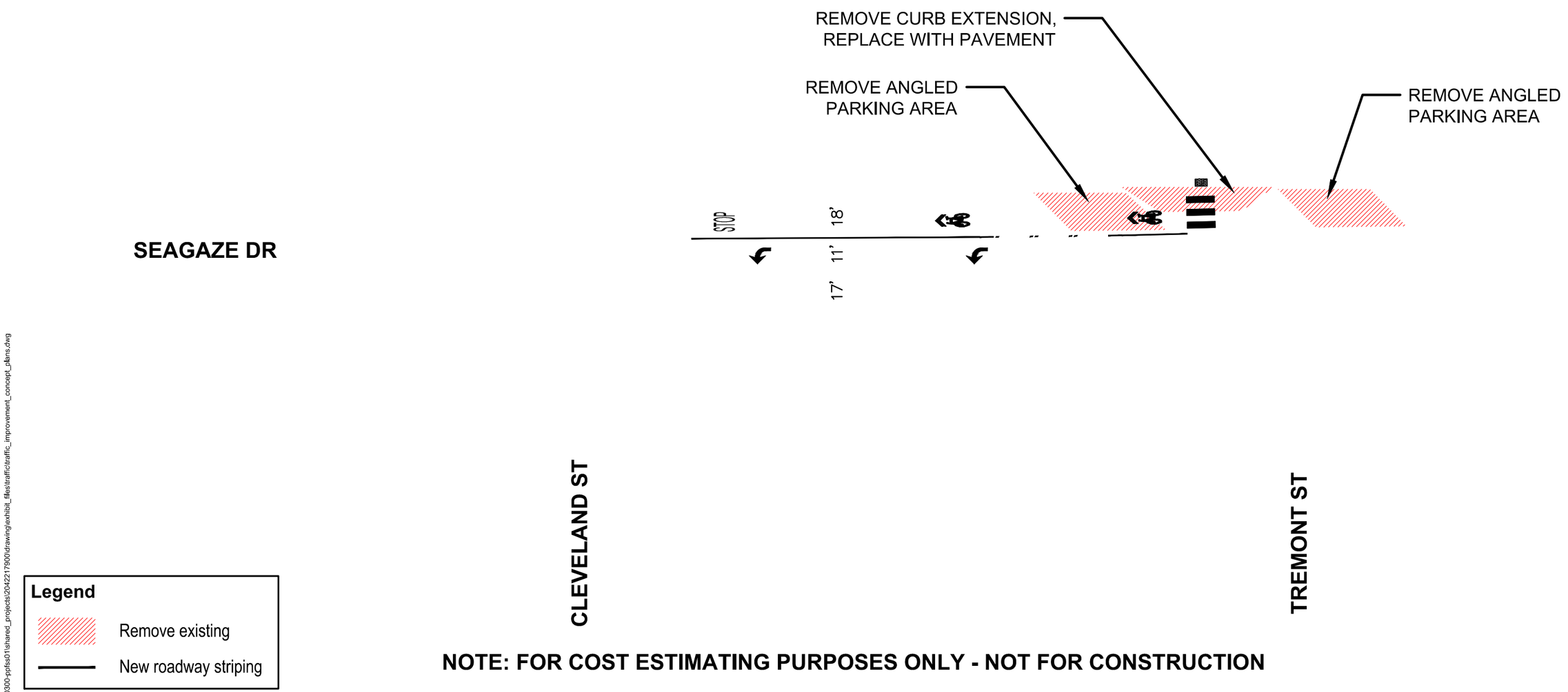
1 inch = 40 ft.

Figure G-4

Pier View Way Between Freeman Street and Coast Highway - Conceptual Improvement Plans

G.5

\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\ctraffic_improvement_concept_plans.dwg



NOTE: FOR COST ESTIMATING PURPOSES ONLY - NOT FOR CONSTRUCTION

\\us0300-ppfss01\shared_projects\204221790\drawing\exhibit_files\traffic\traffic_improvement_concept_plans.dwg

GRAPHIC SCALE: 40’ 0’ 40’ 80’

1 inch = 40 ft.

Figure G-5

Seagaze Drive Between Tremont Street and Cleveland Street - Conceptual Improvement Plans

Appendix H – SANDAG ABM2+ Model Data

Land Use Data | Map

No Build Land Use Inputs

MGRA	Households	Single-Family Households	Multi-Family Households	Affordable Multi-Fa	Mobile Home Hous	Open Space Acres	Employment	Enrollment	Group Quarters	Budget Hotel Room	Economy Hotel Room	Luxury Hotel Room	Mid-Price Hotel Room	Upscale Hotel Roon
14511	0	0	0	0	0	0	15	0	0	0	0	0	0	
14521	5	5	0	0	0	0	157	0	0	0	0	0	0	
14635	0	0	0	0	0	0	15	0	0	0	0	0	0	
14661	0	0	0	0	0	0	38	0	0	0	0	0	0	

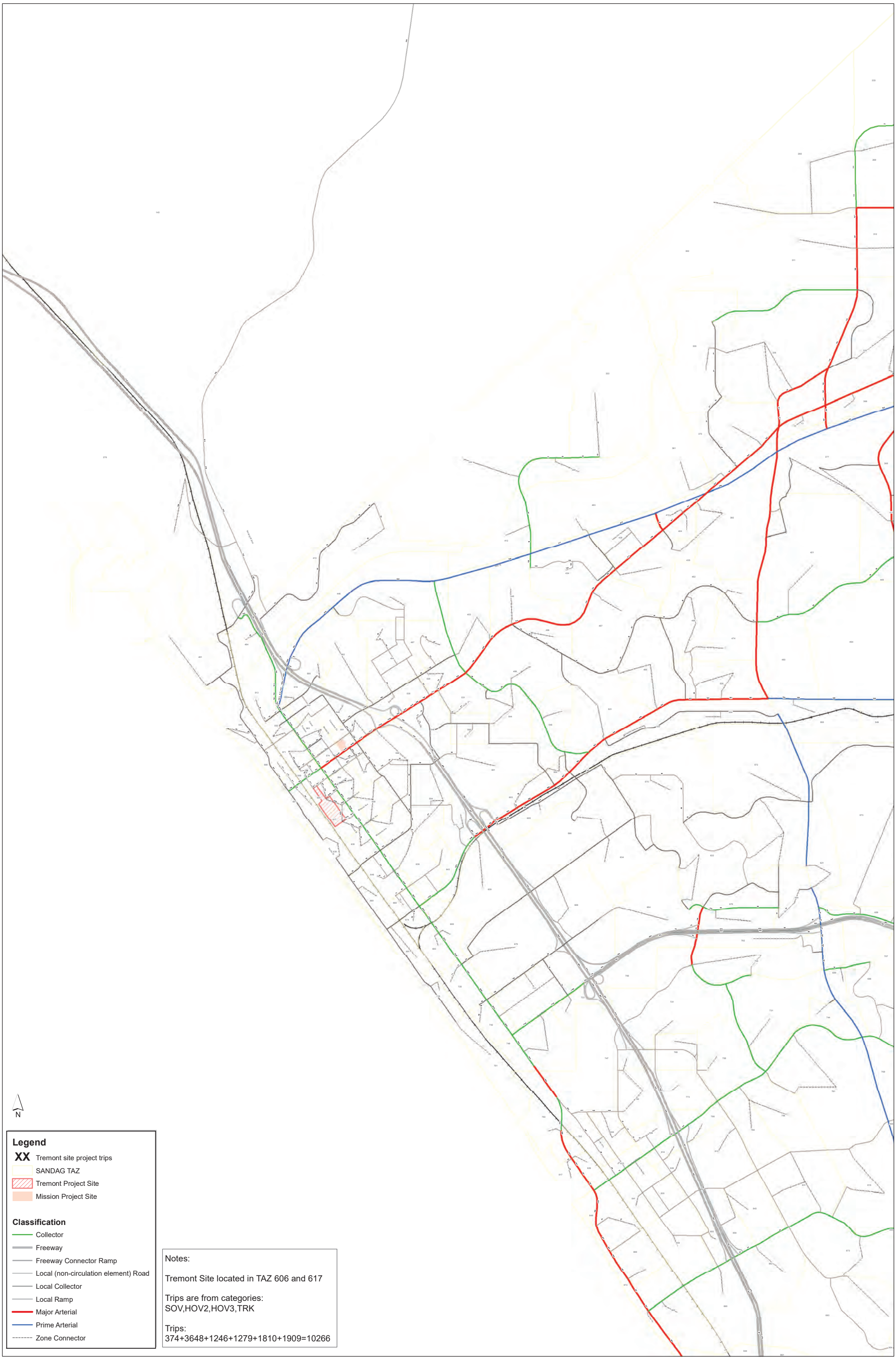
Build Land Use Inputs

MGRA	Households	Single-Family Households	Multi-Family Households	Affordable Multi-Fam	Mobile Home Hou	Open Space Acres	Employment	Enrollment	Group Quarters	Budget Hotel Room	Economy Hotel Room	Luxury Hotel Room	Mid-Price Hotel Room	Upscale Hotel Roon
14511	0	0	0	0.00	0	0	6	0	0	0	0	0	0	
14521	274	5	269	0.00	0	0	31	0	0	0	0	0	0	
14635	186	0	186	0.00	0	0	20	0	0	0	0	0	0	
14661	226	0	226	0.00	0	0	416	0	0	0	2	98	5	

Change in Land Use Inputs

MGRA	Households	Single-Family Households	Multi-Family Households	Affordable Multi-Far	Mobile Home Hous	Open Space Acres	Employment	Enrollment	Group Quarters	Budget Hotel Room	Economy Hotel Room	Luxury Hotel Room	Mid-Price Hotel Room	Upscale Hotel Roor
14511	0	0	0	0.00	0	0	-9	0	0	0	0	0	0	
14521	269	0	269	0.00	0	0	-126	0	0	0	0	0	0	
14635	186	0	186	0.00	0	0	5	0	0	0	0	0	0	
14661	226	0	226	0.00	0	0	378	0	0	0	2	98	5	

No Build Land Use Overriden in ['Employment']



Tremont Site Trips
SANDAG ABM2+ SELECT ZONE RUN

N

Legend

- XX Tremont site trip distribution %
- SANDAG TAZ
- Tremont Project Site
- Mission Project Site

Classification

- Collector
- Freeway
- Freeway Connector Ramp
- Local (non-circulation element) Road
- Local Collector
- Local Ramp
- Major Arterial
- Prime Arterial
- Zone Connector

Notes:

Tremont Site located in TAZ 606 and 617

Trips are from categories:
SOV,HOV2,HOV3,TRK

Trips:
374+3648+1246+1279+1810+1909=10266

Tremont Site Project Trip Distribution
SANDAG ABM2+ SELECT ZONE RUN

Appendix I – Year 2050 Traffic Forecasts

Roadway	Segment	Existing ADT (Count)	Model Base Year	Model Year 2050	Model Growth	Assumed Growth	Buildout Volume	Growth
North Coast Highway	Civic Center Drive to Pier View Way	16,420	7,783	15,798	8,015	8,015	24,500	49%
	Pier View Way to Mission Avenue	16,710	6,417	15,798	9,381	9,381	26,100	56%
	Mission Avenue to Seagaze Drive	21,430	8,808	15,798	6,990	6,990	28,500	33%
	Seagaze Drive to Michigan Street	17,840	9,369	15,798	6,429	6,429	24,300	36%
Mission Avenue	Myers Street to Cleveland Street	10,150	3,328	2,663	-665	362	10,600	4%
	Cleveland Street to Tremont Street	13,420	5,570	5,958	388	362	13,800	3%
	Treamont Street to North Coast Highway	15,030	5,623	5,958	335	362	15,400	2%
	North Coast Highway to Ditmar Street	11,310	4,533	9,967	5,434	5,434	16,800	48%
	Ditmar Street to Nevada Street	9,500	8,382	9,967	1,585	1,585	11,100	17%
Seagaze Drive	Cleveland Street to Tremont Street	6,910	1,239	3,131	1,892	1,892	8,900	27%
	Treamont Street to North Coast Highway	7,230	1,158	3,131	1,973	1,973	9,300	27%
	North Coast Highway to Freeman Street	5,500	2,000	1,591	-409	1,000	6,500	18%
	Freeman Street to Hormel Street	5,550	2,975	2,408	-567	1,000	6,600	18%
Pier View Way	North Coast Highway to Freeman Street	1,182	1,182	3,340	2,158	749	1,900	63%
	Freeman Street to Hormel Street	523	523	2,523	2,000	433	1,000	83%
	Total Growth	158,705	68,890	113,829	44,939	45,966	205,300	29%

Source: City of Oceanside, December 2023

Total Growth (%):	29%
Period:	27 Years (2023 - 2050)
Ave. Growth/Year	1.07% (Call 1%)

Appendix J – SANDAG MXD Tool Calculations

MIXED USE TRIP GENERATION MODEL V4 - INPUT

All shaded cells are inputs
Regular inputs (project-specific)
Inputs that may depend on regional values from census data, travel demand model, etc…
Treat like other inputs, but please send values and source to Mark Feldman so that a library of values can be compiled in future versions!

Section 1 - General Site Information

Site Name	Tremont	
Geographic		**Notes / Instructions**
Developed Area (in acres)	10.6	Include streets, ROW, parking lots, pocket parks. Do not include open space, vacant lots.
Number of Intersections	16	Count intersections either within or adjacent to the project site, and major project site access points to the street system (signalized or unsignalized).
Land Use - Surrounding Area		
Employment within one mile of the MXD	6,720	Do not include employment within the MXD itself
Employment within a 30 minute Transit Trip (Door-to-door)	94,800	Include employment within the MXD itself This can be a difficult number to get - some suggestions are in the instructions tab in "disclaimers and warnings"
Site Demographics		
Enter Population Directly?	No	If "No", will apply average HH size factors (in section 2) to dwelling units below
Population		You do not need to enter population here. It will be calculated based on dwelling units below and average HH sizes in section 2.
Average Vehicles Owned per Dwelling Unit	1.77	For guidance, one can look up Census 2000 Summary File 3 block group data for the closest block group to the site, at the URL indicated to the right, choosing table H44 when it prompts you for a table: http://factfinder.census.gov/servlet/CTGeoSearchByListServlet?ds_name=DEC_2000_SF3_U&_lang=en&_ts=257951516373

Section 2 - Variable Modeling Parameters

Conversion Factors

		Source:	What does this input affect?
Average Household Size			
Estate, Urban or Rural	3.2	n/a - no SFDUs	
Single Family Detached	3.2	n/a - no SFDUs	
Condominium	2.34	n/a - no Apts	Directly affects trip internalization and mode splits. Also used to compute site population if population isn't entered directly.
Apartment	2.34	n/a - no Apts	
Mobile Home (Family)	2.5	n/a - no mobile homes	
Jobs per ksf			
Retail	2.0	ITE Trip Generation Manual	
Office	3.0	ITE Trip Generation Manual	Used to compute site employment for any land uses which are entered in ksf rather than jobs. For retail, if land uses are entered in jobs, it's used to convert back to ksf for trip generation calculations.
Light Industrial	1.0	ITE Trip Generation Manual	
Manufacturing	0.5	ITE Trip Generation Manual	
Warehousing	1.0	ITE Trip Generation Manual	
Misc. Uses	2.0	ITE Trip Generation Manual	
Jobs from ITE rates per other unit			
		Source	
Jobs per Hotel Room	0.50	ITE Trip Generation Manual	
Jobs per Movie Screen	4.00	ITE Trip Generation Manual	
Grade School Jobs per student	0.10	ITE Trip Generation Manual	Used to compute site employment for these land uses which are typically expressed in other units
High School / Middle School Jobs per Student	0.10	ITE Trip Generation Manual	
College Jobs per student	0.25	ITE Trip Generation Manual	

Average Trip Lengths (in miles)
Source: PSRC Travel Model Documentation, Cambridge Systematics, 2007.

	HBW	HBO	NHB	
External Trips	12.92	6.58	6.75	
Intra-site Trips	0.25	0.25	0.25	Used for VMT calculations only

Trip Purpose Splits by Land Use Type
This will affect the final results significantly. Keep "Use NCHRP" on "Yes" unless you have reliable splits which have been QA/QCd

For each land use type, choose whether to use NCHRP 365 splits as outlined on the Mode Parameters tab.
If "Yes" is chosen, the percentages will not affect the results. If "No," then enter the splits.

NOTE: For residences, the NHB Attractions are automatically calculated as the remainder to ensure the total is 100%
NOTE: For all other purposes, the NHB attractions are automatically set equal to the NHB productions, and the HBO attractions are automatically calculated as the remainder to ensure the total is 100%
NOTE: There is no NCHRP split defined for schools, so the split has to be entered below.

		Productions			Attractions			
DAILY	**Use NCHRP?**	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**	**Source (if not using NCHRP):**
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	
AM PEAK HOUR								
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	
PM PEAK HOUR								
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	

NON-HOME BASED TRIPS GENERATED BY PROJECT HOUSEHOLDS

Enter the percent of these that occur…

Completely Within the Project Site	25%
With one trip end external to the Project Site	15%
Completely outside the Project Site	60%

Source for this information:

This only affects VMT calculations

SITE-SPECIFIC INTERNALIZATION

This section of input is for when you have specific trips you want to EXCLUDE from the MXD process. These trips will be counted as internal, and subtracted from the "raw" trips before applying the model. The overall trip reduction percentage will still take these trips into account, and thus be a higher reduction than if you were just letting the model work on all the raw trips.

Site-Specific Internalization Percentages

Land Use	Use Site Specific Internalization?	% of Attractions which come from internal locations			Please note sources here: (important! These shouldn't just be guesses!)
		HBW	**HBO**	**NHB**	
Residential	No		50%	5%	
Retail (applies to "local-serving" retail only, see below)	No	36%	100%	100%	not needed
Office	No	36%	76%	81%	
Industrial	No	36%	76%	81%	
School	No	36%	100%	0%	

Note: The HBW percentage for residential is blacked out, because HBW trips are never attracted to residences
Note: The retail HBO percentage should be 100% since it applies to local-serving retail, no need for a source
Note: if the schools are appropriately sized for the project, school HBO attractions should be 100% above, no need for a source

Local-Serving Retail Parameters (part of the site-specific internalization calculation)

The above internalization is likely to vary significantly among different types of retail. Therefore, the inputs below are used to specify which retail uses are "local-serving," i.e. will draw a significant portion of its shoppers from within the project. The rest will just go through the MXD model process.

% of retail which is local-serving

Super Regional Shopping Center	32%
Regional Shopping Center	32%
Community Shopping Center	32%
Neighborhood Shopping Center	32%
Speciality Retail / Strip Commercial	32%
Supermarket	100%

Drugstore	100%
Bank with Drive-Thru	100%
Discount Store	32%
Restuarants	
Quality	50%
Sit-down, High Turnover	50%
Fast Food (With Drive-thru)	50%
Fast Food (Without Drive-thru)	50%
Delicatessen (7 AM - 4 PM)	50%

Section 3 - Trip Generation

NOTE: Be sure to enter only occupied units / spaces	Quantity	Units	Trip Equation Method (if applicable)	Trips Daily	Trips AM Peak Hour	Trips PM Peak Hour	SANDAG Daily Parameters Average Rate	SANDAG Daily Parameters Log Multipler	SANDAG Daily Parameters Log Constant	PEAK HOUR PERCENTAGES AM	PEAK HOUR PERCENTAGES PM	Jobs Per Input Unit
Residential												
Estate, Urban or Rural		DU		0	0	0	12			8%	10%	
Single Family Detached		DU		0	0	0	10			8%	10%	
Condominium	0	DU		0	0	0	8			8%	10%	
Apartment	547	DU		3,282	263	295	6			8%	9%	
Mobile Home (Family)		DU		0	0	0	5			8%	11%	
Retail												
Super Regional Shopping Center		ksf	Average Rate	0	0	0	35	0.502	6.945	4%	10%	2.0
Regional Shopping Center		ksf	Average Rate	0	0	0	50	0.502	6.945	4%	9%	2.0
Community Shopping Center		ksf		0	0	0	80			4%	10%	2.0
Neighborhood Shopping Center	29.196	ksf		3,504	140	350	120			4%	10%	2.0
Speciality Retail / Strip Commercial		ksf		0	0	0	40			3%	9%	2.0
Supermarket		ksf		0	0	0	150			4%	10%	2.0
Drugstore		ksf		0	0	0	90			8%	8%	2.0
Bank with Drive-Thru		ksf		0	0	0	200			5%	10%	2.0
Discount Store		ksf		0	0	0	60			3%	8%	2.0
Restaurant												
Quality		ksf		0	0	0	100			1%	8%	2.0
Sit-down, High Turnover		ksf		0	0	0	160			8%	8%	2.0
Fast Food (With Drive-thru)		ksf		0	0	0	650			7%	7%	2.0
Fast Food (Without Drive-thru)		ksf		0	0	0	700			5%	7%	2.0
Delicatessen (7 AM - 4 PM)		ksf		0	0	0	150			9%	3%	2.0
Office												
Standard Commercial Office		ksf	Fitted Curve	0	0	0	20	0.756	3.95	14%	13%	3.0
Large Commercial Office		ksf	Fitted Curve	0	0	0	17	0.756	3.95	13%	14%	3.0
Office Park		ksf		0	0	0	12			13%	13%	3.0
Single Tenant Office	64	ksf		897	135	135	14			15%	15%	3.0
Corporate Headquarters		ksf		0	0	0	7			17%	16%	3.0
Government (Civic Center)		ksf		0	0	0	30			9%	12%	3.0
Post Office (Community, w/mail drop lane)		ksf		0	0	0	30			7%	10%	3.0
Medical-Dental		ksf		0	0	0	50			6%	11%	3.0
Industrial												
Industrial / Business Park (with commercial)		ksf		0	0	0	16			12%	12%	1.0
Industrial / Business Park (no commercial)		ksf		0	0	0	8			11%	12%	1.0
Industrial Plant		ksf		0	0	0	10			14%	15%	1.0
Manufacturing		ksf		0	0	0	4			19%	20%	0.5
Warehousing		ksf		0	0	0	5			13%	15%	1.0
Storage		ksf		0	0	0	2			6%	9%	0.5
Science Research & Development		ksf		0	0	0	8			16%	14%	1.0
Lodging												
Hotel (w/convention facilities, restaurant)		Occ. Room		0	0	0	10			6%	8%	0.50
Motel		Occ. Room		0	0	0	9			8%	9%	0.50
Resort Hotel	170	Occ. Room		1,360	68	95	8			5%	7%	0.50
Misc. Uses												
Movie Theater		seat		0	0	0	0.9			0.33%	8%	4.00
Religious Facility		ksf		0	0	0	9			5%	8%	2.0
Gas Station (w/Food Mart and Car Wash)		Pump		0	0	0	155			8%	9%	2.0
Hospital		Bed		0	0	0	20			8%	10%	2.0
Convalescent / Nursing Facility		Bed		0	0	0	3			7%	7%	2.0
Library		ksf		0	0	0	50			2%	10%	2.0
Park (developed with meeting rooms and sports facilities)		acre		0	0	0	50			13%	9%	0
Transit Station (Light Rail with Parking)		occupied pkg space		0	0	0	4			14%	15%	0
Park & Ride Lot		occupied pkg space		0	0	0	8			14%	15%	0
Education												

University		Student		0	0	0	2.4		10%	9%	0.25
Junior College		Student		0	0	0	1.2		12%	9%	0.25
High School		Student		0	0	0	1.3		20%	10%	0.10
Middle / Junior High		Student		0	0	0	1.4		30%	9%	0.10
Elementary		Student		0	0	0	1.6		32%	9%	0.10
Day Care		Student		0	0	0	5		17%	18%	0.10

	Daily	AM Peak Hour	PM Peak Hour
Trips from Land uses not covered above ==>	0	0	0
Jobs in those Land Uses	0		

	Daily	AM Peak Hour	PM Peak Hour
Total "Raw" SANDAG Trip Generation Trips	**9,043**	**605**	**876**

MIXED USE TRIP GENERATION MODEL V4 - RESULTS

MODEL APPLICATION - ALL TRIPS

	Daily				AM Peak Hour				PM Peak Hour			
	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total
Number of "Raw" SANDAG Rate Trips Subject to Model	2128	4929	1986	9043	304	269	32	605	251	412	212	876
Predicted Probabilities:												
Internal Capture	4.24%	5.83%	9.69%	6.30%	4.24%	5.83%	9.69%	5.23%	4.24%	5.83%	9.69%	6.31%
Walking External	1.99%	16.02%	14.46%	12.32%	1.99%	16.02%	14.46%	8.81%	1.99%	16.02%	14.46%	11.54%
Transit External	13.40%	1.67%	2.56%	4.68%	13.40%	1.67%	2.56%	7.67%	13.40%	1.67%	2.56%	5.32%
Number of Trips:												
Internal Capture	90	287	193	570	13	16	3	32	11	24	21	55
Walking External	41	744	259	1044	6	41	4	51	5	62	28	95
Transit External	273	78	46	396	39	4	1	44	32	6	5	44
Net Number of IXXI Vehicle Trips	**1724**	**3820**	**1488**	**7033**	**247**	**209**	**24**	**479**	**204**	**320**	**159**	**682**

	External Vehicle Trips			VMT		
Results	Raw	Net	Reduction %	Raw	Net	Reduction %
Daily	9,043	7,033	22%	36,664	28,871	21%
AM Peak Hour	605	479	21%	2,959	2,368	20%
PM Peak Hour	876	682	22%	3,695	2,917	21%

NOTE: External trips are attributed half to project site uses, internal trips all to site uses for purposes of VMT allocation.

MODEL APPLICATION - TRIP ENDS TO/FROM RESIDENCES IN THE PROJECT ONLY

	Daily				AM Peak Hour				PM Peak Hour			
	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total
Number of "Raw" ITE Trips Subject to Model	675	2134	474	3282	118	136	9	263	83	166	47	295
Predicted Probabilities:												
Internal Capture	4.24%	5.83%	9.69%	6.06%	4.24%	5.83%	9.69%	5.25%	4.24%	5.83%	9.69%	5.99%
Walking External	1.99%	16.02%	14.46%	12.87%	1.99%	16.02%	14.46%	9.60%	1.99%	16.02%	14.46%	11.77%
Transit External	13.40%	1.67%	2.56%	4.25%	13.40%	1.67%	2.56%	7.02%	13.40%	1.67%	2.56%	5.16%
Number of Trips:												
Internal Capture	29	124	46	199	5	8	1	14	4	10	5	18
Walking External	13	322	62	397	2	20	1	24	2	25	6	33
Transit External	87	34	11	131	15	2	0	17	11	3	1	14
Net Number of IXXI Vehicle Trips generated by Project Residences	**547**	**1654**	**355**	**2555**	**96**	**105**	**7**	**207**	**67**	**128**	**35**	**231**

	External Vehicle Trips			VMT		
Results	Raw	Net	Reduction %	Raw	Net	Reduction %
Daily	3,282	2,555	22%	25,953	23,349	10%

AM Peak Hour	263	207	21%	2,477	2,022	18%
PM Peak Hour	295	231	22%	2,477	2,228	10%

NOTE: all trips generated by project households (either produced or attracted or both) are counted 100%. This cannot be compared directly to the VMT in the section above.

Appendix K – Traffic Signal Timing Sheets

INTERSECTION: Coast Hwy & Civic Center

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **10**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **2/15/2022 11:46:18 I**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	**10**	<C/0+0+0>
Zone Number	**10**	<C/0+0+1>
Area Number	**1**	<C/0+0+2>
Area Address	**10**	<C/0+0+3>
QuicNet Channel	**P:8001:10.160.0**	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	**0**	<F/1+0+E>
Red Revert	**2.0**	<F/1+0+F>
All Red Start	**5.0**	<F/1+C+0>

Start / Revert Times

Exclusive Walk	**0**	<F/1+0+0>
Exclusive FDW	**0**	<F/1+0+1>
All Red Clear	**0.0**	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	**0**	**7**	**0**	**9**	**0**	**7**	**0**	**9**
1	Ped FDW	**0**	**13**	**0**	**13**	**0**	**13**	**0**	**13**
2	Min Green	**5**	**10**	**5**	**6**	**5**	**10**	**5**	**6**
3	Type 3 Disconnect	**0**	**99**	**0**	**0**	**0**	**99**	**0**	**0**
4	Added per Vehicle	**0.0**	**2.0**	**0.0**	**0.0**	**0.0**	**2.0**	**0.0**	**0.0**
5	Veh Extension	**2.0**	**5.0**	**2.0**	**3.0**	**2.0**	**5.0**	**2.0**	**3.0**
6	Max Gap	**2.0**	**6.0**	**2.0**	**3.0**	**2.0**	**6.0**	**2.0**	**3.0**
7	Min Gap	**2.0**	**4.0**	**2.0**	**3.0**	**2.0**	**4.0**	**2.0**	**3.0**
8	Max Limit	**40**	**40**	**40**	**30**	**40**	**40**	**40**	**30**
9	Max Limit 2	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**
A	Adv. / Delay Walk	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**5**
B	PE Min Ped FDW	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C	Cond Serv Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
D	Reduce Every	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**
E	Yellow Change	**4.0**	**4.0**	**4.0**	**3.6**	**4.0**	**4.0**	**4.0**	**3.6**
F	Red Clear	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**20**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**0**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**20**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**0**	**0**	**0**	**0**	**0.0**

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	**0**
RR-1 Clear	**0**
EV-A Delay	**0**
EV-A Clear	**5**
EV-B Delay	**0**
EV-B Clear	**5**
EV-C Delay	**0**
EV-C Clear	**5**
EV-D Delay	**0**
EV-D Clear	**5**
RR-2 Delay	**0**
RR-2 Clear	**0**
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

Row		F
0	Permit	**_2_4_6_8**
1	Red Lock	**_____**
2	Yellow Lock	**_____**
3	Min Recall	**_2___6__**
4	Ped Recall	**_____**
5	*View Set Peds*	**- - - - -**
6	Rest In Walk	**_____**
7	Red Rest	**_____**
8	Dual Entry	**_2_4_6_8**
9	Max Recall	**_____**
A	Soft Recall	**_____**
B	Max 2	**_____**
C	Cond. Service	**_____**
D	Man Cntrl Calls	**_____**
E	Yellow Start	**_2___6__**
F	First Phases	**___4___8**

Phase Functions <C+0+F=1>

Overlap Assignments <C+0+E=29>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ---->								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Allow QuicNet PE
8 =

Row		C
0	EV-A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0

Preempt Priority
<C+0+E=125>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Configuration <C+0+E=125>

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2
B	EV-B Phases	4
C	EV-C Phases	6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Specials <C+0+F=2>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	4 8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	2 4 6 8
Start-up Ped Calls	2 4 6 8

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

	2
Phase 1	10
Phase 2	10
Phase 3	10
Phase 4	10
Phase 5	10
Phase 6	10
Phase 7	10
Phase 8	10

Coordination Transition Minimums
<C+0+C=5>

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ----->										
0	Cycle Length	100	100	100	100	100	86	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	55	55	1	1	55	55	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	20	20	20	20	20	1	1	20	20	3
4	Phase 4 - ForceOff	40	40	40	40	40	28	28	40	40	4
5	Phase 5 - ForceOff	55	55	55	55	55	1	1	55	55	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	20	20	20	20	20	1	1	20	20	7
8	Phase 8 - ForceOff	40	40	40	40	40	28	28	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	2	75	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	15	15	15	15	15	15	15	15	15	D
E	Hold Release	255	255	255	255	255	75	90	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Row		E	Row
			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E	Coord Extra	_____	E
F			F

Coordination - Bank 1 <C+0+C=1>

Row		1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases										6
7											7
8	Pretimed Phases										8
9	Max Recall										9
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	B
C	Perm 2 Veh Phase										C
D	Perm 2 Ped Phase										D
E	Perm 3 Veh Phase										E
F	Perm 3 Ped Phase										F

Coordination - Bank 2 <C+0+C=2>

Sync Phases <C+0+C=1>

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	External Lag	_____	A
B			B
C			C
D			D
E			E
F			F

Lag Phases <C+0+C=1>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs <C+0+E=127>

Phase Timing - Bank 2 <C+0+F=2>

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Alternate Timing

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.3	<C/5+1+9>

TBC Transition

Lag Hold Phases	_____	<C/5+1+A>

Coordinated Lag Hold Phases

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	3	<C/5+2+A>
Begin Week	2	<C/5+2+B>
End Month	11	<C/5+2+C>
End Week	1	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	<F/1+D+E>
Phase Number	0	<F/1+D+F>

Advance Warning Beacon - Sign 2

Phase Timing - Bank 3 <C+0+F=3>

Row		Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Alternate Timing

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Column Numbers ---->		0	1	2	3	1	3
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	___45_7_	_2_____	123____8	0.0	0.0
1		40	___45_7_	_____6__	123____8	0.0	0.0
2		41	___45_7_	___4____	123____8	0.0	0.0
3		42	___45_7_	_______8	123____8	0.0	0.0
4		43	___45_7_	_2_____	123____8	0.0	0.0
5		44	___45_7_	_____6__	123____8	0.0	0.0
6		45	___45_7_	___4____	123____8	2.0	0.0
7		46	___45_7_	_______8	123____8	2.0	0.0
8		47	_____67_	_2_____	123____8	0.0	0.0
9		48	_____67_	_____6__	123____8	0.0	0.0
A		49	_____67_	___4____	123____8	0.0	0.0
B		50	_____67_	_______8	123____8	0.0	0.0
C		55	___45_7_	____5___	123____8	0.0	0.0
D		56	___45_7_	1_____	123____8	0.0	0.0
E		57	___45_7_	_____7_	123____8	0.0	0.0
F		58	___45_7_	__3_____	123____8	0.0	0.0

	4	5	6	7	2	4
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	___45_7_	____5___	123____8	0.0	0.0
1		60	___45_7_	1_____	123____8	0.0	0.0
2		61	___45_7_	_____7_	123____8	0.0	0.0
3		62	___45_7_	__3_____	123____8	0.0	0.0
4		63	___45_7_	_2_____	123____8	0.0	0.0
5		64	___45_7_	_____6__	123____8	0.0	0.0
6		65	___45_7_	___4____	123____8	0.0	0.0
7		66	___45_7_	_______8	123____8	0.0	0.0
8		67	_2_____	_2_____	123____8	0.0	0.0
9		68	_2_____	_____6__	123____8	0.0	0.0
A		69	_2_____	___4____	123____8	0.0	0.0
B		70	_2_____	_______8	123____8	0.0	0.0
C		76	___45_7_	_2_____	123____8	0.0	0.0
D		77	___45_7_	_____6__	123____8	0.0	0.0
E		78	___45_7_	___4____	123____8	0.0	0.0
F		79	___45_7_	_______8	123____8	0.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap								
*Column Numbers ---->	1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type **0** <E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	**255**	<D/0+0+1>
Max ON (minutes)	**15**	<D/0+0+2>

Detector Failure Monitor

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Omit Alarm _____ <C/5+F+0>

Disable Alarm Reporting

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	10 : 00	6	A	1____67
2	11 : 00	6	A	_2345__
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	20 : 00	E	A	1234567
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 00	4	1234567	_____
00 : 00	4	1234567	_____
00 : 01	E	1234567	_____78
23 : 59	E	1234567	_____78
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.2>
(Bank 2)

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

Special Event Schedule -- Table 1 <C+0+E=27>

0 <E/27+5+F>

Limited Service Interval

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

Special Event Schedule -- Table 2 <C+0+E=28>

0 <E/28+5+F>

Limited Service Interval

Min Time (seconds)	0	<F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes)	255	<F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds)	0	<F/1+0+A>

Min Time Between Same Preempts
(Does Not Apply To Railroad Preempt)

Low Pri. Channel	_____	<E/125+C+8>

Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Delay Time (seconds)	0	<F/1+A+D>

Bus Delay

Max Time (seconds)	0	<F/1+A+E>

Max Early Green

Max Time (seconds)	0	<F/1+A+F>

Max Green Extension

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

Headway <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Only available with *Program 233RV2.B* (and above)
Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: Coast Hwy & Michigan

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **6**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **8/4/2023 8:45:47 PM +(**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	**12**	<C+0+0>
Zone Number		<C+0+1>
Area Number	**1**	<C+0+2>
Area Address	**6**	<C+0+3>
QuicNet Channel	**P:8010:10.160.0**	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	**20**	<F+0+E>
Red Revert	**2.0**	<F+0+F>
All Red Start	**5.0**	<F+C+0>

Start / Revert Times

		Phase							
	Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Row	*Phase Names ---->*								
0	Ped Walk	**0**	**7**	**0**	**7**	**0**	**7**	**0**	**7**
1	Ped FDW	**0**	**11**	**0**	**13**	**0**	**11**	**0**	**13**
2	Min Green	**3**	**10**	**3**	**6**	**3**	**10**	**3**	**6**
3	Type 3 Limit	**0**	**99**	**0**	**0**	**0**	**99**	**0**	**0**
4	Added Initial	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
5	Veh Extension	**0.5**	**4.0**	**0.5**	**3.0**	**0.5**	**4.0**	**0.5**	**3.0**
6	Max Gap	**0.5**	**6.0**	**0.5**	**3.0**	**0.5**	**6.0**	**0.5**	**3.0**
7	Min Gap	**0.5**	**4.0**	**0.5**	**3.0**	**0.5**	**4.0**	**0.5**	**3.0**
8	Max Limit	**17**	**40**	**17**	**20**	**17**	**40**	**17**	**20**
9	Max Limit 2	**30**	**40**	**30**	**20**	**30**	**40**	**30**	**20**
A	- - - - - -	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B	Call To Phase	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C	Reduce By	**0.1**	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**
D	Reduce Every	**1.0**	**1.3**	**1.0**	**0.0**	**1.0**	**1.3**	**1.0**	**0.0**
E	Yellow Change	**3.0**	**4.0**	**3.0**	**3.6**	**3.0**	**4.0**	**3.0**	**3.6**
F	Red Clear	**0.0**	**1.0**	**0.0**	**1.0**	**0.0**	**1.0**	**0.0**	**1.0**

Phase Timing - Bank 1 <F Page>

	E
RR-1 Delay	**0**
RR-1 Clear	**10**
EV-A Delay	**0**
EV-A Clear	**5**
EV-B Delay	**0**
EV-B Clear	**5**
EV-C Delay	**0**
EV-C Clear	**5**
EV-D Delay	**0**
EV-D Clear	**5**
RR-2 Delay	**0**
RR-2 Clear	**10**
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	**_2_4_6_8**	**0**
Red Lock	**_____**	**1**
Yellow Lock	**_____**	**2**
Min Recall	**_2___6__**	**3**
Ped Recall	**_____**	**4**
View Set Peds	**- - - - -**	**5**
Rest In Walk	**_____**	**6**
Red Rest	**_____**	**7**
Dual Entry	**_2_4_6_8**	**8**
Max Recall	**_____**	**9**
Soft Recall	**_____**	**A**
Max 2	**_____**	**B**
Cond. Service	**_____**	**C**
Man Cntrl Calls	**_____**	**D**
Yellow Start	**_2___6__**	**E**
First Phases	**___4___8**	**F**

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

INTERSECTION: Coast Hwy & Michigan

(* = Coordination Recall)

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ---->										
0	Cycle Length	75	85	90	75	85	86	100	100	100	0
1	Phase 1 - ForceOff	1	1	1	1	1	1	1	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	1	1	1	1	1	1	1	25	25	3
4	Phase 4 - ForceOff	22	26	26	22	22	22	22	40	40	4
5	Phase 5 - ForceOff	1	1	1	1	1	1	1	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	1	1	1	1	1	1	1	25	25	7
8	Phase 8 - ForceOff	22	26	26	22	22	22	22	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	1	24	87	11	2	40	27	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	10	10	10	12	12	12	12	12	0	D
E	Hold Release	70	70	75	70	255	75	90	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Row		E	Row
			0
	Plan 1 - Sync	_2___6__	1
	Plan 2 - Sync	_2___6__	2
	Plan 3 - Sync	_2___6__	3
	Plan 4 - Sync	_2___6__	4
	Plan 5 - Sync	_2___6__	5
	Plan 6 - Sync	_2___6__	6
	Plan 7 - Sync	_2___6__	7
	Plan 8 - Sync	_2___6__	8
	Plan 9 - Sync	_2___6__	9
	Coord Ped *	_____	A
	NEMA Hold	_____	B
			C
			D
			E
			F

Coordination <C Page>

Row	Column Numbers ---->	E
0	Exclusive Phases	_____
1	RR-1 Clear Phases	_____
2	RR-2 Clear Phases	_____
3	RR-2 Limited Service	_____
4	Prot / Perm Phases	_____
5	Overlap A - Green Omit	_____
6	Overlap B - Green Omit	_____
7	Overlap C - Green Omit	_____
8	Overlap D - Green Omit	_____
9	Overlap Yellow Flash	_____
A	EV-A Phases	_2__5___
B	EV-B Phases	___4__7_
C	EV-C Phases	1____6__
D	EV-D Phases	__3____8
E	Extra 1 Config. Bits	1__4____
F	IC Select (Interconnect)	_2_____

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_2_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____8
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	5

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Sync Phases <C Page>

Row		F	Row
	Free Lag	_2_4_6_8	0
	Plan 1 - Lag	_2_4_6_8	1
	Plan 2 - Lag	_2_4_6_8	2
	Plan 3 - Lag	_2_4_6_8	3
	Plan 4 - Lag	_2_4_6_8	4
	Plan 5 - Lag	_2_4_6_8	5
	Plan 6 - Lag	_2_4_6_8	6
	Plan 7 - Lag	_2_4_6_8	7
	Plan 8 - Lag	_2_4_6_8	8
	Plan 9 - Lag	_2_4_6_8	9
	Coord Max *	_____	A
	Coord Lag *	_____	B
			C
			D
			E
			F

Lag Phases <C Page>

TOD Coordination
<9 Key with C+D+9=0>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	_____
1	10:00	6	A	1___67
2	11:00	6	A	_2345_
3	00:00	0	0	_____
4	00:00	0	0	_____
5	19:00	E	A	1234567
6	00:00	0	0	_____
7	00:00	0	0	_____
8	00:00	0	0	_____
9	00:00	0	0	_____
A	00:00	0	0	_____
B	00:00	0	0	_____
C	00:00	0	0	_____
D	00:00	0	0	_____
E	00:00	0	0	_____
F	00:00	0	0	_____

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

TOD Function
<7 Key>

Time	Funct.	Day of Week
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Column F
Phases/Bits
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

<D Page>

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Time	Plan	Offset	Day of Week	Row
00:00	0	0	_____	0
00:00	0	0	_____	1
00:00	0	0	_____	2
00:00	0	0	_____	3
00:00	0	0	_____	4
00:00	0	0	_____	5
00:00	0	0	_____	6
00:00	0	0	_____	7
00:00	0	0	_____	8
00:00	0	0	_____	9
00:00	0	0	_____	A
00:00	0	0	_____	B
00:00	0	0	_____	C
00:00	0	0	_____	D
00:00	0	0	_____	E
00:00	0	0	_____	F

Holiday Dates
<8 Key>

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	2.0	0.0		I-6U	3
8	10.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	2.0	0.0		J-6U	4
8	10.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: Coast Hwy & Michigan

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
	Phase Names ---->									
0	Ped Walk	0	7	0	7	0	7	0	7	0
1	Ped FDW	0	10	0	10	0	10	0	10	1
2	Min Green	3	7	3	7	3	7	3	7	2
3	Type 3 Limit	0	0	0	0	0	0	0	0	3
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
8	Max Limit	17	40	17	40	17	40	17	40	8
9	Max Limit 2	30	70	30	70	30	70	30	70	9
A	- - - - - -	0	0	0	0	0	0	0	0	A
B	Call To Phase	0	0	0	0	0	0	0	0	B
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
	Phase Names ---->									
0	Ped Walk	0	7	0	7	0	7	0	7	0
1	Ped FDW	0	10	0	10	0	10	0	10	1
2	Min Green	3	7	3	7	3	7	3	7	2
3	Type 3 Limit	0	0	0	0	0	0	0	0	3
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2	4
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5	5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	6
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0	7
8	Max Limit	17	40	17	40	17	40	17	40	8
9	Max Limit 2	30	70	30	70	30	70	30	70	9
A	- - - - - -	0	0	0	0	0	0	0	0	A
B	Call To Phase	0	0	0	0	0	0	0	0	B
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	C
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	D
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	E
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0	F

Phase Timing - Bank 2 <F Page>

Phase Timing - Bank 3 <F Page>

Row	Delay Only --->	7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output	Row
0		0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0
1		0	0								1
2		0	0								2
3		0	0								3
4		0	0								4
5		0	0								5
6		0	0								6
7		0	0								7
8		0	0								8
9	Limited Service	0	0								9
A	Int. --->	- - -	0								A
B		0	0								B
C		0	0								C
D		0	0								D
E		0	0								E
F		0	0								F

<--- Limited Service Interval
(Set Dwell = 255)

Special Event Schedule <C Page with F+9+F=22>

INTERSECTION: Coast Hwy & Mission

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **8**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **3/7/2023 11:13:17 P**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	**8**	<C/0+0+0>
Zone Number	**8**	<C/0+0+1>
Area Number	**1**	<C/0+0+2>
Area Address	**8**	<C/0+0+3>
QuicNet Channel	**P:8001:10.160.0**	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	**0**	<F/1+0+E>
Red Revert	**2.0**	<F/1+0+F>
All Red Start	**5.0**	<F/1+C+0>
FYA Red Revert	**0.5**	<F/1+0+5>
OVLP CHG Red	**6.0**	<F/1+0+3>

Start / Revert Times

Exclusive Walk	**0**	<F/1+0+0>
Exclusive FDW	**0**	<F/1+0+1>
All Red Clear	**0.0**	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8	Row
0	Ped Walk	0	7	7	0	0	7	0	0	0
1	Ped FDW	0	13	16	0	0	13	0	0	1
2	Min Green	5	10	6	6	5	10	4	4	2
3	Type 3 Disconnect	0	0	0	0	0	0	0	20	3
4	Added per Vehicle	0.0	1.5	0.0	0.0	0.0	1.5	0.0	2.0	4
5	Veh Extension	3.0	4.0	3.0	3.0	3.0	4.0	2.0	2.5	5
6	Max Gap	3.0	5.0	6.0	3.0	3.0	5.0	3.0	3.0	6
7	Min Gap	3.0	2.0	3.0	3.0	3.0	2.0	0.5	1.5	7
8	Max Limit	20	30	25	20	15	30	20	25	8
9	Max Limit 2	30	50	30	40	30	50	30	40	9
A	Adv. / Delay Walk	0	0	5	0	0	0	0	0	A
B	PE Min Ped FDW	7	0	0	0	0	0	7	0	B
C	Cond Serv Check	10	0	0	0	0	0	10	0	C
D	Reduce Every	1.0	1.3	1.0	0.0	0.0	1.3	1.0	1.0	D
E	Yellow Change	3.6	4.0	4.0	4.0	3.6	4.0	3.0	3.0	E
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	F

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <C+0+F=1>

	E
RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	_23456__	0
Red Lock	_____	1
Yellow Lock	_____	2
Min Recall	_2___6__	3
Ped Recall	__3____	4
View Set Peds	- - - - -	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	_2___6__	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	__3____	E
First Phases	_2___6__	F

Phase Functions <C+0+F=1>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8	Row
	Overlap Name ----->									
0	Load Switch Number	0	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases									1
2	Veh Set 2 - Phases									2
3	Veh Set 3 - Phases									3
4	Neg Veh Phases									4
5	Neg Ped Phases									5
6	Green Omit Phases									6
7	Green Clear Omit Phs.									7
8	Overlap Recall	N	N	N	N	N	N	N	N	8
9	Queue Jump Phase									9
A	Queue Jump Time	0	0	0	0	0	0	0	0	A
B	Minimum Green	0	0	0	0	0	0	0	0	B
C	Maximum Green	0	0	0	0	0	0	0	0	C
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	D
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	F

Overlap Assignments <C+0+E=29>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = 3 Section FYA
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 = Manual Hold in FDW
7 = Allow QuicNet PE
8 = Flash Grn B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	- - -	4
RR-2 *	- - -	5
SE-1	0	6
SE-2	0	7

Preempt Priority <C+0+E=125>

(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4
C	EV-C Phases	6
D	EV-D Phases	3
E	Extra 1 Config. Bits	1 34
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	
Ped for 8P Output	3
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	3
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	23456
Start-up Ped Calls	23 6

Specials <C+0+F=2>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = FYA/Ped call side
5 = Ped Inhibit FYA
6 = Simplex Master
7 =
8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

Coordination Transition Minimums <C+0+C=5>

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ----->										
0	Cycle Length	100	100	100	100	100	86	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	55	55	1	55	55	55	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	20	20	20	20	20	30	20	20	20	3
4	Phase 4 - ForceOff	40	40	40	40	40	46	40	40	40	4
5	Phase 5 - ForceOff	55	55	55	55	55	60	55	55	55	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	20	20	20	20	20	1	20	20	20	7
8	Phase 8 - ForceOff	40	40	40	40	40	1	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	80	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	15	15	15	15	15	15	15	15	15	D
E	Hold Release	255	255	255	255	255	255	255	255	255	E
F	Reserved	0	0	0	0	0	0	0	0	0	F

Coordination - Bank 1 <C+0+C=1>

Row		E	Row
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E	Coord Extra	_____	E
F			F

Sync Phases <C+0+C=1>

Row		Plan 1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	B
C	Perm 2 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	C
D	Perm 2 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2 <C+0+C=2>

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	External Lag	_____	A
B	Lag Hold	_____	B
C			C
D			D
E			E
F			F

Lag Phases <C+0+C=1>

Row	Column 8		Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	One-Shot Timer	0	Latch 1 Set	0	NOT-3	0	Max 2	0	Pretimed	0	Set DOW	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	AND-5 (a)	0	Latch 1 Reset	0	NOT-4	0	Bus Checkin A	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	AND-5 (b)	0	Latch 2 Set	0	OR-4 (a)	0	Bus Checkin B	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	AND-6 (a)	0	Latch 2 Reset	0	OR-4 (b)	0	Bus Checkin C	0	Plan 3	0	Gate Down	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	AND-6 (b)	0	NAND-3 (a)	0	OR-5 (a)	0	Bus Checkin D	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	Reserved		NAND-3 (b)	0	OR-5 (b)	0	Bus Checkout A	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	Reserved		NAND-4 (a)	0	OR-6 (a)	0	Bus Checkout B	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	Reserved		NAND-4 (b)	0	OR-6 (b)	0	Bus Checkout C	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	Spec. Funct. 1	0	OR-7 (a)	0	EXTMR	0	Bus Checkout D	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	Spec. Funct. 2	0	OR-7 (b)	0	External Alarm 1	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm 2	0	NOT-2	0	External Lag	0	9
A	Spec. Funct. 3	0	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	Spec. Funct. 4	0	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	Reserved		OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	Reserved		OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	Reserved		OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	Reserved		OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 8		Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Reserved		Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Reserved		Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Reserved		Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Reserved		Phase ON - 4	0	Sp Evnt Out 3	0	EXTMR	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Reserved		Phase ON - 5	0	Sp Evnt Out 4	0	One-Shot Timer	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Reserved		Phase ON - 6	0	Sp Evnt Out 5	0	Reserved		Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Reserved		Phase ON - 7	0	Sp Evnt Out 6	0	Latch 1	0	Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Reserved		Phase ON - 8	0	Sp Evnt Out 7	0	Latch 2	0	Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Flh Yell Arrow 1	0	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Green 1	0	Ph. Check - 2	0	Coord On	0	NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Flh Yell Arrow 3	0	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Green 3	0	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Flh Yell Arrow 5	0	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0	AND-5	0	C
D	Green 5	0	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0	AND-6	0	D
E	Flh Yell Arrow 7	0	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0	Reserved		E
F	Green 7	0	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0	Reserved		F

Assignable Outputs <C+0+E=127>

		Phase							
	Column Numbers ---->	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Row	*Phase Names ---->*								
0	Ped Walk	**0**	**7**	**0**	**7**	**0**	**7**	**0**	**7**
1	Ped FDW	**0**	**15**	**0**	**15**	**0**	**15**	**0**	**15**
2	Min Green	**4**	**7**	**4**	**4**	**4**	**7**	**4**	**4**
3	Type 3 Disconnect	**0**	**20**	**0**	**20**	**0**	**20**	**0**	**20**
4	Added per Vehicle	**0.0**	**2.0**	**0.0**	**2.0**	**0.0**	**2.0**	**0.0**	**2.0**
5	Veh Extension	**2.0**	**4.0**	**2.0**	**2.5**	**2.0**	**4.0**	**2.0**	**2.5**
6	Max Gap	**3.0**	**6.0**	**3.0**	**3.0**	**3.0**	**6.0**	**3.0**	**3.0**
7	Min Gap	**0.5**	**2.0**	**0.5**	**1.5**	**0.5**	**2.0**	**0.5**	**1.5**
8	Max Limit	**20**	**30**	**20**	**25**	**20**	**30**	**20**	**25**
9	Max Limit 2	**30**	**50**	**30**	**40**	**30**	**50**	**30**	**40**
A	Adv. / Delay Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B	PE Min Ped FDW	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
C	Cond Serv Check	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
D	Reduce Every	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
E	Yellow Change	**3.0**	**4.0**	**3.0**	**3.0**	**3.0**	**4.0**	**3.0**	**3.0**
F	Red Clear	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**

Phase Timing - Bank 2 <C+0+F=2>

	9	**A**	**B**	**C**	**D**
	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**20**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**20**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**20**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**20**	**0**	**0**	**0**	**0.0**

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	**0.3**	<C/5+1+9>

TBC Transition

Hawk Select	**0**	F/1+0+4>

Hawk Select 200 = Mid-Block, 201 = Hawk

Address	**0**	<C/1+0+6>
Select Parity	**0**	<C/1+0+5>

AB3418 Comm 2 0 = No Parity, 1 = Even

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	**3**	<C/5+2+A>
Begin Week	**2**	<C/5+2+B>
End Month	**11**	<C/5+2+C>
End Week	**1**	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	**0.0**	<F/1+C+E>
Phase Number	**0**	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	**0.0**	`
Phase Number	**0**	<F/1+D+F>

Advance Warning Beacon - Sign 2

Offset Time	**0**	<C/5+2+E>
Max Cycle Time	**5**	<C/5+2+F>

Yellow Yield Coordination

	12345678	
Omit Alarm	**12345678**	<C/5+F+0>

Local Alarm Disable

Row		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	Ped Walk	**0**	**7**	**0**	**7**	**0**	**7**	**0**	**7**
1	Ped FDW	**0**	**15**	**0**	**15**	**0**	**15**	**0**	**15**
2	Min Green	**4**	**7**	**4**	**4**	**4**	**7**	**4**	**4**
3	Type 3 Disconnect	**0**	**20**	**0**	**20**	**0**	**20**	**0**	**20**
4	Added per Vehicle	**0.0**	**2.0**	**0.0**	**2.0**	**0.0**	**2.0**	**0.0**	**2.0**
5	Veh Extension	**2.0**	**4.0**	**2.0**	**2.5**	**2.0**	**4.0**	**2.0**	**2.5**
6	Max Gap	**3.0**	**6.0**	**3.0**	**3.0**	**3.0**	**6.0**	**3.0**	**3.0**
7	Min Gap	**0.5**	**2.0**	**0.5**	**1.5**	**0.5**	**2.0**	**0.5**	**1.5**
8	Max Limit	**20**	**30**	**20**	**25**	**20**	**30**	**20**	**25**
9	Max Limit 2	**30**	**50**	**30**	**40**	**30**	**50**	**30**	**40**
A	Adv. / Delay Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B	PE Min Ped FDW	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
C	Cond Serv Check	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
D	Reduce Every	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
E	Yellow Change	**3.0**	**4.0**	**3.0**	**3.0**	**3.0**	**4.0**	**3.0**	**3.0**
F	Red Clear	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**

Phase Timing - Bank 3 <C+0+F=3>

	9	**A**	**B**	**C**	**D**
	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**20**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**20**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**20**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**20**	**0**	**0**	**0**	**0.0**

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Column Numbers ----->		0	1	2	3	1	3
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45_7_	2	123 8	0.0	0.0
1		40	45_7_	6	123 8	0.0	0.0
2		41	45_7_	4	123 8	0.0	0.0
3		42	45_7_	8	123 8	0.0	0.0
4		43	45_7_	2	123 8	0.0	0.0
5		44	45_7_	6	123 8	0.0	0.0
6		45	45_7_	4	123 8	0.0	0.0
7		46	45_7_	8	123 8	0.0	0.0
8		47	67_	2	123 8	0.0	0.0
9		48	67_	6	123 8	0.0	0.0
A		49	67_	4	123 8	0.0	0.0
B		50	67_	8	123 8	0.0	0.0
C		55	45_7_	5	123 8	0.0	0.0
D		56	45_7_	1	123 8	0.0	0.0
E		57	45_7_	7	123 8	0.0	0.0
F		58	45_7_	3	123 8	0.0	0.0

		4	5	6	7	2	4
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7_	5	123 8	0.0	0.0
1		60	45_7_	1	123 8	0.0	0.0
2		61	45_7_	7	123 8	0.0	0.0
3		62	45_7_	3	123 8	0.0	0.0
4		63	45_7_	2	123 8	0.0	0.0
5		64	45_7_	6	123 8	0.0	0.0
6		65	45_7_	4	123 8	0.0	0.0
7		66	45_7_	8	123 8	0.0	0.0
8		67	2	2	123 8	0.0	0.0
9		68	2	6	123 8	0.0	0.0
A		69	2		123 8	0.0	0.0
B		70	2	3	123 8	0.0	0.0
C		76	45_7_	2	123 8	0.0	0.0
D		77	45_7_	6	123 8	0.0	0.0
E		78	45_7_	4	123 8	0.0	0.0
F		79	45_7_	8	123 8	0.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 = Overlap
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap								
Column Numbers ----->	1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	255	<D/0+0+1>
Max ON (minutes)	15	<D/0+0+2>
Chatter Fail Time	0	<D/0+0+4>

Detector Failure Monitor

Ped Ovlp Parent Ph	0	<E/125+D+1>
Ped Ovlp Phases		<E/125+D+2>
RR1 Exit Phases		<E/125+D+3>
Excl Ped/Ped Svc	0	<E/125+D+4>

Miscellaneous

	B	Row
One-Shot	0.0	8
Ext. Timer	0	9
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	10 : 00	6	A	1____67
2	11 : 00	6	A	_2345__
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	20 : 00	E	A	1234567
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 6 - FYA Inhibit
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.2>
(Bank 2)

Month Select: October = A, November = B, Decmber = C

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/27+5+F>
Limited Service Interval

Special Event Schedule -- Table 1 <C+0+E=27>

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/28+5+F>
Limited Service Interval

Special Event Schedule -- Table 2 <C+0+E=28>

Min Time (seconds)	**0**	<F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes)	**255**	<F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds)	**0**	<F/1+0+A>

Min Time Between Same Preempts
(Does Not Apply To Railroad Preempt)

Low Pri. Channel	_____	<E/125+C+8>

Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Row		
C	Bus Headway	**0**
D	Bus Delay	**0**
E	Max Early Grn	**0**
F	Max Grn Ext.	**0**

Priority Parameters
<F/1 +A+Row>

Row	Time	Headway	Direction	Day of Week
0	**00 : 00**	**0**	**0**	_____
1	**00 : 00**	**0**	**0**	_____
2	**00 : 00**	**0**	**0**	_____
3	**00 : 00**	**0**	**0**	_____
4	**00 : 00**	**0**	**0**	_____
5	**00 : 00**	**0**	**0**	_____
6	**00 : 00**	**0**	**0**	_____
7	**00 : 00**	**0**	**0**	_____
8	**00 : 00**	**0**	**0**	_____
9	**00 : 00**	**0**	**0**	_____
A	**00 : 00**	**0**	**0**	_____
B	**00 : 00**	**0**	**0**	_____
C	**00 : 00**	**0**	**0**	_____
D	**00 : 00**	**0**	**0**	_____
E	**00 : 00**	**0**	**0**	_____
F	**00 : 00**	**0**	**0**	_____

Headway Schedule <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

MAXTIME TIMING SHEET

Coast Hwy @ Oceanside Blvd

3.1 Unit Information

Controller Number	4
Software	2.5.2
Main Street	Coast Hwy
Side Street	Oceanside Blvd

3.2.1 Ethernet Configuration

NET1 IP Address	10.160.0.24
NET1 Subnet Mask	255.255.255.0
NET1 Gateway	10.160.0.1

3.3 Time Source & NTP

Time Source	NTP
NTP Server	10.32.0.40

Unit Parameters

Startup Flash	0
Startup Clearance Hold Time	5
Start Yellow Override	0.0
Start Red Override	0.0
Backup Time	600
Red Revert	2.0
All Red Flash Exit	5
Local Flash Through CVM	Disable
All Red Local Flash Sense	Disable
All Dark Local Flash Sense	Disable
Free Phase Plan	1
Free Overlap Plan	1
Free Veh Detector Plan	1
Free Sequence	1
Manual Control Enable	Enable
Manual Control Sequence	1
Auto Ped Clear	Enable
Preempt Lock Out Time	0

2.1.1-1 Phase Plan 1

Phase	1	2	3	4	5	6	7	8
Description	SB Left	NB	EB	WB	NB Left	SB		
Walk	0	7	7	7	0	7	0	0
Ped Clear	0	16	13	18	0	10	0	0
Steady Don't Walk	0	0	0	0	0	0	0	0
Min Green	5	10	5	5	5	16	0	0
Min Green 2	0	0	0	0	0	0	0	0
Passage	3.0	5.0	2.0	2.0	3.0	5.0	0.0	0.0
Passage 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Green 1	20	60	20	25	20	60	0	0
Max Green 2	20	75	20	25	75	60	0	0
Yellow Change	3.6	4.1	3.6	3.6	3.6	4.1	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
Added Initial	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Maximum Initial	0	30	0	0	0	30	0	0
Time B4 Reduction	0	30	0	0	0	30	0	0
Cars B4 Reduction	0	0	0	0	0	0	0	0
Time To Reduce	0	10	0	0	0	10	0	0
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Gap	0.0	4.0	0.0	0.0	0.0	4.0	0.0	0.0
Dynamic Max Limit	0	0	0	0	0	0	0	0
Dynamic Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	7	0	0	0	0
Delayed Ped	0	0	0	0	0	0	0	0

2.2.2-1 Phase Options Plan 1

Phase	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X		
Auto Flash Entry				X				
Auto Flash Exit		X				X		
Non Lock Detector	X	X	X	X	X	X		
Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry		X				X		
Disable Simult. Gap								
Actuated Rest in Walk								
Conditional Svc Enable								
Add Initial Calculation								
Ped Clear During Yellow								
Ped Clear During Red Clr								
Yellow Min Override								
No Startup Call								
Advanced Warning								
No Ped Startup Call		X	X	X		X		
Min Green 2								
Max Green 2								
Red Rest								
Ped Recycle		X	X	X		X		
Simultaneous Start								

2.3.2 Phase Configuration

Phase	Startup	Description
1		SB Left
2		NB
3		EB
4		WB
5		NB Left
6		SB
7		
8		

2.2.3 Global Phase Recalls

Phase	1	2	3	4	5	6	7	8
Min Recall								
Max Recall								
Ped recall								
Rest in Walk								

Notes

Sequences

2.3.1-1 Sequence 1

Ring	Sequence
1	1,2,a,3,4,b
2	5,6,a,b
3	

2.3.1-2 Sequence 2

Ring	Sequence
1	2,1,a,3,4,b
2	5,6,a,7,8,b
3	

2.3.1-3 Sequence 3

Ring	Sequence
1	1,2,a,4,3,b
2	5,6,a,7,8,b
3	

2.3.1-4 Sequence 4

Ring	Sequence
1	2,1,a,4,3,b
2	5,6,a,7,8,b
3	

2.3.1-5 Sequence 5

Ring	Sequence
1	1,2,a,3,4,b
2	6,5,a,7,8,b
3	

2.3.1-6 Sequence 6

Ring	Sequence
1	2,1,a,3,4,b
2	6,5,a,7,8,b
3	

2.3.1-7 Sequence 7

Ring	Sequence
1	1,2,a,4,3,b
2	6,5,a,7,8,b
3	

2.3.1-8 Sequence 8

Ring	Sequence
1	2,1,a,4,3,b
2	6,5,a,7,8,b
3	

2.3.1-9 Sequence 9

Ring	Sequence
1	1,2,a,3,4,b
2	5,6,a,8,7,b
3	

2.3.1-10 Sequence 10

Ring	Sequence
1	2,1,a,3,4,b
2	5,6,a,8,7,b
3	

2.3.1-11 Sequence 11

Ring	Sequence
1	1,2,a,4,3,b
2	5,6,a,8,7,b
3	

2.3.1-12 Sequence 12

Ring	Sequence
1	2,1,a,4,3,b
2	5,6,a,8,7,b
3	

2.3.1-13 Sequence 13

Ring	Sequence
1	1,2,a,3,4,b
2	6,5,a,8,7,b
3	

2.3.1-14 Sequence 14

Ring	Sequence
1	2,1,a,3,4,b
2	6,5,a,8,7,b
3	

2.3.1-15 Sequence 15

Ring	Sequence
1	1,2,a,4,3,b
2	6,5,a,8,7,b
3	

2.3.1-16 Sequence 16

Ring	Sequence
1	2,1,a,4,3,b
2	6,5,a,8,7,b
3	

Backup Prevention / No Serve Phases

2.3.4.1-1 Sequence 1

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-1 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-1 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-2 Sequence 2

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-2 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-2 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-3 Sequence 3

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-3 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-3 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-4 Sequence 4

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-4 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-4 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-5 Sequence 5

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-5 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-5 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-6 Sequence 6

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-6 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-6 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-7 Sequence 7

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-7 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-7 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-8 Sequence 8

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-8 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-8 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

Backup Prevention / No Serve Phases

2.3.4.1-9 Sequence 9

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-10

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-10 Sequence 10

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-10

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-11 Sequence 11

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-11

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-12 Sequence 12

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-12

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-13 Sequence 13

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-13

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-14 Sequence 14

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-14

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-15 Sequence 15

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-15

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-16 Sequence 16

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-16

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

INTERSECTION: Coast Hwy & Pier View

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **9**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **2/15/2022 11:45:06**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	**9**	<C/0+0+0>
Zone Number	**9**	<C/0+0+1>
Area Number	**1**	<C/0+0+2>
Area Address	**9**	<C/0+0+3>
QuicNet Channel	**IP:8001:10.160.0**	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	**0**	<F/1+0+E>
Red Revert	**2.0**	<F/1+0+F>
All Red Start	**5.0**	<F/1+C+0>

Start / Revert Times

Exclusive Walk	**0**	<F/1+0+0>
Exclusive FDW	**0**	<F/1+0+1>
All Red Clear	**0.0**	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8	Row
0	Ped Walk	0	7	0	9	0	7	0	9	0
1	Ped FDW	0	13	0	13	0	13	0	13	1
2	Min Green	4	10	4	6	4	10	4	6	2
3	Type 3 Disconnect	0	99	0	0	0	99	0	0	3
4	Added per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	4
5	Veh Extension	2.0	5.0	2.0	3.0	2.0	5.0	2.0	3.0	5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0	6
7	Min Gap	0.5	4.0	0.5	3.0	0.5	4.0	0.5	3.0	7
8	Max Limit	20	40	20	30	20	40	20	30	8
9	Max Limit 2	30	50	30	40	30	50	30	40	9
A	Adv. / Delay Walk	0	0	0	5	0	0	0	5	A
B	PE Min Ped FDW	0	0	0	0	0	0	0	0	B
C	Cond Serv Check	10	0	10	0	10	0	10	0	C
D	Reduce Every	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	D
E	Yellow Change	3.0	4.0	3.0	3.6	3.0	4.0	3.0	3.6	E
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	F

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <C+0+F=1>

E	
RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

F	
Permit	_2_4_6_8
Red Lock	_____
Yellow Lock	_____
Min Recall	_2___6__
Ped Recall	_____
View Set Peds	- - - - -
Rest In Walk	_____
Red Rest	_____
Dual Entry	_2_4_6_8
Max Recall	_____
Soft Recall	_____
Max 2	_____
Cond. Service	_____
Man Cntrl Calls	_____
Yellow Start	_2___6__
First Phases	___4___8

Phase Functions <C+0+F=1>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8
	Overlap Name ----->								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Allow QuicNet PE
8 =

Row		C
0	EV-A	0
1	EV-B	0
2	EV-C	0
3	EV-D	0
4	RR-1 *	- - -
5	RR-2 *	- - -
6	SE-1	0
7	SE-2	0

Preempt Priority <C+0+E=125>

(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2
B	EV-B Phases	4
C	EV-C Phases	6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	4 8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	2 4 6 8
Start-up Ped Calls	2 4 6 8

Specials <C+0+F=2>

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		2
0		
1	Phase 1	10
2	Phase 2	10
3	Phase 3	10
4	Phase 4	10
5	Phase 5	10
6	Phase 6	10
7	Phase 7	10
8	Phase 8	10

Coordination Transition Minimums <C+0+C=5>

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ----->										
0	Cycle Length	100	100	100	100	100	86	100	100	100	0
1	Phase 1 - ForceOff	55	55	55	55	55	1	1	55	55	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	20	20	20	20	20	1	1	20	20	3
4	Phase 4 - ForceOff	40	40	40	40	40	28	28	40	40	4
5	Phase 5 - ForceOff	55	55	55	55	55	1	1	55	55	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	20	20	20	20	20	1	1	20	20	7
8	Phase 8 - ForceOff	40	40	40	40	40	28	28	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	14	72	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	15	15	15	15	15	15	15	15	15	D
E	Hold Release	255	255	255	255	255	75	90	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coordination - Bank 1 <C+0+C=1>

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E	Coord Extra	_____	E
F			F

Sync Phases <C+0+C=1>

Row		1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	0	0	0	0	0	0	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	B
C	Perm 2 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	C
D	Perm 2 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2 <C+0+C=2>

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	External Lag	_____	A
B			B
C			C
D			D
E			E
F			F

Lag Phases <C+0+C=1>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs <C+0+E=127>

Row	Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	0.3	<C/5+1+9>

TBC Transition

Lag Hold Phases	_____	<C/5+1+A>

Coordinated Lag Hold Phases

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	4	<C/5+2+A>
Begin Week	1	<C/5+2+B>
End Month	10	<C/5+2+C>
End Week	5	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	<F/1+D+E>
Phase Number	0	<F/1+D+F>

Advance Warning Beacon - Sign 2

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing

Column Numbers ----->		0	1	2	3	1	3
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		39	45_7_	2	123 8	0.0	0.0
1		40	45_7_	6	123 8	0.0	0.0
2		41	45_7_	4	123 8	0.0	0.0
3		42	45_7_	8	123 8	0.0	0.0
4		43	45_7_	2	123 8	0.0	0.0
5		44	45_7_	6	123 8	0.0	0.0
6		45	45_7_	4	123 8	0.0	0.0
7		46	45_7_	8	123 8	0.0	0.0
8		47	67_	2	123 8	0.0	0.0
9		48	67_	6	123 8	0.0	0.0
A		49	67_	4	123 8	0.0	0.0
B		50	67_	8	123 8	0.0	0.0
C		55	45_7_	5	123 8	0.0	0.0
D		56	45_7_	1	123 8	0.0	0.0
E		57	45_7_	7	123 8	0.0	0.0
F		58	45_7_	3	123 8	0.0	0.0

		4	5	6	7	2	4
Row	*Detector Name*	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
0		59	45_7_	5	123 8	0.0	0.0
1		60	45_7_	1	123 8	0.0	0.0
2		61	45_7_	7	123 8	0.0	0.0
3		62	45_7_	3	123 8	0.0	0.0
4		63	45_7_	2	123 8	0.0	0.0
5		64	45_7_	6	123 8	0.0	0.0
6		65	45_7_	4	123 8	0.0	0.0
7		66	45_7_	8	123 8	0.0	0.0
8		67	2	2	123 8	0.0	0.0
9		68	2	6	123 8	0.0	0.0
A		69	2	4	123 8	0.0	0.0
B		70	2	8	123 8	0.0	0.0
C		76	45_7_	2	123 8	0.0	0.0
D		77	45_7_	6	123 8	0.0	0.0
E		78	45_7_	4	123 8	0.0	0.0
F		79	45_7_	8	123 8	0.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	Ped / Phase / Overlap								
Column Numbers ----->	1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type	0	<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	255	<D/0+0+1>
Max ON (minutes)	15	<D/0+0+2>

Detector Failure Monitor

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Omit Alarm		<C/5+F+0>

Disable Alarm Reporting

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	10 : 00	6	A	1___67
2	11 : 00	6	A	_2345_
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	20 : 00	E	A	1234567
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 00	4	1234567	_____
00 : 00	4	1234_67	_____
08 : 00	4	____5__	_2_4_6_8
13 : 30	4	____5__	_2___6__
16 : 30	4	____5__	_2_4_6_8
21 : 30	4	____5__	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.2>
(Bank 2)

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/27+5+F>
Limited Service Interval

Special Event Schedule -- Table 1 <C+0+E=27>

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

0 <E/28+5+F>
Limited Service Interval

Special Event Schedule -- Table 2 <C+0+E=28>

Min Time (seconds) **0** <F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes) **255** <F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds) **0** <F/1+0+A>

Min Time Between Same Preempts

(Does Not Apply To Railroad Preempt)

Low Pri. Channel _____ <E/125+C+8>

Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Delay Time (seconds) **0** <F/1+A+D>

Bus Delay

Max Time (seconds) **0** <F/1+A+E>

Max Early Green

Max Time (seconds) **0** <F/1+A+F>

Max Green Extension

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

Headway <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Only available with *Program 233RV2.B* (and above)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: Coast Hwy & Seagaze

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **7**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **3/27/2023 4:39:50 P**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Drop Number	**11**	<C/0+0+0>
Zone Number	**7**	<C/0+0+1>
Area Number	**1**	<C/0+0+2>
Area Address	**7**	<C/0+0+3>
QuicNet Channel	**P:8001:10.160.0.**	(QuicNet)

Communication Addresses

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

Manual Selection

Flash Start	**0**	<F/1+0+E>
Red Revert	**2.0**	<F/1+0+F>
All Red Start	**5.0**	<F/1+C+0>

Start / Revert Times

Exclusive Walk	**0**	<F/1+0+0>
Exclusive FDW	**0**	<F/1+0+1>
All Red Clear	**0.0**	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable Outputs at E/127+A+E & F)

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	**0**	**7**	**0**	**9**	**0**	**7**	**0**	**9**
1	Ped FDW	**0**	**11**	**0**	**11**	**0**	**11**	**0**	**11**
2	Min Green	**5**	**10**	**4**	**6**	**5**	**10**	**4**	**6**
3	Type 3 Disconnect	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4	Added per Vehicle	**0.0**	**1.5**	**0.0**	**0.0**	**0.0**	**1.5**	**0.0**	**0.0**
5	Veh Extension	**3.0**	**4.0**	**2.0**	**3.0**	**3.0**	**4.0**	**2.0**	**3.0**
6	Max Gap	**3.0**	**5.0**	**3.0**	**3.0**	**3.0**	**5.0**	**3.0**	**3.0**
7	Min Gap	**3.0**	**3.0**	**0.5**	**3.0**	**3.0**	**3.0**	**0.5**	**3.0**
8	Max Limit	**30**	**40**	**20**	**25**	**20**	**40**	**20**	**25**
9	Max Limit 2	**30**	**50**	**30**	**40**	**30**	**50**	**30**	**40**
A	Adv. / Delay Walk	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**5**
B	PE Min Ped FDW	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C	Cond Serv Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
D	Reduce Every	**0.0**	**1.0**	**1.0**	**0.0**	**0.0**	**1.0**	**1.0**	**0.0**
E	Yellow Change	**3.2**	**4.0**	**3.0**	**3.2**	**3.2**	**4.0**	**3.0**	**3.6**
F	Red Clear	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	**0**	**0**	**0**	**0**	**0.0**
Phase 2	**20**	**0**	**0**	**0**	**0.0**
Phase 3	**0**	**0**	**0**	**0**	**0.0**
Phase 4	**20**	**0**	**0**	**0**	**0.0**
Phase 5	**0**	**0**	**0**	**0**	**0.0**
Phase 6	**20**	**0**	**0**	**0**	**0.0**
Phase 7	**0**	**0**	**0**	**0**	**0.0**
Phase 8	**20**	**0**	**0**	**0**	**0.0**

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing <C+0+F=1>

E	
RR-1 Delay	**0**
RR-1 Clear	**0**
EV-A Delay	**0**
EV-A Clear	**5**
EV-B Delay	**0**
EV-B Clear	**5**
EV-C Delay	**0**
EV-C Clear	**5**
EV-D Delay	**0**
EV-D Clear	**5**
RR-2 Delay	**0**
RR-2 Clear	**0**
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

F		Row
Permit	**12__56_8**	0
Red Lock	_____	1
Yellow Lock	_____	2
Min Recall	**_2___6__**	3
Ped Recall	_____	4
View Set Peds	**- - - - -**	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	**_2___6__**	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	**1___5___**	E
First Phases	**_2___6__**	F

Phase Functions <C+0+F=1>

Overlap Assignments <C+0+E=29>

Row	Column Numbers ---->	Overlap 1	2	3	4	5	6	7	8	Row
	Overlap Name ---->									
0	Load Switch Number	0	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases									1
2	Veh Set 2 - Phases									2
3	Veh Set 3 - Phases									3
4	Neg Veh Phases									4
5	Neg Ped Phases									5
6	Green Omit Phases									6
7	Green Clear Omit Phs.									7
8										8
9										9
A										A
B										B
C										C
D	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	D
E	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
F	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	F

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Allow QuicNet PE
8 =

Row		C	Row
0	EV-A	0	0
1	EV-B	0	1
2	EV-C	0	2
3	EV-D	0	3
4	RR-1 *	- - -	4
5	RR-2 *	- - -	5
6	SE-1	0	6
7	SE-2	0	7

Preempt Priority
<C+0+E=125>
(* RR-1 is always Highest, and RR-2 is always Second Highest)

Configuration <C+0+E=125>

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 4
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Specials <C+0+F=2>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	8
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	2 4 6 8
Start-up Ped Calls	2 4 6 8

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		2	Row
0			0
1	Phase 1	10	1
2	Phase 2	10	2
3	Phase 3	10	3
4	Phase 4	10	4
5	Phase 5	10	5
6	Phase 6	10	6
7	Phase 7	10	7
8	Phase 8	10	8
9			9
A			A
B			B
C			C
D			D
E			E
F			F

Coordination Transition Minimums
<C+0+C=5>

Row	Column Numbers ---->	Plan 1	2	3	4	5	6	7	8	9	Row
	Plan Name ----->										
0	Cycle Length	75	100	100	75	85	86	100	100	100	0
1	Phase 1 - ForceOff	45	55	55	50	45	55	55	55	55	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	1	20	20	1	1	1	1	20	20	3
4	Phase 4 - ForceOff	25	40	40	25	25	1	1	40	40	4
5	Phase 5 - ForceOff	45	55	55	45	45	45	45	55	55	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	1	20	20	1	1	1	1	20	20	7
8	Phase 8 - ForceOff	25	40	40	25	25	30	30	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	37	0	0	41	51	2	77	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Perm 1 - End	15	15	15	15	15	15	15	15	15	D
E	Hold Release	70	255	255	70	255	80	90	255	255	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

Coord Extra
1 = Programmed WALK Time for Sync Phases
2 = Always Terminate Sync Phase Peds

Row		E	Row
			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	NEMA Sync	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E	Coord Extra	_____	E
F			F

Coordination - Bank 1 <C+0+C=1>

Row		1	2	3	4	5	6	7	8	9	Row
0	Ped Adjustment	5	0	0	5	0	5	0	0	0	0
1	Perm 2 - Start	0	0	0	0	0	0	0	0	0	1
2	Perm 2 - End	0	0	0	0	0	0	0	0	0	2
3	Perm 3 - Start	0	0	0	0	0	0	0	0	0	3
4	Perm 3 - End	0	0	0	0	0	0	0	0	0	4
5	Reservice Time	0	0	0	0	0	0	0	0	0	5
6	Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	6
7											7
8	Pretimed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____	8
9	Max Recall	_____	_____	_____	_____	_____	_____	_____	_____	_____	9
A	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	A
B	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	B
C	Perm 2 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	C
D	Perm 2 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	D
E	Perm 3 Veh Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	E
F	Perm 3 Ped Phase	_____	_____	_____	_____	_____	_____	_____	_____	_____	F

Coordination - Bank 2 <C+0+C=2>

Sync Phases <C+0+C=1>

Row		F	Row
			0
1	Free Lag	_2_4_6_8	1
2	Plan 1 - Lag	_2_4_6_8	2
3	Plan 2 - Lag	_2_4_6_8	3
4	Plan 3 - Lag	_2_4_6_8	4
5	Plan 4 - Lag	_2_4_6_8	5
6	Plan 5 - Lag	_2_4_6_8	6
7	Plan 6 - Lag	_2_4_6_8	7
8	Plan 7 - Lag	_2_4_6_8	8
9	Plan 8 - Lag	_2_4_6_8	9
A	Plan 9 - Lag	_2_4_6_8	A
B	External Lag	_____	B
C			C
D			D
E			E
F			F

Lag Phases <C+0+C=1>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	0
1	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	1
2	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	2
3	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Reserved	0	Offset 2 (7-Wire)	0	EV-C	73	3
4	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EV-D	74	4
5	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	5
6	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	6
7	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Omit	0	Spec. Event 1	0	7
8	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	8
9	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	9
A	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	A
B	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	B
C	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	C
D	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	D
E	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	E
F	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	F

Assignable Inputs <C+0+E=126>

Row	Column 9		Column A		Column B		Column C		Column D		Column E		Column F		Row
0	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	0
1	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	1
2	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	2
3	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	3
4	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	4
5	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	5
6	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	6
7	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	7
8	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	8
9	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	9
A	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	A
B	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	B
C	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			C
D	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			D
E	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			E
F	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			F

Assignable Outputs <C+0+E=127>

Row	Phase Names ---->	Phase 1	2	3	4	5	6	7	8
	Column Numbers ----->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 = Number of cycles when lengthing

Transition Type	**0.3**	<C/5+1+9>

TBC Transition

Lag Hold Phases	_____	<C/5+1+A>

Coordinated Lag Hold Phases

Daylight Savings Date
If set to all zeros, standard dates will be used.

Begin Month	**3**	<C/5+2+A>
Begin Week	**2**	<C/5+2+B>
End Month	**11**	<C/5+2+C>
End Week	**1**	<C/5+2+D>

Daylight Savings Time

Time B4 Yellow	**0.0**	<F/1+C+E>
Phase Number	**0**	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	**0.0**	<F/1+D+E>
Phase Number	**0**	<F/1+D+F>

Advance Warning Beacon - Sign 2

Row		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	15	0	15	0	15	0	15
2	Min Green	4	7	4	4	4	7	4	4
3	Type 3 Disconnect	0	20	0	20	0	20	0	20
4	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
5	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
6	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
7	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
8	Max Limit	20	30	20	25	20	30	20	25
9	Max Limit 2	30	50	30	40	30	50	30	40
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	7	7	7	7	7	7	7	7
C	Cond Serv Check	10	10	10	10	10	10	10	10
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Row	Detector Name	0 C1 Pin Number	1 Attributes	2 Phase(s)	3 Assign	1 Delay	3 Carry-over
0		39	___45_7_	_2_____	123____8	0.0	0.0
1		40	___45_7_	_____6__	123____8	0.0	0.0
2		41	___45_7_	___4____	123____8	10.0	0.0
3		42	___45_7_	_______8	123____8	10.0	0.0
4		43	___45_7_	_2_____	123____8	0.0	0.0
5		44	___45_7_	_____6__	123____8	0.0	0.0
6		45	___45_7_	___4____	123____8	2.0	0.0
7		46	___45_7_	_______8	123____8	2.0	0.0
8		47	_____67_	_2_____	123____8	0.0	0.0
9		48	_____67_	_____6__	123____8	0.0	0.0
A		49	_____67_	___4____	123____8	0.0	0.0
B		50	_____67_	_______8	123____8	0.0	0.0
C		55	___45_7_	____5___	123____8	2.0	0.0
D		56	___45_7_	1_______	123____8	2.0	0.0
E		57	___45_7_	_____7_	123____8	0.0	0.0
F		58	___45_7_	__3_____	123____8	0.0	0.0

Row	Detector Name	4 C1 Pin Number	5 Attributes	6 Phase(s)	7 Assign	2 Delay	4 Carry-over
0		59	___45_7_	____5___	123____8	0.0	0.0
1		60	___45_7_	1_______	123____8	0.0	0.0
2		61	___45_7_	_____7_	123____8	0.0	0.0
3		62	___45_7_	__3_____	123____8	0.0	0.0
4		63	___45_7_	_2_____	123____8	0.0	0.0
5		64	___45_7_	_____6__	123____8	0.0	0.0
6		65	___45_7_	___4____	123____8	0.0	0.0
7		66	___45_7_	_______8	123____8	0.0	0.0
8		67	_2_____	_2_____	123____8	0.0	0.0
9		68	_2_____	_____6__	123____8	0.0	0.0
A		69	_2_____	___4____	123____8	0.0	0.0
B		70	_2_____	_______8	123____8	0.0	0.0
C		76	___45_7_	_2_____	123____8	0.0	0.0
D		77	___45_7_	_____6__	123____8	0.0	0.0
E		78	___45_7_	___4____	123____8	0.0	0.0
F		79	___45_7_	_______8	123____8	0.0	0.0

Detector Assignments <C+0+E=126> <C+0+D=0>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

Column Numbers ---->	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	1
Phase Green	0	0	0	0	0	0	0	0	2
Phase Yellow	0	0	0	0	0	0	0	0	3
Phase Red	0	0	0	0	0	0	0	0	4
Overlap Green	0	0	0	0	0	0	0	0	5
Overlap Yellow	0	0	0	0	0	0	0	0	6
Overlap Red	0	0	0	0	0	0	0	0	7

Redirect Phase Outputs <C+0+E=127>

Cabinet Type: **0** <E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes): **255** <D/0+0+1>
Max ON (minutes): **15** <D/0+0+2>

Detector Failure Monitor

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	0	A
DELAY-B	0	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

Delay Logic Times
<C+0+D=0> (seconds)

Omit Alarm: _____ <C/5+F+0>

Disable Alarm Reporting

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	10 : 00	6	A	1___67
2	11 : 00	6	A	_2345__
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	20 : 00	E	A	1234567
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.1>
(Bank 1)

Time	Funct.	Day of Week	Column 4 Phases/Bits
00 : 00	4	1234567	_____
00 : 00	4	1234567	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

TOD Function <C+0+7=0.1> <C+0+E=27>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.1>
(Bank 1)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.1>
(Bank 1)

T.O.D. Functions
0 =
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 4 - Disable Detector OFF Monitor
Bit 5 - Disable Low Priority Preempt
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 8

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row	Time	Plan	Offset	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

TOD Coordination <C+0+9=0.2>
(Bank 2)

Time	Funct.	Holiday Type	Column 4 Phases/Bits
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____
00 : 00	0	_____	_____

Holiday TOD Function <C+0+7=0.2> <C+0+E=28>

Day	Year	Month	Holiday Type
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____
00	00	0	_____

Holiday Dates <C+0+8=1.2>
(Bank 2)

Time	Plan	Offset	Holiday Type
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____
00 : 00	0	0	_____

Holiday Events <C+0+9=1.2>
(Bank 2)

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

Special Event Schedule -- Table 1 <C+0+E=27>

0 <E/27+5+F>

Limited Service Interval

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Notes:

Special Event Schedule -- Table 2 <C+0+E=28>

0 <E/28+5+F>

Limited Service Interval

Min Time (seconds) **0** <F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes) **255** <F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds) **0** <F/1+0+A>

Min Time Between Same Preempts

(Does Not Apply To Railroad Preempt)

Low Pri. Channel _____ <E/125+C+8>

Disable Low Priority Channel

Low Priority
1 = Channel A
2 = Channel B
3 = Channel C
4 = Channel D

Delay Time (seconds) **0** <F/1+A+D>

Bus Delay

Max Time (seconds) **0** <F/1+A+E>

Max Early Green

Max Time (seconds) **0** <F/1+A+F>

Max Green Extension

Row	Time	Headway	Direction	Day of Week
0	00 : 00	0	0	_____
1	00 : 00	0	0	_____
2	00 : 00	0	0	_____
3	00 : 00	0	0	_____
4	00 : 00	0	0	_____
5	00 : 00	0	0	_____
6	00 : 00	0	0	_____
7	00 : 00	0	0	_____
8	00 : 00	0	0	_____
9	00 : 00	0	0	_____
A	00 : 00	0	0	_____
B	00 : 00	0	0	_____
C	00 : 00	0	0	_____
D	00 : 00	0	0	_____
E	00 : 00	0	0	_____
F	00 : 00	0	0	_____

Headway <C+0+9=2.1>

Headway Time
(minutes)
1 thru 9 = 1 thru 9
A = 10
B = 11
C = 12
D = 13
E = 14
F = 15

Low Priority Preemption (Bus Priority)

Only available with *Program 233RV2.B* (and above)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

MAXTIME TIMING SHEET

Coast Hwy @ Surfrider

3.1 Unit Information

Controller Number	0
Software	2.10.2
Main Street	Coast Hwy
Side Street	Surfrider

3.2.1 Ethernet Configuration

NET1 IP Address	10.160.0.31
NET1 Subnet Mask	255.255.255.0
NET1 Gateway	10.160.0.1

3.3 Time Source & NTP

Time Source	NTP
NTP Server	10.32.0.40

Unit Parameters

Startup Flash	0
Startup Clearance Hold Time	5
Start Yellow Override	0.0
Start Red Override	0.0
Backup Time	600
Red Revert	5.0
All Red Flash Exit	5
Local Flash Through CVM	Disable
All Red Local Flash Sense	Disable
All Dark Local Flash Sense	Disable
Free Phase Plan	1
Free Overlap Plan	1
Free Veh Detector Plan	1
Free Sequence	1
Manual Control Enable	Enable
Manual Control Sequence	1
Auto Ped Clear	Disable
Preempt Lock Out Time	0

2.1.1-1 Phase Plan 1

Phase	1	2	3	4	5	6	7	8
Description								
Walk	0	7	0	7	0	7	0	7
Ped Clear	0	11	0	11	0	11	0	11
Steady Don't Walk	0	0	0	0	0	0	0	0
Min Green	5	10	0	6	5	10	0	6
Min Green 2	0	0	0	0	0	0	0	0
Passage	3.0	4.0	0.0	3.0	3.0	4.0	3.0	0.0
Passage 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Green 1	20	40	0	20	20	40	0	25
Max Green 2	0	0	0	0	0	0	0	0
Yellow Change	3.2	4.0	3.0	3.6	3.2	4.0	3.0	3.6
Red Clear	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0
Added Initial	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0
Maximum Initial	0	20	0	20	0	20	0	20
Time B4 Reduction	0	10	0	0	0	10	0	0
Cars B4 Reduction	0	0	0	0	0	0	0	0
Time To Reduce	0	20	0	0	0	20	0	0
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Gap	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
Dynamic Max Limit	0	0	0	0	0	0	0	0
Dynamic Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	7	0	0	0	7
Delayed Ped	0	0	0	0	0	0	0	0

2.2.2-1 Phase Options Plan 1

Phase	1	2	3	4	5	6	7	8
Enable	X	X		X	X	X		X
Auto Flash Entry				X				X
Auto Flash Exit		X				X		
Non Lock Detector	X	X		X	X	X		X
Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry		X		X		X		X
Disable Simult. Gap								
Actuated Rest in Walk								
Conditional Svc Enable								
Add Initial Calculation								
Ped Clear During Yellow								
Ped Clear During Red Clr								
Yellow Min Override								
No Startup Call								
Advanced Warning								
No Ped Startup Call								
Min Green 2								
Max Green 2								
Red Rest								
Ped Recycle								
Simultaneous Start								

2.3.2 Phase Configuration

Phase	Startup	Description
1	Yellow Change	
2	Secondary Start	
3	Phase Not On	
4	Phase Not On	
5	Yellow Change	
6	Secondary Start	
7	Phase Not On	
8	Phase Not On	

2.2.3 Global Phase Recalls

Phase	1	2	3	4	5	6	7	8
Min Recall								
Max Recall								
Ped recall								
Rest in Walk								

Notes

Sequences

2.3.1-1 Sequence 1

Ring	Sequence
1	1,2,a,4,b
2	5,6,a,8,b
3	

2.3.1-2 Sequence 2

Ring	Sequence
1	2,1,a,3,4,b
2	5,6,a,7,8,b
3	

2.3.1-3 Sequence 3

Ring	Sequence
1	1,2,a,4,3,b
2	5,6,a,7,8,b
3	

2.3.1-4 Sequence 4

Ring	Sequence
1	2,1,a,4,3,b
2	5,6,a,7,8,b
3	

2.3.1-5 Sequence 5

Ring	Sequence
1	1,2,a,3,4,b
2	6,5,a,7,8,b
3	

2.3.1-6 Sequence 6

Ring	Sequence
1	2,1,a,3,4,b
2	6,5,a,7,8,b
3	

2.3.1-7 Sequence 7

Ring	Sequence
1	1,2,a,4,3,b
2	6,5,a,7,8,b
3	

2.3.1-8 Sequence 8

Ring	Sequence
1	2,1,a,4,3,b
2	6,5,a,7,8,b
3	

2.3.1-9 Sequence 9

Ring	Sequence
1	1,2,a,3,4,b
2	5,6,a,8,7,b
3	

2.3.1-10 Sequence 10

Ring	Sequence
1	2,1,a,3,4,b
2	5,6,a,8,7,b
3	

2.3.1-11 Sequence 11

Ring	Sequence
1	1,2,a,4,3,b
2	5,6,a,8,7,b
3	

2.3.1-12 Sequence 12

Ring	Sequence
1	2,1,a,4,3,b
2	5,6,a,8,7,b
3	

2.3.1-13 Sequence 13

Ring	Sequence
1	1,2,a,3,4,b
2	6,5,a,8,7,b
3	

2.3.1-14 Sequence 14

Ring	Sequence
1	2,1,a,3,4,b
2	6,5,a,8,7,b
3	

2.3.1-15 Sequence 15

Ring	Sequence
1	1,2,a,4,3,b
2	6,5,a,8,7,b
3	

2.3.1-16 Sequence 16

Ring	Sequence
1	2,1,a,4,3,b
2	6,5,a,8,7,b
3	

Backup Prevention / No Serve Phases

2.3.4.1-1 Sequence 1

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-1 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-1 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-2 Sequence 2

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-2 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-2 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-3 Sequence 3

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-3 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-3 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-4 Sequence 4

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-4 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-4 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-5 Sequence 5

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-5 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-5 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-6 Sequence 6

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-6 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-6 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-7 Sequence 7

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-7 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-7 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-8 Sequence 8

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-8 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-8 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

Backup Prevention / No Serve Phases

2.3.4.1-9 Sequence 9

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-10

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-10 Sequence 10

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-10

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-11 Sequence 11

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-11

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-12 Sequence 12

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-12

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-13 Sequence 13

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-13

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-14 Sequence 14

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-14

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-15 Sequence 15

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-15

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-16 Sequence 16

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-16

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

Overlap Configuration

2.7.1 Overlap Plan 1

Overlap	1	2	3	4	5	6	7	8
Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description								
Overlap Type	Off	Off	Off	Off	Off	Off	Off	Off
Included Phases								
Modifier Phases								
Modifier Overlaps								
Negative Phases								
Trail Green	0	0	0	0	0	0	0	0
Add Trail Green	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk	0	0	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash	Off	Off	Off	Off	Off	Off	Off	Off
Inhibit Negative Phases								
Negative Overlaps								
Trail Green Omit Phases								
Negative Ped								
Negative Ped Overlaps								
Green Suppress Phases								
Call Phase On Neg Ped								
Call Phases								
Walk 2	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0
Min Green	0	0	0	0	0	0	0	0
Max Green Extension	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LRT Prepare To Go	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FYA Ped Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gap Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Delay	0	0	0	0	0	0	0	0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt	Off	Off	Off	Off	Off	Off	Off	Off
Green Flash Freq	0	0	0	0	0	0	0	0
Yellow Flash Freq	0	0	0	0	0	0	0	0
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call								
Recall								
Call for Service								
Queue Jump								

Detector Configuration

2.4.1-1 Vehicle Detector Plan 1

Det No.	Call Phase	Call Overlap	Add Call Phase	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Pres.	Errat Count	Fail Time	Failed Recall	Description
1	1	0		0	0.0	0.0	0	0	0	0	0	None	I-1
2	2	0		0	0.0	0.0	0	0	0	0	0	None	I-2U
3	2	0		0	0.0	0.0	0	0	0	0	0	None	I-2L
4	2	0		0	0.0	0.0	0	0	0	0	0	None	I-3U
5	2	0		0	0.0	0.0	0	0	0	0	0	None	I-3L
6	2	0		0	0.0	0.0	0	0	0	0	0	None	I-4
7	3	0		0	0.0	0.0	0	0	0	0	0	None	I-5
8	4	0		0	0.0	0.0	0	0	0	0	0	None	I-6U
9	4	0		0	0.0	0.0	0	0	0	0	0	None	I-6L
10	4	0		0	0.0	0.0	0	0	0	0	0	None	I-7U
11	4	0		0	0.0	0.0	0	0	0	0	0	None	I-7L
12	4	0		0	0.0	0.0	0	0	0	0	0	None	I-8
13	1	0		0	0.0	0.0	0	0	0	0	0	None	I-9U
14	3	0		0	0.0	0.0	0	0	0	0	0	None	I-9L
15	5	0		0	0.0	0.0	0	0	0	0	0	None	J-1
16	6	0		0	0.0	0.0	0	0	0	0	0	None	J-2U
17	6	0		0	0.0	0.0	0	0	0	0	0	None	J-2L
18	6	0		0	0.0	0.0	0	0	0	0	0	None	J-3U
19	6	0		0	0.0	0.0	0	0	0	0	0	None	J-3L
20	6	0		0	0.0	0.0	0	0	0	0	0	None	J-4
21	7	0		0	0.0	0.0	0	0	0	0	0	None	J-5
22	8	0		0	0.0	0.0	0	0	0	0	0	None	J-6U
23	8	0		0	0.0	0.0	0	0	0	0	0	None	J-6L
24	8	0		0	0.0	0.0	0	0	0	0	0	None	J-7U
25	8	0		0	0.0	0.0	0	0	0	0	0	None	J-7L
26	8	0		0	0.0	0.0	0	0	0	0	0	None	J-8
27	5	0		0	0.0	0.0	0	0	0	0	0	None	J-9U
28	7	0		0	0.0	0.0	0	0	0	0	0	None	J-9L
29	0	0		0	0.0	0.0	0	0	0	0	0	None	
30	0	0		0	0.0	0.0	0	0	0	0	0	None	
31	0	0		0	0.0	0.0	0	0	0	0	0	None	
32	0	0		0	0.0	0.0	0	0	0	0	0	None	

2.4.1-1 Vehicle Detectors 33-64

Det No.	Call Phase	Call Overlap	Add Call Phase	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Pres.	Errat Count	Fail Time	Failed Recall	Description
33	0	0		0	0.0	0.0	0	0	0	0	0	None	
34	0	0		0	0.0	0.0	0	0	0	0	0	None	
35	0	0		0	0.0	0.0	0	0	0	0	0	None	
36	0	0		0	0.0	0.0	0	0	0	0	0	None	
37	0	0		0	0.0	0.0	0	0	0	0	0	None	
38	0	0		0	0.0	0.0	0	0	0	0	0	None	
39	0	0		0	0.0	0.0	0	0	0	0	0	None	
40	0	0		0	0.0	0.0	0	0	0	0	0	None	
41	0	0		0	0.0	0.0	0	0	0	0	0	None	
42	0	0		0	0.0	0.0	0	0	0	0	0	None	
43	0	0		0	0.0	0.0	0	0	0	0	0	None	
44	0	0		0	0.0	0.0	0	0	0	0	0	None	
45	0	0		0	0.0	0.0	0	0	0	0	0	None	
46	0	0		0	0.0	0.0	0	0	0	0	0	None	
47	0	0		0	0.0	0.0	0	0	0	0	0	None	
48	0	0		0	0.0	0.0	0	0	0	0	0	None	
49	0	0		0	0.0	0.0	0	0	0	0	0	None	
50	0	0		0	0.0	0.0	0	0	0	0	0	None	
51	0	0		0	0.0	0.0	0	0	0	0	0	None	
52	0	0		0	0.0	0.0	0	0	0	0	0	None	
53	0	0		0	0.0	0.0	0	0	0	0	0	None	
54	0	0		0	0.0	0.0	0	0	0	0	0	None	
55	0	0		0	0.0	0.0	0	0	0	0	0	None	
56	0	0		0	0.0	0.0	0	0	0	0	0	None	
57	0	0		0	0.0	0.0	0	0	0	0	0	None	
58	0	0		0	0.0	0.0	0	0	0	0	0	None	
59	0	0		0	0.0	0.0	0	0	0	0	0	None	
60	0	0		0	0.0	0.0	0	0	0	0	0	None	
61	0	0		0	0.0	0.0	0	0	0	0	0	None	
62	0	0		0	0.0	0.0	0	0	0	0	0	None	
63	0	0		0	0.0	0.0	0	0	0	0	0	None	
64	0	0		0	0.0	0.0	0	0	0	0	0	None	

Detector Configuration

2.4.2-1 Vehicle Detector Options Plan 1

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Volume																																
Occupancy																																
Yellow Lock Call																																
Red Lock Call																																
Extend	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
Added Initial	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
Queue																																
Call	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
Terminate																																
Min Green 2																																
Prot. Perm.																																
Dis. Delay Lead																																
Dis. TS2 Diag																																
Dis. Det Diag																																
Passage 2																																

2.4.8 Global Vehicle Detector Parameters

Global No Activity	0
Global Max Presence	40
Global Erratic Count	0
Global Failed Recall	Max Recall
Detector Reset Enable	Disabled

2.4.8 Global Ped Detector Parameters

Global No Activity	0
Global Max Pres.	5
Global Erratic Ct	0

2.4.6 Volume/Occupancy Data Collection

Data Collection Secs	60
Number of Periods	15

2.4.2-1 Vehicle Detectors 33-64

Detector	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Volume																																
Occupancy																																
Yellow Lock Call																																
Red Lock Call																																
Extend																																
Added Initial																																
Queue																																
Call																																
Terminate																																
Min Green 2																																
Prot. Perm.																																
Dis. Delay Lead																																
Dis. TS2 Diag																																
Dis. Det Diag																																
Passage 2																																

2.4.3-1 Pedestrian Detector Plan 1

Det No.	Call Ph	Call O/L	Addtnl Call Ph	Cancel Ph	Walk 2 Enable	Ped Clr 2 Enable	No Activ	Max Pres	Erratic Count
1	0	0			0	0	0	0	0
2	2	0			0	0	0	0	0
3	0	0			0	0	0	0	0
4	4	0			0	0	0	0	0
5	0	0			0	0	0	0	0
6	6	0			0	0	0	0	0
7	0	0			0	0	0	0	0
8	8	0			0	0	0	0	0

2.4.4-1 Pedestrian Detector Options Plan 1

Detector	1	2	3	4	5	6	7	8
Walk Extension								

2.4.5-1 Pre/Pri Detectors Plan 1

Det	Description	Low Call	High Call	Low Num	High Num	Lead / Trail	Delay	Extend
1		None	None	0	0	None	0	0
2		None	None	0	0	None	0	0
3		None	None	0	0	None	0	0
4		None	None	0	0	None	0	0
5		None	None	0	0	None	0	0
6		None	None	0	0	None	0	0

2.4.5-2 Pre/Pri Detectors Plan 2

Det	Description	Low Call	High Call	Low Num	High Num	Lead / Trail	Delay	Extend
1		None	None	0	0	None	0	0
2		None	None	0	0	None	0	0
3		None	None	0	0	None	0	0
4		None	None	0	0	None	0	0
5		None	None	0	0	None	0	0
6		None	None	0	0	None	0	0

Coordination Configuration

2.5.1 Coordination Parameters

Operational Mode	Automatic
Coord Mode	Auto Permissive
Maximum Mode	Max Inhibit
Force Mode	Fixed
Correction Mode	Shortway (Auto)

Max Cyc Limit %	25
Min Cyc Limit %	25
Max Dwell	0
Trans. Cover Ped	None

2.5.5 Advanced Coord Options

Pattern	1	2	3	4	5	6	7	8	9	10
Ring Plan	0	0	0	0	0	0	0	0	0	0
Allow Split Underrun										
Allow Split Overrun										
Allow No Coord Phase										
Coord Now										

2.5.2 Patterns

Patt.	Cycle	Offset	Split	Seq	Ref.	Coord Mode	FO Mode	Max Mode	Cover Ped	Min Perm Md	Correction Mode	Phs Pln	OL Pln	Det Pln	Det Opt	Ped Pln	Ped Opt	Pri/ Pre	Description
1	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
2	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
3	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
4	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
5	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
6	86	44	6	1	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
7	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
8	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
9	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
10	0	0	0	0	Yel	Auto	Fixed	Inh	None	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	

Split Parameters

2.5.3-1 Split 1

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

2.5.3-2 Split 2

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

2.5.3-3 Split 3

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

2.5.3-4 Split 4

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

Ring Plans

2.5.4-1 Ring Plan 1

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-2 Ring Plan 2

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-3 Ring Plan 3

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-4 Ring Plan 4

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

Split Parameters

2.5.3-5 Split 5

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

2.5.3-6 Split 6

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	20	0	0				Fix	None	0	0	Float
2	31	0	0	X	X		Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	35	0	0				Fix	None	0	0	Float
5	20	0	0				Fix	None	0	0	Float
6	31	0	0	X	X		Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	35	0	0				Fix	None	0	0	Float

2.5.3-7 Split 7

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

2.5.3-8 Split 8

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

2.5.3-9 Split 9

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

2.5.3-10 Split 10

PH.	Time	Min	Max	Crd Phs	Ref Phs	Cvr Ped	FO Mode	Mode	Pri Min	Pri Max	Pri FO Mode
1	0	0	0				Fix	None	0	0	Float
2	0	0	0				Fix	None	0	0	Float
3	0	0	0				Fix	None	0	0	Float
4	0	0	0				Fix	None	0	0	Float
5	0	0	0				Fix	None	0	0	Float
6	0	0	0				Fix	None	0	0	Float
7	0	0	0				Fix	None	0	0	Float
8	0	0	0				Fix	None	0	0	Float

Ring Plans

2.5.4-5 Ring Plan 5

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-6 Ring Plan 6

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-7 Ring Plan 7

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-8 Ring Plan 8

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-9 Ring Plan 9

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

2.5.4-10 Ring Plan 10

Ring	Offset	Early Gap	Early FO
1	0	0	0
2	0	0	0
3	0	0	0

Scheduler Configuration

Schedule 1

Status	On

Month of Year											
J	F	M	A	M	J	J	A	S	O	N	D
X	X	X	X	X	X	X	X	X	X	X	

Description	Weekday

Days of Week							
S	M	T	W	T	F	S	
X	X	X	X				

Day Plan	1

Days of Month																																	
									1																							2			
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Schedule 2

Status	On

Month of Year											
J	F	M	A	M	J	J	A	S	O	N	D
X	X	X	X	X	X	X	X	X	X	X	

Description	Weekend

Days of Week							
S	M	T	W	T	F	S	
				X	X		

Day Plan	2

Days of Month																																	
									1																							2			
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Schedule 3

Status	Off

Month of Year											
J	F	M	A	M	J	J	A	S	O	N	D

Description	

Days of Week							
S	M	T	W	T	F	S	

Day Plan	0

Days of Month																																	
									1																							2			
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5

Day Plans

Day Plan 1

Event	HR	MIN	ACT	Description
1	11	0	6	
2	19	0	64	
3	0	0		
4	0	0		
5	0	0		
6	0	0		
7	0	0		
8	0	0		
9	0	0		
10	0	0		

Day Plan 2

Event	HR	MIN	ACT	Description
1	10	0	6	
2	19	0	64	
3	0	0		
4	0	0		
5	0	0		
6	0	0		
7	0	0		
8	0	0		
9	0	0		
10	0	0		

Day Plan 3

Event	HR	MIN	ACT	Description
1	0	0		
2	0	0		
3	0	0		
4	0	0		
5	0	0		
6	0	0		
7	0	0		
8	0	0		
9	0	0		
10	0	0		

Action Commands

Action	Command	Index
1	None	
2	None	
3	None	
4	None	
5	None	

Action	Command	Index
6	None	
7	None	
8	None	
9	None	
10	None	

Action	Command	Index
11	None	
12	None	
13	None	
14	None	
15	None	

Action	Command	Index
16	None	
17	None	
18	None	
19	None	
20	None	

Actions

		Aux			Special Functions							
Action	Pattern	1	2	3	1	2	3	4	5	6	7	8
1	Pattern 1											
2	Pattern 2											
3	Pattern 3											
4	Pattern 4											
5	Pattern 5											
6	Pattern 6											
7	Pattern 7											
8	Pattern 8											
9	Pattern 9											
10	Pattern 10											
11	Pattern 11											
12	Pattern 12											
13	Pattern 13											
14	Pattern 14											
15	Pattern 15											
16	Pattern 16											
17	Pattern 17											
18	Pattern 18											
19	Pattern 19											
20	Pattern 20											
64	Free											

Preempt Configuration

2.2.8 Preemption Configuration

Preempt	1	2	3	4	5	6
Enabled	Enabled	Disabled	Enabled	Enabled	Enabled	Enabled
Type	Rail Road	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh	Emerg Veh
Description	BBS Low Battery					
Track Phase						
Track 2 Phases						
Track Overlap						
Track 2 Overlap						
Dwell Phase			2,5	4	1,6	8
Dwell Ped						
Dwell Overlap						
Cycling Phase						
Cycling Ped						
Cycling Overlap						
Exit Phase						
Exit Overlaps						
Recovery Exit Omit						

Preemption Options

Preempt	1	2	3	4	5	6
Non Lock Mem			X	X	X	X
Not Overide Flash			X	X	X	X
Not Overide Next Preempt			X	X	X	X
Flash Dwell						
Ped Recycle in Dwell Cycle						
Immediate Ped Clear						
Dwell Only Status Output						
All Red Flash Dwell	X					
Allow All Overlaps						
Require All Red Entry						
Require Gate Down Track Exit						
Require Gate Up Dwell Exit						
Use Normal On/Normal Off Input						

Preemption Parameters

Preempt	1	2	3	4	5	6
Link	0	0	0	0	0	0
Delay	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0
Min Presence	0.0	0.0	0.0	0.0	0.0	0.0
Max Presence	0	0	90	90	90	90
Max Presence Action	Terminate	Terminate	Terminate	Terminate	Terminate	Terminate
Reservice Lockout	0	0	0	0	0	0
Enter Min Green	255	0	5	5	5	5
Enter Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Enter Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Enter Min Walk	255	0	0	0	0	0
Enter Ped Clear	255	255	7	7	7	7
Track Green	0	0	0	0	0	0
Track Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Green	0	0	0	0	0	0
Track 2 Yellow	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Red	25.5	25.5	25.5	25.5	25.5	25.5
Track Ext. Gate Down	0	0	0	0	0	0
Dwell Green	10	0	5	5	5	5

Preempt Exit Parameters

Preempt	1	2	3	4	5	6
Exit Ped Clear	255	255	255	255	255	255
Exit Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Exit Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Dwell Ext Time	0.0	0.0	0.0	0.0	0.0	0.0
Max Exit Green	0	0	0	0	0	0
Exit Type	Exit Phases	Exit Phases	Queue Recovery	Queue Recovery	Queue Recovery	Queue Recovery
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Exit Max Apply Time	0	0	0	0	0	0
Veh Exit Calls						
Ped Exit Calls						

Prioritor Configuration

2.9.6.1 Prioritor Unit Settings

Enabled	Lock Out Time
No	0

2.9.6.3 Prioritor Options

Prioritor	1	2	3	4	5	6
Lockout After First Service						
Presence Only Check-in						
Extend Walk Rest						
Use Phase History						

2.9.6.3 Prioritor Phase Settings

Prioritor	Enabled	Priority	Priority Phases	Skippable Phases	Skip Ped	Delay Time	Arrival Time	Max Presence	Reservice Lockout	Free Pri Min	Free Pri Max	Flush Time Per Veh	Max Flush Time	Description
1	Off	0				0	0	0	0	Min Green	Max Green	0.0	0	
2	Off	0				0	0	0	0	Min Green	Max Green	0.0	0	
3	Off	0				0	0	0	0	Min Green	Max Green	0.0	0	
4	Off	0				0	0	0	0	Min Green	Max Green	0.0	0	
5	Off	0				0	0	0	0	Min Green	Max Green	0.0	0	
6	Off	0				0	0	0	0	Min Green	Max Green	0.0	0	

Advanced I/O Configuration

Channel Configuration

Ch	Control Type	Source
1	Phs Veh	1
2	Phs Veh	2
3	Phs Veh	3
4	Phs Veh	4
5	Phs Veh	5
6	Phs Veh	6
7	Phs Veh	7
8	Phs Veh	8

Ch	Control Type	Source
9	None	0
10	None	0
11	None	0
12	None	0
13	Phs Ped	2
14	Phs Ped	4
15	Phs Ped	6
16	Phs Ped	8

Concurrency Mode

Concurrency Mode
Auto

2.9.1.4 Manual Concurrency

Ch	Concurrency
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

2.9.1.5 Auto Concurrency

Ch	Concurrency
1	5,6,15
2	5,6,13,15
3	
4	8,14,16
5	13
6	13,15
7	
8	14,16
9	
10	
11	
12	
13	15
14	16
15	
16	

2.9.1.6 CMU Concurrency

Ch	Concurrency
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

Channel Options

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flash Yellow	X	X	X	X	X	X	X	X								
Flash Red	X			X	X			X								
Flash Alternate Half Hertz																

Cabinet Configuration

IO Modules

IO Module	Type
1	Caltrans 332
2	None
3	None
4	None
5	None
6	None
7	None
8	None
9	None
10	None

Alarm Configuration

Alarm	Alarm Name
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Advanced Cabinet Options

ITS Cabinet on Port 1
No

ITS Cabinet on Port C13S
No

33X Input Leading Edge Filter
5

33X Input Trailing Edge Filter
5

Advanced TS2 Options

☐ Enable TS2 Stop Time ☐ Disable TS2 Startup Call ☐ Disable TS2 Fault Flash ☐ Disable TS2 Cabinet Alarms

Cabinet Configuration

Input Points

IN PUT	Desc	Input Type	Index
1	C1-39	Veh Det Call	2
2	C1-40	Veh Det Call	16
3	C1-41	Veh Det Call	8
4	C1-42	Veh Det Call	22
5	C1-43	Veh Det Call	3
6	C1-44	Veh Det Call	17
7	C1-45	Veh Det Call	9
8	C1-46	Veh Det Call	23
9	C1-47	Veh Det Call	6
10	C1-48	Veh Det Call	20
11	C1-49	Veh Det Call	12
12	C1-50	Veh Det Call	26
13	C1-51	Preempt Input	1
14	C1-52	Preempt Input	2
15	C1-53	Man Ctrl Enable	1
16	C1-54	Not Active	0
17	C1-55	Veh Det Call	15
18	C1-56	Veh Det Call	1
19	C1-57	Veh Det Call	21
20	C1-58	Veh Det Call	7
21	C1-59	Veh Det Call	27
22	C1-60	Veh Det Call	13
23	C1-61	Veh Det Call	28
24	C1-62	Veh Det Call	14
25	C11-10	Not Active	0
26	C11-11	Not Active	0
27	C11-12	Not Active	0
28	C11-13	Not Active	0
29	C1-63	Veh Det Call	4
30	C1-64	Veh Det Call	18
31	C1-65	Veh Det Call	10
32	C1-66	Veh Det Call	24

IN PUT	Desc	Input Type	Idx
33	C1-67	Ped Det Call	2
34	C1-68	Ped Det Call	6
35	C1-69	Ped Det Call	4
36	C1-70	Ped Det Call	8
37	C1-71	Pre High Pri Low	3
38	C1-72	Pre High Pri Low	4
39	C1-73	Pre High Pri Low	5
40	C1-74	Pre High Pri Low	6
41	C1-75	Not Active	0
42	C1-76	Veh Det Call	5
43	C1-77	Veh Det Call	19
44	C1-78	Veh Det Call	11
45	C1-79	Veh Det Call	25
46	C1-80	Interval Adv	1
47	C1-81	Flash Sense	1
48	C1-82	Unit Stop Time	1
49	C11-15	Not Active	0
50	C11-16	Not Active	0
51	C11-17	Not Active	0
52	C11-18	Not Active	0
53	C11-19	Not Active	0
54	C11-20	Not Active	0
55	C11-21	Not Active	0
56	C11-22	Not Active	0
57	C11-23	Not Active	0
58	C11-24	Not Active	0
59	C11-25	Not Active	0
60	C11-26	Not Active	0
61	C11-27	Not Active	0
62	C11-28	Not Active	0
63	C11-29	Not Active	0
64	C11-30	Not Active	0

Output Points

Output

OUT PUT	Desc	Output Type	Idx
1	C1-2	Ch Red DWalk	14
2	C1-3	Chl Green Walk	14
3	C1-4	Ch Red DWalk	4
4	C1-5	Ch Yel Ped Clear	4
5	C1-6	Chl Green Walk	4
6	C1-7	Ch Red DWalk	3
7	C1-8	Ch Yel Ped Clear	3
8	C1-9	Chl Green Walk	3
9	C1-10	Ch Red DWalk	13
10	C1-11	Chl Green Walk	13
11	C1-12	Ch Red DWalk	2
12	C1-13	Ch Yel Ped Clear	2
13	C1-15	Chl Green Walk	2
14	C1-16	Ch Red DWalk	1
15	C1-17	Ch Yel Ped Clear	1
16	C1-18	Chl Green Walk	1
17	C1-19	Ch Red DWalk	16
18	C1-20	Chl Green Walk	16
19	C1-21	Ch Red DWalk	8
20	C1-22	Ch Yel Ped Clear	8
21	C1-23	Chl Green Walk	8
22	C1-24	Ch Red DWalk	7
23	C1-25	Ch Yel Ped Clear	7
24	C1-26	Chl Green Walk	7
25	C1-27	Ch Red DWalk	15
26	C1-28	Chl Green Walk	15
27	C1-29	Ch Red DWalk	6
28	C1-30	Ch Yel Ped Clear	6
29	C1-31	Chl Green Walk	6
30	C1-32	Ch Red DWalk	5
31	C1-33	Ch Yel Ped Clear	5
32	C1-34	Chl Green Walk	5

OUT PUT	Desc	Output Type	Idx
33	C1-35	Not Active	0
34	C1-36	Not Active	0
35	C1-37	Not Active	0
36	C1-38	Not Active	0
37	C1-100	Ch Yel Ped Clear	18
38	C1-101	Ch Yel Ped Clear	17
39	C1-102	Veh Det Reset	1
40	C1-103	Watchdog	0
41	C1-83	Ch Red DWalk	18
42	C1-84	Chl Green Walk	18
43	C1-85	Ch Red DWalk	12
44	C1-86	Ch Yel Ped Clear	12
45	C1-87	Chl Green Walk	12
46	C1-88	Ch Red DWalk	11
47	C1-89	Ch Yel Ped Clear	11
48	C1-90	Chl Green Walk	11
49	C1-91	Ch Red DWalk	17
50	C1-93	Chl Green Walk	17
51	C1-94	Ch Red DWalk	10
52	C1-95	Ch Yel Ped Clear	10
53	C1-96	Chl Green Walk	10
54	C1-97	Ch Red DWalk	9
55	C1-98	Ch Yel Ped Clear	9
56	C1-99	Chl Green Walk	9
57	C11-1	Not Active	0
58	C11-2	Not Active	0
59	C11-3	Not Active	0
60	C11-4	Not Active	0
61	C11-5	Not Active	0
62	C11-6	Not Active	0
63	C11-7	Not Active	0
64	C11-8	Not Active	0

User Programs

Program 1

Enabled

Line	Result	Idx	Operation	Parameter A	Idx	Parameter B	Idx	Dly	Ext	Description
1	Unit Stop Time	1	R=A	Aux Switch State	0	None	0	0.0	0.0	Aux switch stop time
2	None	0	None	None	0	None	0	0.0	0.0	
3	None	0	None	None	0	None	0	0.0	0.0	
4	None	0	None	None	0	None	0	0.0	0.0	
5	None	0	None	None	0	None	0	0.0	0.0	
6	None	0	None	None	0	None	0	0.0	0.0	
7	None	0	None	None	0	None	0	0.0	0.0	
8	None	0	None	None	0	None	0	0.0	0.0	
9	None	0	None	None	0	None	0	0.0	0.0	
10	None	0	None	None	0	None	0	0.0	0.0	

User Programs

Program 2

Disabled

Line	Result	Idx	Operation	Parameter A	Idx	Parameter B	Idx	Dly	Ext	Description
1	None	0	None	None	0	None	0	0.0	0.0	
2	None	0	None	None	0	None	0	0.0	0.0	
3	None	0	None	None	0	None	0	0.0	0.0	
4	None	0	None	None	0	None	0	0.0	0.0	
5	None	0	None	None	0	None	0	0.0	0.0	
6	None	0	None	None	0	None	0	0.0	0.0	
7	None	0	None	None	0	None	0	0.0	0.0	
8	None	0	None	None	0	None	0	0.0	0.0	
9	None	0	None	None	0	None	0	0.0	0.0	
10	None	0	None	None	0	None	0	0.0	0.0	

Program 3

Disabled

Line	Result	Idx	Operation	Parameter A	Idx	Parameter B	Idx	Dly	Ext	Description
1	None	0	None	None	0	None	0	0.0	0.0	
2	None	0	None	None	0	None	0	0.0	0.0	
3	None	0	None	None	0	None	0	0.0	0.0	
4	None	0	None	None	0	None	0	0.0	0.0	
5	None	0	None	None	0	None	0	0.0	0.0	
6	None	0	None	None	0	None	0	0.0	0.0	
7	None	0	None	None	0	None	0	0.0	0.0	
8	None	0	None	None	0	None	0	0.0	0.0	
9	None	0	None	None	0	None	0	0.0	0.0	
10	None	0	None	None	0	None	0	0.0	0.0	

MAXTIME TIMING SHEET

Coast Highway @ Vista Way

3.1 Unit Information

Controller Number	1
Software	2.5.2
Main Street	Coast Highway
Side Street	Vista Way

3.2.1 Ethernet Configuration

NET1 IP Address	10.160.0.21
NET1 Subnet Mask	255.255.255.0
NET1 Gateway	10.160.0.1

3.3 Time Source & NTP

Time Source	NTP
NTP Server	10.32.0.40

Unit Parameters

Startup Flash	0
Startup Clearance Hold Time	5
Start Yellow Override	0.0
Start Red Override	0.0
Backup Time	600
Red Revert	2.0
All Red Flash Exit	5
Local Flash Through CVM	Disable
All Red Local Flash Sense	Disable
All Dark Local Flash Sense	Disable
Free Phase Plan	1
Free Overlap Plan	1
Free Veh Detector Plan	1
Free Sequence	1
Manual Control Enable	Enable
Manual Control Sequence	1
Auto Ped Clear	Enable
Preempt Lock Out Time	0

2.1.1-1 Phase Plan 1

Phase	1	2	3	4	5	6	7	8
Description								
Walk	0	7	0	0	0	7	7	7
Ped Clear	0	13	0	0	0	13	13	13
Steady Don't Walk	0	0	0	0	0	0	0	0
Min Green	5	15	0	0	5	10	6	6
Min Green 2	0	0	0	0	0	0	0	0
Passage	2.0	4.0	0.0	0.0	2.0	4.0	3.0	3.0
Passage 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Green 1	30	40	0	0	20	40	20	25
Max Green 2	0	0	0	0	0	0	0	0
Yellow Change	3.7	4.1	3.0	3.0	3.7	4.1	3.6	4.1
Red Clear	1.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
Added Initial	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
Maximum Initial	0	30	0	0	0	30	0	0
Time B4 Reduction	0	0	0	0	0	0	0	0
Cars B4 Reduction	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0
Reduce By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	0	0	0	0	0	0	0	0
Dynamic Max Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Advance Walk	0	0	0	0	0	0	7	7
Delayed Ped	0	0	0	0	0	0	0	0

2.2.2-1 Phase Options Plan 1

Phase	1	2	3	4	5	6	7	8
Enable	X	X			X	X	X	X
Auto Flash Entry								X
Auto Flash Exit		X				X		
Non Lock Detector	X	X			X	X	X	X
Min Vehicle Recall		X				X		
Max Vehicle Recall								
Ped Recall								
Soft Vehicle Recall								
Dual Entry		X				X		
Disable Simult. Gap								
Actuated Rest in Walk								
Conditional Svc Enable								
Add Initial Calculation								
Ped Clear During Yellow								
Ped Clear During Red Clr								
Yellow Min Override								
No Startup Call								
Advanced Warning								
No Ped Startup Call		X				X	X	X
Min Green 2								
Max Green 2								
Red Rest								
Ped Recycle		X				X	X	X
Simultaneous Start								

2.3.2 Phase Configuration

Phase	Startup	Description
1		
2		
3		
4		
5		
6		
7		
8		

2.2.3 Global Phase Recalls

Phase	1	2	3	4	5	6	7	8
Min Recall								
Max Recall								
Ped recall								
Rest in Walk								

Notes

Sequences

2.3.1-1 Sequence 1

Ring	Sequence
1	1,2,a,b
2	5,6,a,7,8,b
3	

2.3.1-2 Sequence 2

Ring	Sequence
1	2,1,a,3,4,b
2	5,6,a,7,8,b
3	

2.3.1-3 Sequence 3

Ring	Sequence
1	1,2,a,4,3,b
2	5,6,a,7,8,b
3	

2.3.1-4 Sequence 4

Ring	Sequence
1	2,1,a,4,3,b
2	5,6,a,7,8,b
3	

2.3.1-5 Sequence 5

Ring	Sequence
1	1,2,a,3,4,b
2	6,5,a,7,8,b
3	

2.3.1-6 Sequence 6

Ring	Sequence
1	2,1,a,3,4,b
2	6,5,a,7,8,b
3	

2.3.1-7 Sequence 7

Ring	Sequence
1	1,2,a,4,3,b
2	6,5,a,7,8,b
3	

2.3.1-8 Sequence 8

Ring	Sequence
1	2,1,a,4,3,b
2	6,5,a,7,8,b
3	

2.3.1-9 Sequence 9

Ring	Sequence
1	1,2,a,3,4,b
2	5,6,a,8,7,b
3	

2.3.1-10 Sequence 10

Ring	Sequence
1	2,1,a,3,4,b
2	5,6,a,8,7,b
3	

2.3.1-11 Sequence 11

Ring	Sequence
1	1,2,a,4,3,b
2	5,6,a,8,7,b
3	

2.3.1-12 Sequence 12

Ring	Sequence
1	2,1,a,4,3,b
2	5,6,a,8,7,b
3	

2.3.1-13 Sequence 13

Ring	Sequence
1	1,2,a,3,4,b
2	6,5,a,8,7,b
3	

2.3.1-14 Sequence 14

Ring	Sequence
1	2,1,a,3,4,b
2	6,5,a,8,7,b
3	

2.3.1-15 Sequence 15

Ring	Sequence
1	1,2,a,4,3,b
2	6,5,a,8,7,b
3	

2.3.1-16 Sequence 16

Ring	Sequence
1	2,1,a,4,3,b
2	6,5,a,8,7,b
3	

Backup Prevention / No Serve Phases

2.3.4.1-1 Sequence 1

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-1 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-1 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-2 Sequence 2

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-2 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-2 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-3 Sequence 3

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-3 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-3 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-4 Sequence 4

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-4 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-4 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-5 Sequence 5

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-5 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-5 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-6 Sequence 6

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-6 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-6 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-7 Sequence 7

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-7 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-7 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-8 Sequence 8

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red	No							

2.3.3-8 Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-8 No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

Backup Prevention / No Serve Phases

2.3.4.1-9 Sequence 9

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-10

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-10 Sequence 10

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-10

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-11 Sequence 11

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-11

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-12 Sequence 12

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-12

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-13 Sequence 13

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-13

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-14 Sequence 14

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-14

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-15 Sequence 15

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-15

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

2.3.4.1-16 Sequence 16

Backup Protection Plan

	Backup phase							
Serve Phs	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
Backup thru Red			No					

Call Phs

Ph	Call Ph
1	
2	
3	
4	
5	
6	
7	
8	

2.3.3-16

No Serve

Ph	No Srv
1	
2	
3	
4	
5	
6	
7	
8	

Overlap Configuration

2.7.1 Overlap Plan 1

Overlap	1	2	3	4	5	6	7	8
Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Description								
Overlap Type	Off	Off	Off	Off	Off	Off	Off	Off
Included Phases								
Modifier Phases								
Modifier Overlaps								
Negative Phases								
Trail Green	0	0	0	0	0	0	0	0
Add Trail Green								
Trail Yellow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk	0	0	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0	0	0
Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flash	Off	Off	Off	Off	Off	Off	Off	Off
Inhibit Negative Phases								
Negative Overlaps								
Trail Green Omit Phases								
Negative Ped								
Negative Ped Overlaps								
Green Suppress Phases								
Call Phase On Neg Ped								
Call Phases								
Walk 2	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0
Min Green	0	0	0	0	0	0	0	0
Max Green Extension	0	0	0	0	0	0	0	0
Red Revert	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LRT Prepare To Go	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FYA Ped Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gap Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Delay	0	0	0	0	0	0	0	0
Flash Inactive	Off	Off	Off	Off	Off	Off	Off	Off
Flash Alt	Off	Off	Off	Off	Off	Off	Off	Off
Green Flash Freq								
Yellow Flash Freq								
Walk Rest	Off	Off	Off	Off	Off	Off	Off	Off
Startup Call								
Recall								
Call for Service								
Queue Jump								

Detector Configuration

2.4.1-1 Vehicle Detector Plan 1

Det No.	Call Phase	Call Overlap	Add Call Phase	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Pres.	Errat Count	Fail Time	Failed Recall	Description
1	1	0		0	0.0	0.0	0	0	0	0	0	None	I-1
2	2	0		0	0.0	0.0	0	0	0	0	0	None	I-2U
3	2	0		0	0.0	0.0	0	0	0	0	0	None	I-2L
4	2	0		0	0.0	0.0	0	0	0	0	0	None	I-3U
5	2	0		0	0.0	0.0	0	0	0	0	0	None	I-3L
6	2	0		0	0.0	0.0	0	0	0	0	0	None	I-4
7	3	0		0	0.0	0.0	0	0	0	0	0	None	I-5
8	4	0		0	0.0	0.0	0	0	0	0	0	None	I-6U
9	4	0		0	0.0	0.0	0	0	0	0	0	None	I-6L
10	4	0		0	0.0	0.0	0	0	0	0	0	None	I-7U
11	4	0		0	0.0	0.0	0	0	0	0	0	None	I-7L
12	4	0		0	0.0	0.0	0	0	0	0	0	None	I-8
13	1	0		0	0.0	0.0	0	0	0	0	0	None	I-9U
14	3	0		0	0.0	0.0	0	0	0	0	0	None	I-9L
15	5	0		0	0.0	0.0	0	0	0	0	0	None	J-1
16	6	0		0	0.0	0.0	0	0	0	0	0	None	J-2U
17	6	0		0	0.0	0.0	0	0	0	0	0	None	J-2L
18	6	0		0	0.0	0.0	0	0	0	0	0	None	J-3U
19	6	0		0	0.0	0.0	0	0	0	0	0	None	J-3L
20	6	0		0	0.0	0.0	0	0	0	0	0	None	J-4
21	7	0		0	0.0	0.0	0	0	0	0	0	None	J-5
22	8	0		0	0.0	0.0	0	0	0	0	0	None	J-6U
23	8	0		0	0.0	0.0	0	0	0	0	0	None	J-6L
24	8	0		0	0.0	0.0	0	0	0	0	0	None	J-7U
25	8	0		0	0.0	0.0	0	0	0	0	0	None	J-7L
26	8	0		0	0.0	0.0	0	0	0	0	0	None	J-8
27	5	0		0	0.0	0.0	0	0	0	0	0	None	J-9U
28	7	0		0	0.0	0.0	0	0	0	0	0	None	J-9L
29	0	0		0	0.0	0.0	0	0	0	0	0	None	
30	0	0		0	0.0	0.0	0	0	0	0	0	None	
31	0	0		0	0.0	0.0	0	0	0	0	0	None	
32	0	0		0	0.0	0.0	0	0	0	0	0	None	

2.4.1-1 Vehicle Detectors 33-64

Det No.	Call Phase	Call Overlap	Add Call Phase	Switch Phase	Delay	Extend	Queue Limit	No Activity	Max Pres.	Errat Count	Fail Time	Failed Recall	Description
33	0	0		0	0.0	0.0	0	0	0	0	0	None	
34	0	0		0	0.0	0.0	0	0	0	0	0	None	
35	0	0		0	0.0	0.0	0	0	0	0	0	None	
36	0	0		0	0.0	0.0	0	0	0	0	0	None	
37	0	0		0	0.0	0.0	0	0	0	0	0	None	
38	0	0		0	0.0	0.0	0	0	0	0	0	None	
39	0	0		0	0.0	0.0	0	0	0	0	0	None	
40	0	0		0	0.0	0.0	0	0	0	0	0	None	
41	0	0		0	0.0	0.0	0	0	0	0	0	None	
42	0	0		0	0.0	0.0	0	0	0	0	0	None	
43	0	0		0	0.0	0.0	0	0	0	0	0	None	
44	0	0		0	0.0	0.0	0	0	0	0	0	None	
45	0	0		0	0.0	0.0	0	0	0	0	0	None	
46	0	0		0	0.0	0.0	0	0	0	0	0	None	
47	0	0		0	0.0	0.0	0	0	0	0	0	None	
48	0	0		0	0.0	0.0	0	0	0	0	0	None	
49	0	0		0	0.0	0.0	0	0	0	0	0	None	
50	0	0		0	0.0	0.0	0	0	0	0	0	None	
51	0	0		0	0.0	0.0	0	0	0	0	0	None	
52	0	0		0	0.0	0.0	0	0	0	0	0	None	
53	0	0		0	0.0	0.0	0	0	0	0	0	None	
54	0	0		0	0.0	0.0	0	0	0	0	0	None	
55	0	0		0	0.0	0.0	0	0	0	0	0	None	
56	0	0		0	0.0	0.0	0	0	0	0	0	None	
57	0	0		0	0.0	0.0	0	0	0	0	0	None	
58	0	0		0	0.0	0.0	0	0	0	0	0	None	
59	0	0		0	0.0	0.0	0	0	0	0	0	None	
60	0	0		0	0.0	0.0	0	0	0	0	0	None	
61	0	0		0	0.0	0.0	0	0	0	0	0	None	
62	0	0		0	0.0	0.0	0	0	0	0	0	None	
63	0	0		0	0.0	0.0	0	0	0	0	0	None	
64	0	0		0	0.0	0.0	0	0	0	0	0	None	

Detector Configuration

2.4.2-1 Vehicle Detector Options Plan 1

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Volume																																
Occupancy																																
Yellow Lock Call																																
Red Lock Call																																
Extend	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X	X	X	X		X	X				
Added Initial	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	X	X	X	X		X	X				
Queue												X							X							X						
Call	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
Terminate																																
Min Green 2																																
Prot. Perm.																																
Dis. Delay Lead																																
Dis. TS2 Diag																																
Dis. Det Diag																																
Passage 2																																

2.4.8 Global Vehicle Detector Parameters

Global No Activity	0
Global Max Presence	20
Global Erratic Count	0
Global Failed Recall	Max Recall
Detector Reset Enable	Disabled

2.4.8 Global Ped Detector Parameters

Global No Activity	0
Global Max Pres.	5
Global Erratic Ct	0

2.4.6 Volume/Occupancy Data Collection

Data Collection Secs	0
Number of Periods	1

2.4.2-1 Vehicle Detectors 33-64

Detector	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Volume																																
Occupancy																																
Yellow Lock Call																																
Red Lock Call																																
Extend																																
Added Initial																																
Queue												X							X							X						
Call																																
Terminate																																
Min Green 2																																
Prot. Perm.																																
Dis. Delay Lead																																
Dis. TS2 Diag																																
Dis. Det Diag																																
Passage 2																																

2.4.3-1 Pedestrian Detector Plan 1

Det No.	Call Ph	Call O/L	Addtnl Call Ph	Cancel Ph	Walk 2 Enable	Ped Clr 2 Enable	No Activ	Max Pres	Erratic Count
1	0	0			0	0	0	0	0
2	2	0			0	0	0	0	0
3	0	0			0	0	0	0	0
4	7	0			0	0	0	0	0
5	0	0			0	0	0	0	0
6	6	0			0	0	0	0	0
7	0	0			0	0	0	0	0
8	8	0			0	0	0	0	0

2.4.4-1 Pedestrian Detector Options Plan 1

Detector	1	2	3	4	5	6	7	8
Walk Extension								

2.4.5-1 Pre/Pri Detectors Plan 1

Det	Description	Low Call	High Call	Low Num	High Num	Lead / Trail	Delay	Extend
1		None	None	0	0	None	0	0
2		None	None	0	0	None	0	0
3		None	None	0	0	None	0	0
4		None	None	0	0	None	0	0
5		None	None	0	0	None	0	0
6		None	None	0	0	None	0	0

2.4.5-2 Pre/Pri Detectors Plan 2

Det	Description	Low Call	High Call	Low Num	High Num	Lead / Trail	Delay	Extend
1		None	None	0	0	None	0	0
2		None	None	0	0	None	0	0
3		None	None	0	0	None	0	0
4		None	None	0	0	None	0	0
5		None	None	0	0	None	0	0
6		None	None	0	0	None	0	0

Coordination Configuration

2.5.1 Coordination Parameters

Operational Mode	Manual Free
Coord Mode	Pattern
Maximum Mode	
Force Mode	
Correction Mode	

Max Cyc Limit %	25
Min Cyc Limit %	25
Max Dwell	0
Trans. Cover Ped	

2.5.5 Advanced Coord Options

Pattern	1	2	3	4	5	6	7	8	9	10
Ring Plan	0	0	0	0	0	0	0	0	0	0
Allow Split Underrun										
Allow Split Overrun										
Allow No Coord Phase										
Coord Now										

2.5.2 Patterns

Patt.	Cycle	Offset	Split	Seq	Ref.	Coord Mode	FO Mode	Max Mode	Cover Ped	Min Perm Md	Correction Mode	Phs Pln	OL Pln	Det Pln	Det Opt	Ped Pln	Ped Opt	Pri/ Pre	Description
1	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
2	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	
3	0	0	0	0	Yel	Auto	Fixed	Inh	Phase	Phs Only	Shortway (Auto)	1	1	1	1	1	1	1	

Transparity® System	
System ID	**5**
Group	**NONE**
Field Master	**NONE**
N-S Street	**Not Assigned**
E-W Street	**Not Assigned**
Communications	
Channel	**UDP:8001:10.160.0.25**
Address	**5**
Area Number	**1**
Area Address	**5**
Database	
Last Changed	**4/1/2021 8:51:33 PM +00:00**

Transparity Timing Notes

Phase Timing - Bank 1								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	**5**	**10**	**0**	**7**	**5**	**10**	**0**	**7**
Extension	**3.0**	**4.0**	**0.0**	**3.0**	**3.0**	**4.0**	**0.0**	**0.0**
Max	**20**	**40**	**0**	**25**	**20**	**40**	**0**	**25**
Max 2	**30**	**50**	**0**	**40**	**30**	**50**	**0**	**40**
Cond Serve Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Clearance Timing								
Yellow Change	**3.7**	**4.1**	**0.0**	**3.6**	**3.7**	**4.1**	**0.0**	**3.6**
Red Clear	**1.0**	**1.0**	**0.0**	**1.0**	**1.0**	**1.0**	**0.0**	**1.0**
Pedestrian Timing								
Walk	**0**	**7**	**0**	**9**	**0**	**7**	**0**	**9**
Pedestrian Change	**0**	**11**	**0**	**14**	**0**	**11**	**0**	**14**
Advance/Delay Walk	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**5**
PE Min. Ped. Change	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Volume-Density								
Type 3 Disconnect	**0**	**99**	**0**	**0**	**0**	**99**	**0**	**0**
Add per Vehicle	**0.0**	**2.0**	**0.0**	**0.0**	**0.0**	**2.0**	**0.0**	**0.0**
Max Added Initial	**0**	**20**	**0**	**0**	**0**	**20**	**0**	**0**
Min Gap	**3.0**	**2.0**	**0.0**	**3.0**	**3.0**	**2.0**	**0.0**	**3.0**
Max Gap	**3.0**	**5.0**	**0.0**	**3.0**	**3.0**	**5.0**	**0.0**	**3.0**
Reduce Every	**0.0**	**1.0**	**0.0**	**0.0**	**0.0**	**1.0**	**0.0**	**0.0**
Alternate Timing								
Alternate Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alternate Ped. Change	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alternate Minimum	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alternate Extension	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Phase Timing - Exclusive Pedestrian	
Exclusive Ped Assignment	_____
Exclusive Walk	**0**
Exclusive Pedestrian Change	**0**
Red Clear	**0.0**
Walk Output	**0**
Don't Walk Output	**0**

Phase Functions - Page 1	
Red Lock	_____
Yellow Lock	_____
Simultaneous Gap	_____
Rest In Walk	_____
Advance Walk	___**4**___**8**
Flashing Walk	_____
Max Extension	_____
Red Rest	_____
Dual Entry	_**2**___**6**__
Sequential Timing	_____
Inhibit Ped Reservice	_____
Delay Walk	_____
Guaranteed Passage	_____
Conditional Service	_____

Phase Functions - Page 2	
Minimum Recall	_**2**___**6**__
Ped Recall	_____
Maximum Recall	_____
Green Flash	_____
Overlap Green Flash	_____
Flashing Yellow Arrow for PPLT	_____
Max2	_____
Soft Recall	_____
External Recall	_____
Manual Control Calls	_____
Fast Green Flash	_____
Fast Overlap Green Flash	_____
Semi-Actuated	_____

Phase Timing - Bank 2								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	0	0	0	0	0	0	0	0
Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	0	0	0	0	0	0	0	0
Max 2	0	0	0	0	0	0	0	0
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing								
Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing								
Walk	0	0	0	0	0	0	0	0
Pedestrian Change	0	0	0	0	0	0	0	0
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density								
Type 3 Disconnect	0	0	0	0	0	0	0	0
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alternate Timing								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	0	0	0	0	0	0	0	0
Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	0	0	0	0	0	0	0	0
Max 2	0	0	0	0	0	0	0	0
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing								
Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing								
Walk	0	0	0	0	0	0	0	0
Pedestrian Change	0	0	0	0	0	0	0	0
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density								
Type 3 Disconnect	0	0	0	0	0	0	0	0
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alternate Timing								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Preemption - General	
Min. Green Before Preempt Forceoff	**5**
Max. EV Preempt Duration	**0**
Min. Time Between Same EV Preempt	**0**
Disable Low Priority Preempt	_____
Leave Flash to Service Preempt	_____

Preemption - Relative Priority	
Special Event 1	**1**
Special Event 2	**1**
Special Event 3	**1**
Special Event 4	**1**
Special Event 5	**1**
Special Event 6	**1**
Emergency Vehicle A	**1**
Emergency Vehicle B	**1**
Emergency Vehicle C	**1**
Emergency Vehicle D	**1**

Preemption - Railroad 1	
Delay	**0**
Clear Time	**0**
Clear Phases	_____

Preemption - Railroad 2	
Delay	**0**
Clear Time	**0**
Clear Phases	_____
Limited Service Phases	_____

Preemption - Emergency Vehicle			
	Delay	Clear	Clearance Phases
EV A	**0**	**5**	**_2__5___**
EV B	**0**	**5**	**___4____**
EV C	**0**	**5**	**1____6__**
EV D	**0**	**5**	**_____8**

Preemption - Railroad 3		
Enabled	**N**	
Advance Ped. Max. Time	**0**	
Track Clear Min. Time	**0**	
Track Clear Max. Time	**0**	
Track Clear Phases	_____	
Limited Service Max. Time	**0**	
Limited Service Phases	_____	
Truncate Green	**Y**	
Truncate Walk	**Y**	
I/O		
	Input	Output
Advance Ped.	**133**	**111**
Advance Preempt	**134**	**112**
Supervisor	**135**	**113**
Crossing Active	**136**	**114**
Gate Down	**137**	**115**
Fault	**138**	**116**
Watchdog Echo		**118**

Special Event Sequence 1										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 2										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 3										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 4										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 5										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 6										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Coordination - Cycle, Offsets, & Forceoffs									
	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Offset 1	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offset 2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offset 3	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**255**	**255**	**255**	**255**	**255**	**255**	**255**	**255**	**255**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**
Forceoff Phase 2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 3	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Forceoff Phase 4	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Forceoff Phase 5	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**
Forceoff Phase 6	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 7	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Forceoff Phase 8	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Adaptive Operation	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**

Coordination - General	
Transition Type	**0.3**
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	_____
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	
QuicTrac Max Cycle Length	**255**
QuicTrac Max Cycle Length Change	**15**

Coordination - Phase Minimums							
Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
15	**15**	**15**	**15**	**15**	**15**	**15**	**15**

Coordination - Permissives & Phase Sequences								
	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 2 - Ped Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 3 - Ped Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Sync Phases	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**
Lag Phases	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**
Pre-Timed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____

Overlaps								
	Overlap 1	Overlap 2	Overlap 3	Overlap 4	Overlap 5	Overlap 6	Overlap 7	Overlap 8
Load Switch Number	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Vehicle Set 1								
Vehicle Set 2								
Vehicle Set 3								
Negative Vehicle								
Negative Ped								
Green Omit								
Green Clear Omit								
Green Clearance	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Red Clearance	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

AND Gates						
	AND 1	AND 2	AND 3	AND 4	AND 5	AND 6
Input A	**0**	**0**	**0**	**0**	**0**	**0**
Input B	**0**	**0**	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

NAND Gates				
	NAND 1	NAND 2	NAND 3	NAND 4
Input A	**0**	**0**	**0**	**0**
Input B	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**

NOT Gates				
	NOT 1	NOT 2	NOT 3	NOT 4
Input	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**

Delay Timers						
	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input	**0**	**0**	**0**	**0**	**0**	**0**
Time	**0**	**0**	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

Extension Timers						
	ET 1	ET 2	ET 3	ET 4	ET 5	ET 6
Input	**0**	**0**	**0**	**0**	**0**	**0**
Time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

OR Gates										
	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6	OR 7	OR 8	OR 9	OR 10
Input A	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Input B	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Input C									**0**	**0**
Input D									**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Latches								
	LATCH 1	LATCH 2	LATCH 3	LATCH 4	LATCH 5	LATCH 6	LATCH 7	LATCH 8
Set	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NOT Output	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

One Shot Timers						
	OS 1	OS 2	OS 3	OS 4	OS 5	OS 6
Input	**0**	**0**	**0**	**0**	**0**	**0**
Time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

Detectors

No.	Pin	Delay	Carry Over	Phases	Attributes	Assignments
1	**39**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
2	**40**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
3	**41**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
4	**42**	**0.0**	**0.0**	**_____8**	**___45_7_**	**123____8**
5	**43**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
6	**44**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
7	**45**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
8	**46**	**0.0**	**0.0**	**_____8**	**___45_7_**	**123____8**
9	**47**	**0.0**	**0.0**	**_2_____**	**_____67_**	**123____8**
10	**48**	**0.0**	**0.0**	**_____6__**	**_____67_**	**123____8**
11	**49**	**0.0**	**0.0**	**___4____**	**_____67_**	**123____8**
12	**50**	**0.0**	**0.0**	**_____8**	**_____67_**	**123____8**
13	**55**	**0.0**	**0.0**	**____5___**	**___45_7_**	**123____8**
14	**56**	**0.0**	**0.0**	**1_____**	**___45_7_**	**123____8**
15	**57**	**0.0**	**0.0**	**_____7_**	**___45_7_**	**123____8**
16	**58**	**0.0**	**0.0**	**__3____**	**___45_7_**	**123____8**
17	**59**	**0.0**	**0.0**	**____5___**	**___45_7_**	**123____8**
18	**60**	**0.0**	**0.0**	**1_____**	**___45_7_**	**123____8**
19	**61**	**0.0**	**0.0**	**_____7_**	**___45_7_**	**123____8**
20	**62**	**0.0**	**0.0**	**__3____**	**___45_7_**	**123____8**
21	**63**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
22	**64**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
23	**65**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
24	**66**	**0.0**	**0.0**	**_____8**	**___45_7_**	**123____8**
25	**67**	**0.0**	**0.0**	**_2_____**	**_2_____**	**123____8**
26	**68**	**0.0**	**0.0**	**_____6__**	**_2_____**	**123____8**
27	**69**	**0.0**	**0.0**	**___4____**	**_2_____**	**123____8**
28	**70**	**0.0**	**0.0**	**_____8**	**_2_____**	**123____8**
29	**76**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
30	**77**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
31	**78**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
32	**79**	**0.0**	**0.0**	**_____8**	**___45_7_**	**123____8**

Detector Attributes	Detector Assignments
1 = Full Time Delay	1 = Detector Set 1
2 = Pedestrian	2 = Detector Set 2
3 = (unused)	3 = Detector Set 3
4 = Count	4 = (unused)
5 = Extension	5 = (unused)
6 = Type 3	6 = Min. Recall on Failure
7 = Calling	7 = Max. Recall on Failure
8 = Alternate	8 = Monitor for Failure

Inputs - General

Flash Sense	**81**
External Permit 1	**0**
External Permit 2	**0**
External Permit 3	**0**
Exclusive Ped Omit	**0**
Max. 2	**0**
External Lag	**0**
Max. Recall	**0**
Stop Time	**82**
Manual Control Enable	**0**
Manual Control Advance	**0**
Min. Recall	**0**
Pedestrian Forceoff	**0**

Inputs - Preemption

Railroad 1	**51**
Railroad 2	**52**
Gate Down	**0**
Special Event 1	**0**
Special Event 2	**0**
Special Event 3	**0**
Special Event 4	**0**
Special Event 5	**0**
Special Event 6	**0**
Emergency Vehicle A	**71**
Emergency Vehicle B	**72**
Emergency Vehicle C	**73**
Emergency Vehicle D	**74**

Inputs - FYA Inhibit

Phase 1	**0**
Phase 2	**0**
Phase 3	**0**
Phase 4	**0**
Phase 5	**0**
Phase 6	**0**
Phase 7	**0**
Phase 8	**0**

Inputs - Plan

Plan 1	**0**
Plan 2	**0**
Plan 3	**0**
Plan 4	**0**
Plan 5	**0**
Plan 6	**0**
Plan 7	**0**
Plan 8	**0**
Plan 9	**0**
Free	**0**
Flash	**0**

Inputs - Bank & Set

Phase Bank 2	**0**
Phase Bank 3	**0**
Detector Set 2	**0**
Detector Set 3	**0**
Overlap Set 2	**0**
Overlap Set 3	**0**

Inputs - Alarms

Alarm 1	**0**
Alarm 2	**0**
Alarm 3	**0**
Alarm 4	**0**
Door Ajar	**0**
UPS Battery Low	**0**
UPS On Backup Power	**0**
Cabinet Temperature	**0**

Inputs - NEMA Functions

Call to Non-Actuated	**0**
CNA Phases	_____
Forceoff Ring A	**0**
Forceoff Ring B	**0**
Hold	**0**
Hold Phases	_____
Max. Inhibit	**0**

Outputs - General	
Advance Warning Sign 1	**0**
Advance Warning Sign 2	**0**
Detector Failure	**0**
Flasher 1	**0**
Flasher 2	**0**
Fast Flasher	**0**
On Line	**0**
Exclusive Pedestrian Walk	**0**
Exclusive Pedestrian Don't Walk	**0**

Outputs - Plan	
Plan 1	**0**
Plan 2	**0**
Plan 3	**0**
Plan 4	**0**
Plan 5	**0**
Plan 6	**0**
Plan 7	**0**
Plan 8	**0**
Plan 9	**0**
Free	**0**
Flash	**0**

Outputs - Pedestrian Loadswitch Assignments	
Loadswitch 2P Phases	**2**
Loadswitch 4P Phases	**4**
Loadswitch 6P Phases	**6**
Loadswitch 8P Phases	**8**

Outputs - Preemption		
	Steady	Flashing
Railroad 1	**0**	**0**
Railroad 2	**0**	**0**
Special Event 1	**0**	**0**
Special Event 2	**0**	**0**
Special Event 3	**0**	**0**
Special Event 4	**0**	**0**
Special Event 5	**0**	**0**
Special Event 6	**0**	**0**
EV A	**0**	**0**
EV B	**0**	**0**
EV C	**0**	**0**
EV D	**0**	**0**
Any Preempt	**0**	**0**
Preempt Failure	**0**	**0**

Outputs - Phase Redirection								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Red	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Yellow	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Green	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Don't Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Outputs - Overlap Redirection								
	Overlap 1	Overlap 2	Overlap 3	Overlap 4	Overlap 5	Overlap 6	Overlap 7	Overlap 8
Red	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Yellow	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Green	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Outputs - Time of Day							
TOD Out 1	TOD Out 2	TOD Out 3	TOD Out 4	TOD Out 5	TOD Out 6	TOD Out 7	TOD Out 8
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Outputs - Special Event							
SE Out 1	SE Out 2	SE Out 3	SE Out 4	SE Out 5	SE Out 6	SE Out 7	SE Out 8
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Outputs - Special Function							
SF Out 1	SF Out 2	SF Out 3	SF Out 4	SF Out 5	SF Out 6	SF Out 7	SF Out 8
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Outputs - Phase Status								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Check	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
On	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Outputs - Flashing Yellow Arrow							
Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Time Base Coordination Events

No.	Days of Week	Seasons	Hour	Minute	Plan	Offset
0	_____	**12345678**	**0**	**0**	**0**	**0**
1	_____	**12345678**	**0**	**0**	**0**	**0**
2	_____	**12345678**	**0**	**0**	**0**	**0**
3	_____	**12345678**	**0**	**0**	**0**	**0**
4	_____	**12345678**	**0**	**0**	**0**	**0**
5	_____	**12345678**	**0**	**0**	**0**	**0**
6	_____	**12345678**	**0**	**0**	**0**	**0**
7	_____	**12345678**	**0**	**0**	**0**	**0**
8	_____	**12345678**	**0**	**0**	**0**	**0**
9	_____	**12345678**	**0**	**0**	**0**	**0**
10	_____	**12345678**	**0**	**0**	**0**	**0**
11	_____	**12345678**	**0**	**0**	**0**	**0**
12	_____	**12345678**	**0**	**0**	**0**	**0**
13	_____	**12345678**	**0**	**0**	**0**	**0**
14	_____	**12345678**	**0**	**0**	**0**	**0**
15	_____	**12345678**	**0**	**0**	**0**	**0**
16	_____	**12345678**	**0**	**0**	**0**	**0**
17	_____	**12345678**	**0**	**0**	**0**	**0**
18	_____	**12345678**	**0**	**0**	**0**	**0**
19	_____	**12345678**	**0**	**0**	**0**	**0**
20	_____	**12345678**	**0**	**0**	**0**	**0**
21	_____	**12345678**	**0**	**0**	**0**	**0**
22	_____	**12345678**	**0**	**0**	**0**	**0**
23	_____	**12345678**	**0**	**0**	**0**	**0**
24	_____	**12345678**	**0**	**0**	**0**	**0**
25	_____	**12345678**	**0**	**0**	**0**	**0**
26	_____	**12345678**	**0**	**0**	**0**	**0**
27	_____	**12345678**	**0**	**0**	**0**	**0**
28	_____	**12345678**	**0**	**0**	**0**	**0**
29	_____	**12345678**	**0**	**0**	**0**	**0**
30	_____	**12345678**	**0**	**0**	**0**	**0**
31	_____	**12345678**	**0**	**0**	**0**	**0**

Time of Day Function Events

No.	Days of Week	Seasons	Hour	Minute	Function	Phases or Fn. 14 Bits
0	_____	**12345678**	**0**	**0**	**0**	_____
1	_____	**12345678**	**0**	**0**	**0**	_____
2	_____	**12345678**	**0**	**0**	**0**	_____
3	_____	**12345678**	**0**	**0**	**0**	_____
4	_____	**12345678**	**0**	**0**	**0**	_____
5	_____	**12345678**	**0**	**0**	**0**	_____
6	_____	**12345678**	**0**	**0**	**0**	_____
7	_____	**12345678**	**0**	**0**	**0**	_____
8	_____	**12345678**	**0**	**0**	**0**	_____
9	_____	**12345678**	**0**	**0**	**0**	_____
10	_____	**12345678**	**0**	**0**	**0**	_____
11	_____	**12345678**	**0**	**0**	**0**	_____
12	_____	**12345678**	**0**	**0**	**0**	_____
13	_____	**12345678**	**0**	**0**	**0**	_____
14	_____	**12345678**	**0**	**0**	**0**	_____
15	_____	**12345678**	**0**	**0**	**0**	_____

Function 1 = Red Lock
Function 2 = Yellow Lock
Function 3 = Minimum Recall
Function 4 = Pedestrian Recall
Function 6 = Rest in Walk
Function 7 = Red Rest
Function 8 = Double Entry
Function 9 = Maximum Recall
Function 10 = Soft Recall
Function 11 = Max 2
Function 12 = Conditional Service
Function 13 = Lag Free
Function 14 = (see Function 14 Bits)
Function 15 = Time of Day Outputs

Function 14 Bits
Bit 1 = Local Override
Bit 2 = Skip Overlap Green Clearance
Bit 4 = Disable Detector OFF Monitoring
Bit 5 = Disable Bus Priority
Bit 6 = Inhibit FYA
Bit 7 = Detector Count Recording
Bit 8 = Split Monitor Recording

Holiday Definitions				
No.	Holiday Types	Day	Month	Year
0	_____	**0**	**0**	**0**
1	_____	**0**	**0**	**0**
2	_____	**0**	**0**	**0**
3	_____	**0**	**0**	**0**
4	_____	**0**	**0**	**0**
5	_____	**0**	**0**	**0**
6	_____	**0**	**0**	**0**
7	_____	**0**	**0**	**0**
8	_____	**0**	**0**	**0**
9	_____	**0**	**0**	**0**
10	_____	**0**	**0**	**0**
11	_____	**0**	**0**	**0**
12	_____	**0**	**0**	**0**
13	_____	**0**	**0**	**0**
14	_____	**0**	**0**	**0**
15	_____	**0**	**0**	**0**
16	_____	**0**	**0**	**0**
17	_____	**0**	**0**	**0**
18	_____	**0**	**0**	**0**
19	_____	**0**	**0**	**0**
20	_____	**0**	**0**	**0**
21	_____	**0**	**0**	**0**
22	_____	**0**	**0**	**0**
23	_____	**0**	**0**	**0**
24	_____	**0**	**0**	**0**
25	_____	**0**	**0**	**0**
26	_____	**0**	**0**	**0**
27	_____	**0**	**0**	**0**
28	_____	**0**	**0**	**0**
29	_____	**0**	**0**	**0**
30	_____	**0**	**0**	**0**
31	_____	**0**	**0**	**0**

Holiday Time Base Coordination Events					
No.	Holiday Types	Hour	Minute	Plan	Offset
0	_____	**0**	**0**	**0**	**0**
1	_____	**0**	**0**	**0**	**0**
2	_____	**0**	**0**	**0**	**0**
3	_____	**0**	**0**	**0**	**0**
4	_____	**0**	**0**	**0**	**0**
5	_____	**0**	**0**	**0**	**0**
6	_____	**0**	**0**	**0**	**0**
7	_____	**0**	**0**	**0**	**0**
8	_____	**0**	**0**	**0**	**0**
9	_____	**0**	**0**	**0**	**0**
10	_____	**0**	**0**	**0**	**0**
11	_____	**0**	**0**	**0**	**0**
12	_____	**0**	**0**	**0**	**0**
13	_____	**0**	**0**	**0**	**0**
14	_____	**0**	**0**	**0**	**0**
15	_____	**0**	**0**	**0**	**0**
16	_____	**0**	**0**	**0**	**0**
17	_____	**0**	**0**	**0**	**0**
18	_____	**0**	**0**	**0**	**0**
19	_____	**0**	**0**	**0**	**0**
20	_____	**0**	**0**	**0**	**0**
21	_____	**0**	**0**	**0**	**0**
22	_____	**0**	**0**	**0**	**0**
23	_____	**0**	**0**	**0**	**0**
24	_____	**0**	**0**	**0**	**0**
25	_____	**0**	**0**	**0**	**0**
26	_____	**0**	**0**	**0**	**0**
27	_____	**0**	**0**	**0**	**0**
28	_____	**0**	**0**	**0**	**0**
29	_____	**0**	**0**	**0**	**0**
30	_____	**0**	**0**	**0**	**0**
31	_____	**0**	**0**	**0**	**0**

Holiday Time of Day Function Events					
No.	Holiday Types	Hour	Minute	Function	Phases or Fn. 14 Bits
0	_____	**0**	**0**	**0**	_____
1	_____	**0**	**0**	**0**	_____
2	_____	**0**	**0**	**0**	_____
3	_____	**0**	**0**	**0**	_____
4	_____	**0**	**0**	**0**	_____
5	_____	**0**	**0**	**0**	_____
6	_____	**0**	**0**	**0**	_____
7	_____	**0**	**0**	**0**	_____
8	_____	**0**	**0**	**0**	_____
9	_____	**0**	**0**	**0**	_____
10	_____	**0**	**0**	**0**	_____
11	_____	**0**	**0**	**0**	_____
12	_____	**0**	**0**	**0**	_____
13	_____	**0**	**0**	**0**	_____
14	_____	**0**	**0**	**0**	_____
15	_____	**0**	**0**	**0**	_____

Season Definitions				
No.	Start Month	Start Day	End Month	End Day
1	**1**	**1**	**12**	**31**
2	**0**	**0**	**0**	**0**
3	**0**	**0**	**0**	**0**
4	**0**	**0**	**0**	**0**
5	**0**	**0**	**0**	**0**
6	**0**	**0**	**0**	**0**
7	**0**	**0**	**0**	**0**
8	**0**	**0**	**0**	**0**

Startup	
Flash Start	**0**
All Red Start	**5.0**
Yellow Start Phases	_____
First Green Phases	**_2___6__**
Startup Vehicle Calls	**12345678**
Startup Ped Calls	_____

Configuration	
Exclusive Phases	_____
Protected/Permissive Phases	_____
Disable Phase Min. Yellow	_____
Free Lag Phases	**_2_4_6_8**
External Lag Phases	**_2_4_6_8**
Pedestrian Forceoff Phases	_____
Extra One	**1_3_5___**

1 = TBC Type 1
2 = Manual Ped Advance
3 = Adjust Clock for Daylight Saving Time
4 = Terminate Ped. for EV Preempt
5 = QuicComm Extended Status
6 = International Style Pedestrian Change Interval
7 = (unused)
8 = Split Ring Operation

Permitted Phases	**12345678**
Restricted Phases	_____
Disable Overlap Min. Yellow	_____
External Permit 1	_____
External Permit 2	_____
External Permit 3	_____
Extra Two	_____

1 = Adv. Warn. Signs On During Min. Init.
2 = Siemens i2 Communications Protocol
3 = Disable Minimum Walk Check
4 = QuicNet System Communications
5 = Ignore Anti-Backup During Preempt
6 = Bridgeport Naztec TS 2 I/O Map
7 = Allow Remote Preemption Calls
8 = Caltrans Traf. Resp. FM Comm.

Advance Warning Signs	Sign 1	Sign 2
Phase Number	**0**	**0**
Time Before Yellow	**0.0**	**0.0**

Software Flash	
Flash Entry Phases	_____
Flash Yellow Phases	_____
Flash Yellow Overlaps	_____
Flash Type	**0**

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Flashing Yellow Arrow	
FYA Delay	**0**
FYA During Preempt	**N**

Front Panel	
Keyboard Beep	**N**
Backlight Timeout	**1**

Miscellaneous	
Red Revert	**5.0**
Log Preemption Events	**N**
Soft Recall Delay	**1.0**

Special Event Limited Service Intervals					
SE 1	SE 2	SE 3	SE 4	SE 5	SE 6
0	**0**	**0**	**0**	**0**	**0**

Detector Monitoring	
Max On	**5**
Max Off	**15**
Chatter	**45**

Daylight Saving Time	
Start Month	**3**
Start Week	**2**
End Month	**11**
End Week	**1**

Manual Operation	
Manual Plan	**0**

1–9 = Coordination Plans
14 = Free
15 = Flash

Manual Offset	**0**

Bus Priority - Schedule					
Event No.	Day of Week	Hour	Minute	Headway	Direction
1	_____	**0**	**0**	**0**	**A**
2	_____	**0**	**0**	**0**	**A**
3	_____	**0**	**0**	**0**	**A**
4	_____	**0**	**0**	**0**	**A**
5	_____	**0**	**0**	**0**	**A**
6	_____	**0**	**0**	**0**	**A**
7	_____	**0**	**0**	**0**	**A**
8	_____	**0**	**0**	**0**	**A**
9	_____	**0**	**0**	**0**	**A**
10	_____	**0**	**0**	**0**	**A**
11	_____	**0**	**0**	**0**	**A**
12	_____	**0**	**0**	**0**	**A**
13	_____	**0**	**0**	**0**	**A**
14	_____	**0**	**0**	**0**	**A**
15	_____	**0**	**0**	**0**	**A**
16	_____	**0**	**0**	**0**	**A**

Bus Priority - Timing				
	Direction A	Direction B	Direction C	Direction D
Delay	**0**	**0**	**0**	**0**
Early Green	**0**	**0**	**0**	**0**
Green Extension	**0**	**0**	**0**	**0**
Phases	_____	_____	_____	_____
Non-Priority Phase Maximum Adjustments				
Phase 1	**0**	**0**	**0**	**0**
Phase 2	**0**	**0**	**0**	**0**
Phase 3	**0**	**0**	**0**	**0**
Phase 4	**0**	**0**	**0**	**0**
Phase 5	**0**	**0**	**0**	**0**
Phase 6	**0**	**0**	**0**	**0**
Phase 7	**0**	**0**	**0**	**0**
Phase 8	**0**	**0**	**0**	**0**

Transparity® System	
System ID	**5025**
Group	**NONE**
Field Master	**NONE**
N-S Street	**Cleveland St**
E-W Street	**Mission Ave**
Communications	
Channel	**UDP:8001:10.160.0.130**
Address	**16**
Area Number	**1**
Area Address	**58**
Database	
Last Changed	**4/19/2022 3:06:20 PM +00:00**

Transparity Timing Notes

Phase Timing - Bank 1								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	**10**	**10**	**0**	**10**	**10**	**10**	**5**	**10**
Extension	**1.5**	**3.0**	**0.0**	**2.0**	**1.5**	**3.0**	**0.0**	**2.0**
Max	**10**	**30**	**0**	**20**	**10**	**30**	**0**	**20**
Max 2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Cond Serve Check	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**
Clearance Timing								
Yellow Change	**3.0**	**3.6**	**0.0**	**3.2**	**3.0**	**3.6**	**3.0**	**3.2**
Red Clear	**1.0**	**1.0**	**0.0**	**1.0**	**1.0**	**1.0**	**0.0**	**1.0**
Pedestrian Timing								
Walk	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**
Pedestrian Change	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**0**
Advance/Delay Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
PE Min. Ped. Change	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Volume-Density								
Type 3 Disconnect	**0**	**15**	**0**	**0**	**0**	**15**	**0**	**0**
Add per Vehicle	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Max Added Initial	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Min Gap	**1.5**	**2.0**	**0.0**	**2.0**	**1.5**	**2.0**	**0.0**	**2.0**
Max Gap	**1.5**	**4.0**	**0.0**	**2.0**	**1.5**	**4.0**	**0.0**	**2.0**
Reduce Every	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**
Alternate Timing								
Alternate Walk	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alternate Ped. Change	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alternate Minimum	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alternate Extension	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Phase Timing - Exclusive Pedestrian	
Exclusive Ped Assignment	_____
Exclusive Walk	**0**
Exclusive Pedestrian Change	**0**
Red Clear	**0.0**
Walk Output	**0**
Don't Walk Output	**0**

Phase Functions - Page 1	
Red Lock	_____
Yellow Lock	_____
Simultaneous Gap	**_2_4_6_8**
Rest In Walk	_____
Advance Walk	_____
Flashing Walk	_____
Max Extension	_____
Red Rest	_____
Dual Entry	**_2_4_6_8**
Sequential Timing	_____
Inhibit Ped Reservice	_____
Delay Walk	_____
Guaranteed Passage	_____
Conditional Service	_____

Phase Functions - Page 2	
Minimum Recall	**_2___6__**
Ped Recall	_____
Maximum Recall	_____
Green Flash	_____
Overlap Green Flash	_____
Flashing Yellow Arrow for PPLT	**1___5___**
Max2	_____
Soft Recall	_____
External Recall	_____
Manual Control Calls	_____
Fast Green Flash	_____
Fast Overlap Green Flash	_____
Semi-Actuated	_____

Phase Timing - Bank 2								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	0	0	0	0	0	0	0	0
Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	0	0	0	0	0	0	0	0
Max 2	0	0	0	0	0	0	0	0
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing								
Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing								
Walk	0	0	0	0	0	0	0	0
Pedestrian Change	0	0	0	0	0	0	0	0
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density								
Type 3 Disconnect	0	0	0	0	0	0	0	0
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alternate Timing								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	0	0	0	0	0	0	0	0
Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	0	0	0	0	0	0	0	0
Max 2	0	0	0	0	0	0	0	0
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing								
Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing								
Walk	0	0	0	0	0	0	0	0
Pedestrian Change	0	0	0	0	0	0	0	0
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density								
Type 3 Disconnect	0	0	0	0	0	0	0	0
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alternate Timing								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Preemption - General	
Min. Green Before Preempt Forceoff	**5**
Max. EV Preempt Duration	**0**
Min. Time Between Same EV Preempt	**0**
Disable Low Priority Preempt	
Leave Flash to Service Preempt	

Preemption - Relative Priority	
Special Event 1	**1**
Special Event 2	**1**
Special Event 3	**0**
Special Event 4	**0**
Special Event 5	**0**
Special Event 6	**0**
Emergency Vehicle A	**1**
Emergency Vehicle B	**1**
Emergency Vehicle C	**1**
Emergency Vehicle D	**1**

Preemption - Railroad 1	
Delay	**0**
Clear Time	**0**
Clear Phases	

Preemption - Railroad 2	
Delay	**0**
Clear Time	**20**
Clear Phases	**_2__5___**
Limited Service Phases	**1__4__78**

Preemption - Emergency Vehicle			
	Delay	Clear	Clearance Phases
EV A	**0**	**5**	**_2_____**
EV B	**0**	**5**	**___4____**
EV C	**0**	**5**	**_____6__**
EV D	**0**	**5**	**_____8**

Preemption - Railroad 3	
Enabled	**Y**
Advance Ped. Max. Time	**0**
Track Clear Min. Time	**18**
Track Clear Max. Time	**28**
Track Clear Phases	**_2__5___**
Limited Service Max. Time	**3**
Limited Service Phases	**___4__78**
Truncate Green	**N**
Truncate Walk	**Y**

I/O

	Input	Output
Advance Ped.	**0**	**0**
Advance Preempt	**52**	**0**
Supervisor	**0**	**0**
Crossing Active	**0**	**0**
Gate Down	**75**	**0**
Fault	**0**	**0**
Watchdog Echo		**0**

Special Event Sequence 1										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 2										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 3										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 4										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 5										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Special Event Sequence 6										
Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0	**0**									
1	**0**									
2	**0**									
3	**0**									
4	**0**									
5	**0**									
6	**0**									
7	**0**									
8	**0**									
9	**0**									
10	**0**									
11	**0**									
12	**0**									
13	**0**									
14	**0**									
15	**0**									

Coordination - Cycle, Offsets, & Forceoffs									
	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Offset 1	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offset 2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Offset 3	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**255**	**255**	**255**	**255**	**255**	**255**	**255**	**255**	**255**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**
Forceoff Phase 2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 3	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Forceoff Phase 4	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Forceoff Phase 5	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**
Forceoff Phase 6	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 7	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Forceoff Phase 8	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Adaptive Operation	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**

Coordination - General	
Transition Type	**0.3**
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	**__3_____**
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	
QuicTrac Max Cycle Length	**255**
QuicTrac Max Cycle Length Change	**15**

Coordination - Phase Minimums							
Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
10	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Coordination - Permissives & Phase Sequences									
	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 2 - Ped Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Perm 3 - Ped Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____
Sync Phases	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**
Lag Phases	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**
Pre-Timed Phases	_____	_____	_____	_____	_____	_____	_____	_____	_____

Overlaps								
	Overlap 1	Overlap 2	Overlap 3	Overlap 4	Overlap 5	Overlap 6	Overlap 7	Overlap 8
Load Switch Number	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Vehicle Set 1								
Vehicle Set 2								
Vehicle Set 3								
Negative Vehicle								
Negative Ped								
Green Omit								
Green Clear Omit								
Green Clearance	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Yellow Change	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Red Clearance	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

AND Gates						
	AND 1	AND 2	AND 3	AND 4	AND 5	AND 6
Input A	**0**	**0**	**0**	**0**	**0**	**0**
Input B	**0**	**0**	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

NAND Gates				
	NAND 1	NAND 2	NAND 3	NAND 4
Input A	**0**	**0**	**0**	**0**
Input B	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**

NOT Gates				
	NOT 1	NOT 2	NOT 3	NOT 4
Input	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**

Delay Timers						
	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input	**0**	**0**	**0**	**0**	**0**	**0**
Time	**0**	**0**	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

Extension Timers						
	ET 1	ET 2	ET 3	ET 4	ET 5	ET 6
Input	**0**	**0**	**0**	**0**	**0**	**0**
Time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

OR Gates										
	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6	OR 7	OR 8	OR 9	OR 10
Input A	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Input B	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Input C									**0**	**0**
Input D									**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Latches								
	LATCH 1	LATCH 2	LATCH 3	LATCH 4	LATCH 5	LATCH 6	LATCH 7	LATCH 8
Set	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Output	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
NOT Output	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

One Shot Timers						
	OS 1	OS 2	OS 3	OS 4	OS 5	OS 6
Input	**0**	**0**	**0**	**0**	**0**	**0**
Time	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Output	**0**	**0**	**0**	**0**	**0**	**0**

Detectors						
No.	Pin	Delay	Carry Over	Phases	Attributes	Assignments
1	**39**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
2	**40**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
3	**41**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
4	**42**	**0.0**	**0.0**	**_____8**	**___45_7_**	**123____8**
5	**43**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
6	**44**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
7	**45**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
8	**46**	**0.0**	**0.0**	**_____8**	**___45_7_**	**123____8**
9	**47**	**0.0**	**0.0**	**_2_____**	**_____67_**	**123____8**
10	**48**	**0.0**	**0.0**	**_____6__**	**_____67_**	**123____8**
11	**49**	**5.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
12	**50**	**0.0**	**0.0**	**_____8**	**_____67_**	**123____8**
13	**55**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
14	**56**	**0.0**	**0.0**	**1____6__**	**___45_7_**	**123____8**
15	**57**	**0.0**	**0.0**	**_____7_**	**___45_7_**	**123____8**
16	**58**	**0.0**	**0.0**	**__3_____**	**___45_7_**	**123____8**
17	**59**	**0.0**	**0.0**	**____5___**	**___45_7_**	**123____8**
18	**60**	**0.0**	**0.0**	**1_____**	**___45_7_**	**123____8**
19	**61**	**0.0**	**0.0**	**_____7_**	**___45_7_**	**123____8**
20	**62**	**0.0**	**0.0**	**__3_____**	**___45_7_**	**123____8**
21	**63**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
22	**64**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
23	**65**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
24	**66**	**0.0**	**0.0**	**_____8**	**___45_7_**	**123____8**
25	**67**	**0.0**	**0.0**	**_____7_**	**_2_____**	**123____8**
26	**68**	**0.0**	**0.0**	**_____7_**	**_2_____**	**123____8**
27	**69**	**0.0**	**0.0**	**_____7_**	**_2_____**	**123____8**
28	**70**	**0.0**	**0.0**	**_____7_**	**_2_____**	**123____8**
29	**76**	**0.0**	**0.0**	**_2_____**	**___45_7_**	**123____8**
30	**77**	**0.0**	**0.0**	**_____6__**	**___45_7_**	**123____8**
31	**78**	**0.0**	**0.0**	**___4____**	**___45_7_**	**123____8**
32	**79**	**7.0**	**0.0**	**_____8**	**___45_7_**	**123____8**

Detector Attributes	Detector Assignments
1 = Full Time Delay	1 = Detector Set 1
2 = Pedestrian	2 = Detector Set 2
3 = (unused)	3 = Detector Set 3
4 = Count	4 = (unused)
5 = Extension	5 = (unused)
6 = Type 3	6 = Min. Recall on Failure
7 = Calling	7 = Max. Recall on Failure
8 = Alternate	8 = Monitor for Failure

Inputs - General	
Flash Sense	**81**
External Permit 1	**0**
External Permit 2	**0**
External Permit 3	**0**
Exclusive Ped Omit	**0**
Max. 2	**0**
External Lag	**0**
Max. Recall	**0**
Stop Time	**82**
Manual Control Enable	**0**
Manual Control Advance	**0**
Min. Recall	**0**
Pedestrian Forceoff	**0**

Inputs - Preemption	
Railroad 1	**51**
Railroad 2	**0**
Gate Down	**0**
Special Event 1	**0**
Special Event 2	**0**
Special Event 3	**0**
Special Event 4	**0**
Special Event 5	**0**
Special Event 6	**0**
Emergency Vehicle A	**71**
Emergency Vehicle B	**72**
Emergency Vehicle C	**73**
Emergency Vehicle D	**74**

Inputs - FYA Inhibit	
Phase 1	**0**
Phase 2	**0**
Phase 3	**0**
Phase 4	**0**
Phase 5	**0**
Phase 6	**0**
Phase 7	**0**
Phase 8	**0**

Inputs - Plan	
Plan 1	**0**
Plan 2	**0**
Plan 3	**0**
Plan 4	**0**
Plan 5	**0**
Plan 6	**0**
Plan 7	**0**
Plan 8	**0**
Plan 9	**0**
Free	**0**
Flash	**0**

Inputs - Bank & Set	
Phase Bank 2	**0**
Phase Bank 3	**0**
Detector Set 2	**0**
Detector Set 3	**0**
Overlap Set 2	**0**
Overlap Set 3	**0**

Inputs - Alarms	
Alarm 1	**0**
Alarm 2	**0**
Alarm 3	**0**
Alarm 4	**0**
Door Ajar	**0**
UPS Battery Low	**0**
UPS On Backup Power	**0**
Cabinet Temperature	**0**

Inputs - NEMA Functions	
Call to Non-Actuated	**0**
CNA Phases	_____
Forceoff Ring A	**0**
Forceoff Ring B	**0**
Hold	**0**
Hold Phases	_____
Max. Inhibit	**0**

Outputs - General	
Advance Warning Sign 1	0
Advance Warning Sign 2	0
Detector Failure	0
Flasher 1	0
Flasher 2	0
Fast Flasher	0
On Line	0
Exclusive Pedestrian Walk	0
Exclusive Pedestrian Don't Walk	0

Outputs - Plan	
Plan 1	0
Plan 2	0
Plan 3	0
Plan 4	0
Plan 5	0
Plan 6	0
Plan 7	0
Plan 8	0
Plan 9	0
Free	0
Flash	0

Outputs - Pedestrian Loadswitch Assignments	
Loadswitch 2P Phases	_____7_
Loadswitch 4P Phases	_____7_
Loadswitch 6P Phases	_____7_
Loadswitch 8P Phases	_____7_

Outputs - Preemption		
	Steady	Flashing
Railroad 1	0	0
Railroad 2	0	0
Special Event 1	0	0
Special Event 2	0	0
Special Event 3	0	0
Special Event 4	0	0
Special Event 5	0	0
Special Event 6	0	0
EV A	0	0
EV B	0	0
EV C	0	0
EV D	0	0
Any Preempt	0	0
Preempt Failure	0	0

Outputs - Phase Redirection								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Red	0	0	0	0	0	0	0	0
Yellow	0	0	0	0	0	0	0	0
Green	35	0	37	0	0	0	0	0
Walk	0	0	0	26	0	0	0	0
Don't Walk	0	0	0	24	0	0	0	0

Outputs - Overlap Redirection								
	Overlap 1	Overlap 2	Overlap 3	Overlap 4	Overlap 5	Overlap 6	Overlap 7	Overlap 8
Red	0	0	0	0	0	0	0	0
Yellow	0	0	0	0	0	0	0	0
Green	0	0	0	0	0	0	0	0

Outputs - Time of Day							
TOD Out 1	TOD Out 2	TOD Out 3	TOD Out 4	TOD Out 5	TOD Out 6	TOD Out 7	TOD Out 8
0	0	0	0	0	0	0	0

Outputs - Special Event							
SE Out 1	SE Out 2	SE Out 3	SE Out 4	SE Out 5	SE Out 6	SE Out 7	SE Out 8
0	0	0	0	0	0	0	0

Outputs - Special Function							
SF Out 1	SF Out 2	SF Out 3	SF Out 4	SF Out 5	SF Out 6	SF Out 7	SF Out 8
0	0	0	0	0	0	0	0

Outputs - Phase Status								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Check	0	0	0	0	0	0	0	0
On	0	0	0	0	0	0	0	0

Outputs - Flashing Yellow Arrow							
Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
18	0	0	0	34	0	0	0

Time Base Coordination Events						
No.	Days of Week	Seasons	Hour	Minute	Plan	Offset
0	_____	**12345678**	**0**	**0**	**0**	**0**
1	_____	**12345678**	**0**	**0**	**0**	**0**
2	_____	**12345678**	**0**	**0**	**0**	**0**
3	_____	**12345678**	**0**	**0**	**0**	**0**
4	_____	**12345678**	**0**	**0**	**0**	**0**
5	_____	**12345678**	**0**	**0**	**0**	**0**
6	_____	**12345678**	**0**	**0**	**0**	**0**
7	_____	**12345678**	**0**	**0**	**0**	**0**
8	_____	**12345678**	**0**	**0**	**0**	**0**
9	_____	**12345678**	**0**	**0**	**0**	**0**
10	_____	**12345678**	**0**	**0**	**0**	**0**
11	_____	**12345678**	**0**	**0**	**0**	**0**
12	_____	**12345678**	**0**	**0**	**0**	**0**
13	_____	**12345678**	**0**	**0**	**0**	**0**
14	_____	**12345678**	**0**	**0**	**0**	**0**
15	_____	**12345678**	**0**	**0**	**0**	**0**
16	_____	**12345678**	**0**	**0**	**0**	**0**
17	_____	**12345678**	**0**	**0**	**0**	**0**
18	_____	**12345678**	**0**	**0**	**0**	**0**
19	_____	**12345678**	**0**	**0**	**0**	**0**
20	_____	**12345678**	**0**	**0**	**0**	**0**
21	_____	**12345678**	**0**	**0**	**0**	**0**
22	_____	**12345678**	**0**	**0**	**0**	**0**
23	_____	**12345678**	**0**	**0**	**0**	**0**
24	_____	**12345678**	**0**	**0**	**0**	**0**
25	_____	**12345678**	**0**	**0**	**0**	**0**
26	_____	**12345678**	**0**	**0**	**0**	**0**
27	_____	**12345678**	**0**	**0**	**0**	**0**
28	_____	**12345678**	**0**	**0**	**0**	**0**
29	_____	**12345678**	**0**	**0**	**0**	**0**
30	_____	**12345678**	**0**	**0**	**0**	**0**
31	_____	**12345678**	**0**	**0**	**0**	**0**

Time of Day Function Events						
No.	Days of Week	Seasons	Hour	Minute	Function	Phases or Fn. 14 Bits
0	_____	**12345678**	**0**	**0**	**0**	_____
1	_____	**12345678**	**0**	**0**	**0**	_____
2	_____	**12345678**	**0**	**0**	**0**	_____
3	_____	**12345678**	**0**	**0**	**0**	_____
4	_____	**12345678**	**0**	**0**	**0**	_____
5	_____	**12345678**	**0**	**0**	**0**	_____
6	_____	**12345678**	**0**	**0**	**0**	_____
7	_____	**12345678**	**0**	**0**	**0**	_____
8	_____	**12345678**	**0**	**0**	**0**	_____
9	_____	**12345678**	**0**	**0**	**0**	_____
10	_____	**12345678**	**0**	**0**	**0**	_____
11	_____	**12345678**	**0**	**0**	**0**	_____
12	_____	**12345678**	**0**	**0**	**0**	_____
13	_____	**12345678**	**0**	**0**	**0**	_____
14	_____	**12345678**	**0**	**0**	**0**	_____
15	_____	**12345678**	**0**	**0**	**0**	_____

Function 1 = Red Lock
Function 2 = Yellow Lock
Function 3 = Minimum Recall
Function 4 = Pedestrian Recall
Function 6 = Rest in Walk
Function 7 = Red Rest
Function 8 = Double Entry
Function 9 = Maximum Recall
Function 10 = Soft Recall
Function 11 = Max 2
Function 12 = Conditional Service
Function 13 = Lag Free
Function 14 = (see Function 14 Bits)
Function 15 = Time of Day Outputs

Function 14 Bits

Bit 1 = Local Override
Bit 2 = Skip Overlap Green Clearance
Bit 4 = Disable Detector OFF Monitoring
Bit 5 = Disable Bus Priority
Bit 6 = Inhibit FYA
Bit 7 = Detector Count Recording
Bit 8 = Split Monitor Recording

Holiday Definitions				
No.	Holiday Types	Day	Month	Year
0	_____	**0**	**0**	**0**
1	_____	**0**	**0**	**0**
2	_____	**0**	**0**	**0**
3	_____	**0**	**0**	**0**
4	_____	**0**	**0**	**0**
5	_____	**0**	**0**	**0**
6	_____	**0**	**0**	**0**
7	_____	**0**	**0**	**0**
8	_____	**0**	**0**	**0**
9	_____	**0**	**0**	**0**
10	_____	**0**	**0**	**0**
11	_____	**0**	**0**	**0**
12	_____	**0**	**0**	**0**
13	_____	**0**	**0**	**0**
14	_____	**0**	**0**	**0**
15	_____	**0**	**0**	**0**
16	_____	**0**	**0**	**0**
17	_____	**0**	**0**	**0**
18	_____	**0**	**0**	**0**
19	_____	**0**	**0**	**0**
20	_____	**0**	**0**	**0**
21	_____	**0**	**0**	**0**
22	_____	**0**	**0**	**0**
23	_____	**0**	**0**	**0**
24	_____	**0**	**0**	**0**
25	_____	**0**	**0**	**0**
26	_____	**0**	**0**	**0**
27	_____	**0**	**0**	**0**
28	_____	**0**	**0**	**0**
29	_____	**0**	**0**	**0**
30	_____	**0**	**0**	**0**
31	_____	**0**	**0**	**0**

Holiday Time Base Coordination Events					
No.	Holiday Types	Hour	Minute	Plan	Offset
0	_____	**0**	**0**	**0**	**0**
1	_____	**0**	**0**	**0**	**0**
2	_____	**0**	**0**	**0**	**0**
3	_____	**0**	**0**	**0**	**0**
4	_____	**0**	**0**	**0**	**0**
5	_____	**0**	**0**	**0**	**0**
6	_____	**0**	**0**	**0**	**0**
7	_____	**0**	**0**	**0**	**0**
8	_____	**0**	**0**	**0**	**0**
9	_____	**0**	**0**	**0**	**0**
10	_____	**0**	**0**	**0**	**0**
11	_____	**0**	**0**	**0**	**0**
12	_____	**0**	**0**	**0**	**0**
13	_____	**0**	**0**	**0**	**0**
14	_____	**0**	**0**	**0**	**0**
15	_____	**0**	**0**	**0**	**0**
16	_____	**0**	**0**	**0**	**0**
17	_____	**0**	**0**	**0**	**0**
18	_____	**0**	**0**	**0**	**0**
19	_____	**0**	**0**	**0**	**0**
20	_____	**0**	**0**	**0**	**0**
21	_____	**0**	**0**	**0**	**0**
22	_____	**0**	**0**	**0**	**0**
23	_____	**0**	**0**	**0**	**0**
24	_____	**0**	**0**	**0**	**0**
25	_____	**0**	**0**	**0**	**0**
26	_____	**0**	**0**	**0**	**0**
27	_____	**0**	**0**	**0**	**0**
28	_____	**0**	**0**	**0**	**0**
29	_____	**0**	**0**	**0**	**0**
30	_____	**0**	**0**	**0**	**0**
31	_____	**0**	**0**	**0**	**0**

Holiday Time of Day Function Events					
No.	Holiday Types	Hour	Minute	Function	Phases or Fn. 14 Bits
0	_____	**0**	**0**	**0**	_____
1	_____	**0**	**0**	**0**	_____
2	_____	**0**	**0**	**0**	_____
3	_____	**0**	**0**	**0**	_____
4	_____	**0**	**0**	**0**	_____
5	_____	**0**	**0**	**0**	_____
6	_____	**0**	**0**	**0**	_____
7	_____	**0**	**0**	**0**	_____
8	_____	**0**	**0**	**0**	_____
9	_____	**0**	**0**	**0**	_____
10	_____	**0**	**0**	**0**	_____
11	_____	**0**	**0**	**0**	_____
12	_____	**0**	**0**	**0**	_____
13	_____	**0**	**0**	**0**	_____
14	_____	**0**	**0**	**0**	_____
15	_____	**0**	**0**	**0**	_____

Season Definitions				
No.	Start Month	Start Day	End Month	End Day
1	**1**	**1**	**12**	**31**
2	**0**	**0**	**0**	**0**
3	**0**	**0**	**0**	**0**
4	**0**	**0**	**0**	**0**
5	**0**	**0**	**0**	**0**
6	**0**	**0**	**0**	**0**
7	**0**	**0**	**0**	**0**
8	**0**	**0**	**0**	**0**

Startup	
Flash Start	**0**
All Red Start	**5.0**
Yellow Start Phases	_____
First Green Phases	**_2___6__**
Startup Vehicle Calls	**_2_4_6_8**
Startup Ped Calls	**_____7_**

Configuration	
Exclusive Phases	**_____7_**
Protected/Permissive Phases	_____
Disable Phase Min. Yellow	_____
Free Lag Phases	**_2_4_6_8**
External Lag Phases	**_2_4_6_8**
Pedestrian Forceoff Phases	_____
Extra One	**1_3_5___**

1 = TBC Type 1
2 = Manual Ped Advance
3 = Adjust Clock for Daylight Saving Time
4 = Terminate Ped. for EV Preempt
5 = QuicComm Extended Status
6 = International Style Pedestrian Change Interval
7 = (unused)
8 = Split Ring Operation

Permitted Phases	**12_45678**
Restricted Phases	_____
Disable Overlap Min. Yellow	_____
External Permit 1	_____
External Permit 2	_____
External Permit 3	_____
Extra Two	_____

1 = Adv. Warn. Signs On During Min. Init.
2 = Siemens i2 Communications Protocol
3 = Disable Minimum Walk Check
4 = QuicNet System Communications
5 = Ignore Anti-Backup During Preempt
6 = Bridgeport Naztec TS 2 I/O Map
7 = Allow Remote Preemption Calls
8 = Caltrans Traf. Resp. FM Comm.

Advance Warning Signs	Sign 1	Sign 2
Phase Number	**0**	**0**
Time Before Yellow	**0.0**	**0.0**

Software Flash	
Flash Entry Phases	_____
Flash Yellow Phases	_____
Flash Yellow Overlaps	_____
Flash Type	**0**

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Flashing Yellow Arrow	
FYA Delay	**0**
FYA During Preempt	**N**

Front Panel	
Keyboard Beep	**N**
Backlight Timeout	**15**

Miscellaneous	
Red Revert	**6.0**
Log Preemption Events	**N**
Soft Recall Delay	**0.0**

Special Event Limited Service Intervals					
SE 1	SE 2	SE 3	SE 4	SE 5	SE 6
0	**0**	**0**	**0**	**0**	**0**

Detector Monitoring	
Max On	**5**
Max Off	**10**
Chatter	**0**

Daylight Saving Time	
Start Month	**3**
Start Week	**2**
End Month	**11**
End Week	**1**

Manual Operation	
Manual Plan	**0**

1–9 = Coordination Plans
14 = Free
15 = Flash

Manual Offset	**0**

Bus Priority - Schedule					
Event No.	Day of Week	Hour	Minute	Headway	Direction
1	_____	**0**	**0**	**0**	**A**
2	_____	**0**	**0**	**0**	**A**
3	_____	**0**	**0**	**0**	**A**
4	_____	**0**	**0**	**0**	**A**
5	_____	**0**	**0**	**0**	**A**
6	_____	**0**	**0**	**0**	**A**
7	_____	**0**	**0**	**0**	**A**
8	_____	**0**	**0**	**0**	**A**
9	_____	**0**	**0**	**0**	**A**
10	_____	**0**	**0**	**0**	**A**
11	_____	**0**	**0**	**0**	**A**
12	_____	**0**	**0**	**0**	**A**
13	_____	**0**	**0**	**0**	**A**
14	_____	**0**	**0**	**0**	**A**
15	_____	**0**	**0**	**0**	**A**
16	_____	**0**	**0**	**0**	**A**

Bus Priority - Timing				
	Direction A	Direction B	Direction C	Direction D
Delay	**0**	**0**	**0**	**0**
Early Green	**0**	**0**	**0**	**0**
Green Extension	**0**	**0**	**0**	**0**
Phases	_____	_____	_____	_____
Non-Priority Phase Maximum Adjustments				
Phase 1	**0**	**0**	**0**	**0**
Phase 2	**0**	**0**	**0**	**0**
Phase 3	**0**	**0**	**0**	**0**
Phase 4	**0**	**0**	**0**	**0**
Phase 5	**0**	**0**	**0**	**0**
Phase 6	**0**	**0**	**0**	**0**
Phase 7	**0**	**0**	**0**	**0**
Phase 8	**0**	**0**	**0**	**0**

INTERSECTION: Mission & Ditmar

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **61**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **7/6/2022 3:33:04 PM +(**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	**12**	<C+0+0>
Zone Number		<C+0+1>
Area Number	**1**	<C+0+2>
Area Address	**61**	<C+0+3>
QuicNet Channel	**Serial:COM35:**	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	**20**	<F+0+E>
Red Revert	**5.0**	<F+0+F>
All Red Start	**5.0**	<F+C+0>

Start / Revert Times

Row	Column Numbers ----> / Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	11	0	11	0	11
2	Min Green	3	7	3	6	3	12	3	6
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	0.0	0.0	2.0	0.0	0.0
5	Veh Extension	0.5	3.5	0.5	3.0	0.5	3.0	0.5	3.0
6	Max Gap	0.5	5.0	0.5	3.0	0.5	3.0	0.5	3.0
7	Min Gap	0.5	2.0	0.5	3.0	0.5	3.0	0.5	3.0
8	Max Limit	17	40	17	20	17	40	17	20
9	Max Limit 2	30	70	30	40	30	40	30	40
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
D	Reduce Every	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0
E	Yellow Change	3.0	4.0	3.0	3.6	3.0	4.1	3.0	3.6
F	Red Clear	0.0	0.5	0.0	1.0	0.0	1.0	0.0	1.0

Phase Timing - Bank 1 <F Page>

	E
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	___4_6_8	0
Red Lock	_____	1
Yellow Lock	_____	2
Min Recall	_____6__	3
Ped Recall	_____	4
View Set Peds	- - - - -	5
Rest In Walk	_____	6
Red Rest	_____	7
Dual Entry	___4___8	8
Max Recall	_____	9
Soft Recall	_____	A
Max 2	_____	B
Cond. Service	_____	C
Man Cntrl Calls	_____	D
Yellow Start	___4___8	E
First Phases	_____6__	F

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Row	Column Numbers ----> / Plan Name ---->	Plan 1	2	3	4	5	6	7	8	9	Row
0	Cycle Length	100	100	100	100	100	100	100	100	100	0
1	Phase 1 - ForceOff	65	65	65	65	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	25	25	25	25	25	25	25	25	25	3
4	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40	4
5	Phase 5 - ForceOff	65	65	65	65	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	25	25	25	25	25	25	25	25	25	7
8	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	0	0	0	0	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

(* = Coordination Recall)

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	Coord Ped *	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E			E
F			F

Sync Phases <C Page>

Row	Column Numbers ---->	E	Row
0	Exclusive Phases	_____	0
1	RR-1 Clear Phases	_____	1
2	RR-2 Clear Phases	_____	2
3	RR-2 Limited Service	_____	3
4	Prot / Perm Phases	_____	4
5	Overlap A - Green Omit	_____	5
6	Overlap B - Green Omit	_____	6
7	Overlap C - Green Omit	_____	7
8	Overlap D - Green Omit	_____	8
9	Overlap Yellow Flash	_____	9
A	EV-A Phases	_2__5___	A
B	EV-B Phases	___4__7_	B
C	EV-C Phases	1____6__	C
D	EV-D Phases	__3____8	D
E	Extra 1 Config. Bits	1_34____	E
F	IC Select (Interconnect)	_2_____	F

Configuration <E Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	_____8
Yellow Flash Phases	_____
Overlap A - Phases	_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	_____

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	0

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	Coord Max *	_____	A
B	Coord Lag *	_____	B
C			C
D			D
E			E
F			F

Lag Phases <C Page>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	_____
1	00:00	0	0	_____
2	00:00	0	0	_____
3	00:00	0	0	_____
4	00:00	0	0	_____
5	00:00	0	0	_____
6	00:00	0	0	_____
7	00:00	0	0	_____
8	00:00	0	0	_____
9	00:00	0	0	_____
A	00:00	0	0	_____
B	00:00	0	0	_____
C	00:00	0	0	_____
D	00:00	0	0	_____
E	00:00	0	0	_____
F	00:00	0	0	_____

TOD Coordination
<9 Key with C+D+9=0>

Time	Funct.	Day of Week
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____

TOD Function
<7 Key>

Column F Phases/Bits
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

<D Page>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	_____
1	00:00	0	0	_____
2	00:00	0	0	_____
3	00:00	0	0	_____
4	00:00	0	0	_____
5	00:00	0	0	_____
6	00:00	0	0	_____
7	00:00	0	0	_____
8	00:00	0	0	_____
9	00:00	0	0	_____
A	00:00	0	0	_____
B	00:00	0	0	_____
C	00:00	0	0	_____
D	00:00	0	0	_____
E	00:00	0	0	_____
F	00:00	0	0	_____

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Holiday Dates
<8 Key>

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	5.0	0.0		I-6U	3
8	0.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	3.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

Row	Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Row	Phase Names ---->	Phase 1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	10	0	10	0	10	0	10
2	Min Green	3	7	3	7	3	7	3	7
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.2	0.0	1.2	0.0	1.2	0.0	1.2
5	Veh Extension	0.5	3.5	0.5	3.5	0.5	3.5	0.5	3.5
6	Max Gap	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0
7	Min Gap	0.5	2.0	0.5	2.0	0.5	2.0	0.5	2.0
8	Max Limit	17	40	17	40	17	40	17	40
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
D	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E	Yellow Change	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
F	Red Clear	0.0	0.5	0.0	1.0	0.0	0.5	0.0	1.0

Phase Timing - Bank 2 <F Page>

Phase Timing - Bank 3 <F Page>

Row		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0	Delay Only --->	0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
1		0	0							
2		0	0							
3		0	0							
4		0	0							
5		0	0							
6		0	0							
7		0	0							
8		0	0							
9	Limited Service	0	0							
A	Int. --->	- - -	0							
B		0	0							
C		0	0							
D		0	0							
E		0	0							
F		0	0							

<--- Limited Service Interval
(Set Dwell = 255)

Special Event Schedule

<C Page with F+9+F=22>

INTERSECTION: Mission & Horne

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **62**

N/S Street Name: **Not Assigned**
E/W Street Name: **Not Assigned**

Last Database Change: **2/1/2023 12:54:37 AM**

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number	**13**	<C+0+0>
Zone Number		<C+0+1>
Area Number	**1**	<C+0+2>
Area Address	**62**	<C+0+3>
QuicNet Channel	**P:8001:10.160.0.**	(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	**20**	<F+0+E>
Red Revert	**2.0**	<F+0+F>
All Red Start	**5.0**	<F+C+0>

Start / Revert Times

	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8
Row	Phase Names ---->								
0	Ped Walk	0	7	7	7	0	7	0	0
1	Ped FDW	0	12	14	16	0	10	0	0
2	Min Green	10	20	6	6	20	18	3	0
3	Type 3 Limit	0	99	0	0	0	99	0	0
4	Added Initial	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
5	Veh Extension	2.5	6.0	4.0	4.0	2.5	4.0	0.5	0.0
6	Max Gap	2.5	8.0	4.0	4.0	2.5	6.0	0.5	0.0
7	Min Gap	2.5	4.0	4.0	4.0	2.5	4.0	0.5	0.0
8	Max Limit	15	40	35	20	30	40	17	0
9	Max Limit 2	15	60	35	20	30	60	30	0
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
D	Reduce Every	0.0	0.8	0.0	0.0	0.0	0.8	1.0	1.0
E	Yellow Change	3.7	4.4	3.6	3.6	3.7	4.4	3.0	4.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0

Phase Timing - Bank 1 <F Page>

Row	E	
0	RR-1 Delay	0
1	RR-1 Clear	10
2	EV-A Delay	0
3	EV-A Clear	5
4	EV-B Delay	0
5	EV-B Clear	5
6	EV-C Delay	0
7	EV-C Clear	5
8	EV-D Delay	0
9	EV-D Clear	5
A	RR-2 Delay	0
B	RR-2 Clear	10
C	*View EV Delay*	- - -
D	*View EV Clear*	- - -
E	*View RR Delay*	- - -
F	*View RR Clear*	- - -

Preempt Timing

Row	F	
0	Permit	**123456**__
1	Red Lock	_____
2	Yellow Lock	_____
3	Min Recall	**12__56**__
4	Ped Recall	_____
5	*View Set Peds*	**- - - - -**
6	Rest In Walk	_____
7	Red Rest	_____
8	Dual Entry	_**2**___**6**__
9	Max Recall	_____
A	Soft Recall	_____
B	Max 2	_____
C	Cond. Service	_____
D	Man Cntrl Calls	_____
E	Yellow Start	**1**___**5**___
F	First Phases	_**2**___**6**__

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Row	*Column Numbers ----> / Plan Name ---->	Plan 1	2	3	4	5	6	7	8	9	Row
0	Cycle Length	100	110	120	120	100	100	100	100	100	0
1	Phase 1 - ForceOff	75	75	75	75	65	65	65	65	65	1
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	2
3	Phase 3 - ForceOff	30	30	33	33	25	25	25	25	25	3
4	Phase 4 - ForceOff	57	57	61	60	40	40	40	40	40	4
5	Phase 5 - ForceOff	80	80	84	83	65	65	65	65	65	5
6	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	6
7	Phase 7 - ForceOff	1	1	1	1	25	25	25	25	25	7
8	Phase 8 - ForceOff	1	1	1	1	40	40	40	40	40	8
9	Ring Offset	0	0	0	0	0	0	0	0	0	9
A	Offset 1	85	72	80	30	0	0	0	0	0	A
B	Offset 2	0	0	0	0	0	0	0	0	0	B
C	Offset 3	0	0	0	0	0	0	0	0	0	C
D	Permissive	12	12	12	12	12	12	12	12	0	D
E	Hold Release	255	255	255	255	255	255	255	255	0	E
F	Zone Offset	0	0	0	0	0	0	0	0	0	F

(* = Coordination Recall)

Row		E	Row
0			0
1	Plan 1 - Sync	_2___6__	1
2	Plan 2 - Sync	_2___6__	2
3	Plan 3 - Sync	_2___6__	3
4	Plan 4 - Sync	_2___6__	4
5	Plan 5 - Sync	_2___6__	5
6	Plan 6 - Sync	_2___6__	6
7	Plan 7 - Sync	_2___6__	7
8	Plan 8 - Sync	_2___6__	8
9	Plan 9 - Sync	_2___6__	9
A	Coord Ped *	_____	A
B	NEMA Hold	_____	B
C			C
D			D
E			E
F			F

Sync Phases <C Page>

Row	*Column Numbers ----> / Configuration*	E	Row
0	Exclusive Phases	_____	0
1	RR-1 Clear Phases	_____	1
2	RR-2 Clear Phases	_____	2
3	RR-2 Limited Service	_____	3
4	Prot / Perm Phases	_____	4
5	Overlap A - Green Omit	_____	5
6	Overlap B - Green Omit	_____	6
7	Overlap C - Green Omit	_____	7
8	Overlap D - Green Omit	_____	8
9	Overlap Yellow Flash	_____	9
A	EV-A Phases	_2__5___	A
B	EV-B Phases	___4____	B
C	EV-C Phases	1____6__	C
D	EV-D Phases	__3_____	D
E	Extra 1 Config. Bits	1__4____	E
F	IC Select (Interconnect)	_2_____	F

Configuration <E Page>

Coordination <C Page>

	F
RR Overlap A - Phases	_____
RR Overlap B - Phases	_____
RR Overlap C - Phases	_____
RR Overlap D - Phases	_____
Ped 2P	_2_____
Ped 6P	_____6__
Ped 4P	___4____
Ped 8P	__3_____
Yellow Flash Phases	_____
Overlap A - Phases	__3_____
Overlap B - Phases	_____
Overlap C - Phases	_____
Overlap D - Phases	_____
Restricted Phases	_____
Assign 5 Outputs	1_____

Configuration <E Page>

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 =
6 = Special Event
7 = Pretimed Operation
8 = Split Ring Operation

Assign 5 Outputs
(Ped Loadswitch Yellows)
1 = Right Turn Overlap
2 = TOD Outputs
3 = EV Beacon - Steady
4 = EV Beacon - Flashing
5 = Special Event Outputs
6 = Phase 3 & 7 Ped
7 = Advanced Warning Sign
8 =

Force-Off Adjust	5

Coord Force-Off Adjust for Ped Service <C+D+F>

Transition Type	0

TBC Transition <C+D+D>

Transition Type
0 = Shortway
Non-zero = Lengthen

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Row		F	Row
0	Free Lag	_2_4_6_8	0
1	Plan 1 - Lag	_2_4_6_8	1
2	Plan 2 - Lag	_2_4_6_8	2
3	Plan 3 - Lag	_2_4_6_8	3
4	Plan 4 - Lag	_2_4_6_8	4
5	Plan 5 - Lag	_2_4_6_8	5
6	Plan 6 - Lag	_2_4_6_8	6
7	Plan 7 - Lag	_2_4_6_8	7
8	Plan 8 - Lag	_2_4_6_8	8
9	Plan 9 - Lag	_2_4_6_8	9
A	Coord Max *	_____	A
B	Coord Lag *	_____	B
C			C
D			D
E			E
F			F

Lag Phases <C Page>

TOD Coordination
<9 Key with C+D+9=0>

Row	Time	Plan	Offset	Day of Week
0	00:00	0	0	_____
1	00:00	0	0	_____
2	00:00	0	0	_____
3	00:00	0	0	_____
4	00:00	0	0	_____
5	00:00	0	0	_____
6	00:00	0	0	_____
7	00:00	0	0	_____
8	00:00	0	0	_____
9	00:00	0	0	_____
A	00:00	0	0	_____
B	00:00	0	0	_____
C	00:00	0	0	_____
D	00:00	0	0	_____
E	00:00	0	0	_____
F	00:00	0	0	_____

Plan Select
1 thru 9 = Coordination Plan 1 thru 9
14 or E = Free
15 or F = Flash

Offset Select
A = Offset A
B = Offset B
C = Offset C

TOD Function
<7 Key>

Time	Funct.	Day of Week
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____
00:00	0	_____

T.O.D. Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Veh Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Veh Max Recall
A = Veh Soft Recall
B = Maximum 2
C = Conditional Service
D = Free Lag Phases
E = Bit 1 - Local Override
Bit 2 - Phase Bank 2
Bit 3 - Phase Bank 3
Bit 4 - Disable Detector OFF Monitor
Bit 7 - Detector Count Monitor
Bit 8 - Real Time Split Monitor
F = Output Bits 1 thru 4

Column F Phases/Bits
_2___6__
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

<D Page>

Holiday # 1
TOD Coordination
<9 Key with C+D+9=1>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 2
TOD Coordination
<9 Key with C+D+9=2>

Time	Plan	Offset	Day of Week
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____
00:00	0	0	_____

Holiday # 3
TOD Coordination
<9 Key with C+D+9=3>

Time	Plan	Offset	Day of Week	Row
00:00	0	0	_____	0
00:00	0	0	_____	1
00:00	0	0	_____	2
00:00	0	0	_____	3
00:00	0	0	_____	4
00:00	0	0	_____	5
00:00	0	0	_____	6
00:00	0	0	_____	7
00:00	0	0	_____	8
00:00	0	0	_____	9
00:00	0	0	_____	A
00:00	0	0	_____	B
00:00	0	0	_____	C
00:00	0	0	_____	D
00:00	0	0	_____	E
00:00	0	0	_____	F

Month Select
1 = January
2 = February
3 = March
4 = April
5 = May
6 = June
7 = July
8 = August
9 = September
A = October
B = November
C = December

Holiday Dates
<8 Key>

Row		Day	Year	Month	Day of Week
A	Holiday # 1 Date	0	0	0	_____
B	Holiday # 2 Date	0	0	0	_____
C	Holiday # 3 Date	0	0	0	_____

Row	1 Delay	3 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		I-1	14
1	0.0	0.0		I-2U	1
2	0.0	0.0		I-2L	5
3	0.0	0.0		I-3U	21
4	0.0	0.0		I-3L	25
5	0.0	0.0		I-4	9
6	0.0	0.0		I-5	16
7	0.0	0.0		I-6U	3
8	5.0	0.0		I-6L	7
9	0.0	0.0		I-7U	23
A	0.0	0.0		I-7L	27
B	0.0	0.0		I-8	11
C	0.0	0.0		I-9U	18
D	0.0	0.0		I-9L	20
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Row	2 Delay	4 Carry-over	Detector Name	332 Input File	Detector Number
0	0.0	0.0		J-1	13
1	0.0	0.0		J-2U	2
2	0.0	0.0		J-2L	6
3	0.0	0.0		J-3U	22
4	0.0	0.0		J-3L	26
5	0.0	0.0		J-4	10
6	0.0	0.0		J-5	15
7	0.0	0.0		J-6U	4
8	0.0	0.0		J-6L	8
9	0.0	0.0		J-7U	24
A	0.0	0.0		J-7L	28
B	0.0	0.0		J-8	12
C	0.0	0.0		J-9U	17
D	0.0	0.0		J-9L	19
E	- - -	- - -	- - -	- - -	- - -
F	- - -	- - -	- - -	- - -	- - -

Detector Delay & Carryover <D Page>

Row		9 Green Clear	C Yellow Change	D Red Clear	0 Load-Switch #
A	Overlap A	0.0	0.0	0.0	0
B	Overlap B	0.0	0.0	0.0	0
C	Overlap C	0.0	0.0	0.0	0
D	Overlap D	0.0	0.0	0.0	0

Overlap Timing <F Page> <D Page>

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234____
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	____5678
E	-- -- -- -- -- -- -- --	1234____
F	-- 25 26 27 28 -- -- --	_2345___

Active Detectors <D Page>

Note: Initialized data is for all detectors to be active (ie, all flag bits set). A Detector which is "not flagged", will not be active as a Phase Detector, and WILL NOT call or extend its associated phase. It will still function as a System Detector.

Row		0 Detector Number
0		
1	System Det. # 1	0
2	System Det. # 2	0
3	System Det. # 3	0
4	System Det. # 4	0
5	System Det. # 5	0
6	System Det. # 6	0
7	System Det. # 7	0
8	System Det. # 8	0

System Detectors <D Page>

Max ON (minutes)	5	<D+A+E>
Max OFF (minutes)	60	<D+A+F>

Detector Failure Monitor

Phase Number	0	<F+C+1>
Time Before Yellow	0.0	<F+C+3>

Advance Warning Beacon - Sign 1

Phase Number	0	<F+D+1>
Time Before Yellow	0.0	<F+D+3>

Advance Warning Beacon - Sign 2

Long Failure	0.0	<F+0+6>
Short Failure	0.0	<F+0+7>

Power Cycle Correction (Default = 0.5)

Disable Parity	0	<D+B+0>

Dial-Up Telephone Communications
(If set to a non-zero value, parity will be disabled)

INTERSECTION: Mission & Horne

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
	Phase Names ---->									
0	Ped Walk	0	7	7	7	0	7	0	0	0
1	Ped FDW	0	12	14	16	0	10	0	0	1
2	Min Green	10	20	6	6	20	18	3	0	2
3	Type 3 Limit	0	99	0	0	0	99	0	0	3
4	Added Initial	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	4
5	Veh Extension	2.5	6.0	4.0	4.0	2.5	4.0	0.5	0.0	5
6	Max Gap	2.5	8.0	4.0	4.0	2.5	6.0	0.5	0.0	6
7	Min Gap	2.5	4.0	4.0	4.0	2.5	4.0	0.5	0.0	7
8	Max Limit	15	40	35	20	30	40	17	0	8
9	Max Limit 2	15	60	35	20	30	60	30	0	9
A	- - - - - -	0	0	0	0	0	0	0	0	A
B	Call To Phase	0	0	0	0	0	0	0	0	B
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	C
D	Reduce Every	0.0	0.8	0.0	0.0	0.0	0.8	1.0	1.0	D
E	Yellow Change	3.7	4.4	3.6	3.6	3.7	4.4	3.0	4.0	E
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	F

Row	Column Numbers ---->	Phase 1	2	3	4	5	6	7	8	Row
	Phase Names ---->									
0	Ped Walk	0	7	7	7	0	7	0	0	0
1	Ped FDW	0	12	14	16	0	10	0	0	1
2	Min Green	10	20	6	6	20	18	3	0	2
3	Type 3 Limit	0	99	0	0	0	99	0	0	3
4	Added Initial	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	4
5	Veh Extension	2.5	6.0	4.0	4.0	2.5	4.0	0.5	0.0	5
6	Max Gap	2.5	8.0	4.0	4.0	2.5	6.0	0.5	0.0	6
7	Min Gap	2.5	4.0	4.0	4.0	2.5	4.0	0.5	0.0	7
8	Max Limit	15	40	35	20	30	40	17	0	8
9	Max Limit 2	15	60	35	20	30	60	30	0	9
A	- - - - - -	0	0	0	0	0	0	0	0	A
B	Call To Phase	0	0	0	0	0	0	0	0	B
C	Reduce By	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	C
D	Reduce Every	0.0	0.8	0.0	0.0	0.0	0.8	1.0	1.0	D
E	Yellow Change	3.7	4.4	3.6	3.6	3.7	4.4	3.0	4.0	E
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	F

Phase Timing - Bank 2 <F Page>

Phase Timing - Bank 3 <F Page>

Row		7 Time	8 Dwell	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output	Row
0	Delay Only --->	0	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0
1		0	0								1
2		0	0								2
3		0	0								3
4		0	0								4
5		0	0								5
6		0	0								6
7		0	0								7
8		0	0								8
9	Limited Service	0	0								9
A	Int. --->	- - -	0								A
B		0	0								B
C		0	0								C
D		0	0								D
E		0	0								E
F		0	0								F

<--- Limited Service Interval
(Set Dwell = 255)

Special Event Schedule

<C Page with F+9+F=22>

NORTH COUNTY TRANSIT DISTRICT

810 Mission Avenue
Oceanside, CA 92054
(760) 966-6500
(760) 967-2001 (fax)
GoNCTD.com

November 19, 2024

Rob Dmohowski, AICP
Principal Planner
City of Oceanside
Planning Division
300 North Coast Highway
Oceanside, CA 92054
Sent via Electronic Mail: rdmohowski@oceansideca.org

Re: Oceanside Transit Center BREEZE Bus Circulation

Dear Rob Dmohowski:

Thank you for sharing the public comments submitted in response to the City of Oceanside's ("the City") Oceanside Transit Center ("OTC") Environmental Impact Report public comment period seeking clarity with respect to BREEZE bus operations and OTC circulation. NCTD appreciates the opportunity to offer insight into North County Transit District's ("NCTD") decision making criteria as it relates to BREEZE bus operations and OTC circulation. These decisions are guided by and are responsive to the daily operational conditions in which NCTD operates that take into consideration ridership, local traffic patterns, temporary obstructions to paths of travel (e.g. roadway construction, natural event, such as fire or flood, and other occurrences), permanent improvements that impact circulation, and the safety of users within active transportation routes such as walking or biking.

NCTD's safe and efficient operations also incorporate key principles such as:

(i.) Reducing the number of turns or deviations in any given route;
(ii.) Avoiding known crowded or congested areas; and
(iii.) Operating paths of travel to maximize travel time.

NCTD routes are continually evaluated and adjusted to ensure our riders can depend upon service that delivers them to their connection points at work, school, healthcare, or other destinations.

As you may be aware, NCTD has evaluated circulation at the OTC and considered the merits of various routes, identifying preferred options and various alternatives. While NCTD considers the OTC Supplemental Circulation Analysis to the BREEZE Speed and Reliability Study to be a single moment in time and subject to change, the Appendix provides viable options for circulation in and out of the transit center based upon today's roadway conditions.

Please feel free to review the attached Appendix. Should you have any questions, please do not hesitate to contact Katie Persons, Director of Service Planning, by e-mail at kpersons@nctd.org for questions regarding the Appendix and Lillian Doherty, Director of Planning and Development, by email at ldoherty@nctd.org for questions regarding the redevelopment of OTC.

Sincerely,



Shawn M. Donaghy
Chief Executive Officer

Attachment A – **OTC Supplemental Circulation Analysis, BREEZE Speed and Reliability Study**

MEMO

TO: Katie Persons, NCTD

FROM: Karl Fielding, WSP

SUBJECT: **NCTD BREEZE Oceanside Transit Center Redevelopment Bus Circulation Review and Recommendations (REVISED DRAFT FINAL V1)**

DATE: October 25, 2024

SUMMARY

The BREEZE Speed and Reliability Study (Study) was launched in 2021 by NCTD to identify and prioritize opportunities to improve the speed and reliability of ten BREEZE routes through the implementation of transit supportive infrastructure, technology, and policies. The Study analyzes the current condition of bus routes and the infrastructure adjacent to the ten routes studied. This memo was commissioned as an expansion of the Study to evaluate circulation patterns and to make recommendations for the Oceanside Transit Center (OTC) Redevelopment Project. The recommendations are based on a review of the transit center project design as well as adjacent roadway and development projects. They balance transit operational efficiency, effects on operating environment, and compatibility with adjacent roadway and land development projects.

The analysis of OTC bus circulation is intended to support efficient transit operations at NCTD's busiest transit hub and evaluate how neighboring projects may impact bus routing. The evaluation includes a Baseline routing concept that is based on a review of previous technical work, staff feedback, and a field assessment. Four additional routing options, which cover a range of bus circulation patterns, were developed based on a review of transit service constraints and opportunities within the development area, as well as potential effects of the City of Oceanside's Coast Highway Project and nearby developments on transit circulation. These four routing options were refined into three routing concepts based on feedback received from NCTD staff. Each of the three concepts in addition to the Baseline is evaluated based on potential sources of bus delay along the routing, impact to BREEZE scheduling, operational environment, and compatibility with the City of Oceanside's Coast Highway Project and adjacent development projects.

The recommendations within this memo are based on known conditions as of August 2024. NCTD's operational needs are subject to change as the adjacent environment and other factors impact routing and operational decisions. NCTD may determine to operate a variety of routing patterns within and near the OTC redevelopment in order to provide safe, efficient, and effective transit services. Bus routing within and near the OTC redevelopment is subject to change at any time, for any reason.

DRAFT

Process

Table 1 shows the steps used to develop the recommendations:

Table 1: Process for Developing Recommendations

1. Collect Information on Project Background and Existing Conditions
• Current Transit Service • Previous Routing Studies and Information • Land Development and Street Design Plans
2. Create and Assess Routing Options and Concepts
• Constraints and Opportunities • Routing Options (Baseline plus four options) • Coast Highway Project Meetings • Field Visit and staff feedback on Routing Options • Routing Concepts (Baseline plus three concepts) • Performance Measures • Assessment
3. Develop Recommendations
• Routing • Bus Bay Assignments • Bus Loop Design Refinements

1. BACKGROUND & EXISTING CONDITIONS

Information was extracted from various reports and presentations regarding bus routing and service levels, development site plans and street designs within the OTC project and adjacent areas. Appendix A provides a list of sources that were consulted. This information provided an understanding of previous analyses as well as existing and future conditions in the project area needed to develop and evaluate routing options and concepts.

Current Service

The OTC is a multimodal transportation hub served by two NCTD rail lines, seven NCTD bus routes, Amtrak, Metrolink, as well as Greyhound and FlixBus intercity buses. Table 2 shows September 2024 bus routes and frequencies.

Table 2: Oceanside Transit Center Current Bus Service

Route	From/ To Direction	Through or End?	Buses per Hour per Direction			
			Weekday Peak	Weekday Midday	Saturday	Sunday / Holiday
NCTD 101: Oceanside - UTC/VA/UCSD	South	End	2	2	2	2
NCTD 302: Oceanside - Vista via Vista Way	South	End	3	3	3	3
NCTD 303: Oceanside - Vista via Mission Av	East	End	3	3	3	3
NCTD 313: Oceanside TC - Town Center North	East	End	1	1	0	0
NCTD 318:	South	End	1	1	1	0

Route	From/ To Direction	Through or End?	Buses per Hour per Direction			
			Weekday Peak	Weekday Midday	Saturday	Sunday / Holiday
Oceanside TC - Vista TC/ Oceanside Blvd.						
NCTD 392 Flex: Oceanside TC - 14 Area	North	End	1	1	1	1
NCTD 395 Flex: Oceanside TC - Camp San Onofre	North	End	1	1	1	1
GREYHOUND US0811: Sacramento - Tijuana Central	North-South	Through	One/Day	One/Day	One/Day	One/Day
GREYHOUND US0821: Fresno - San Diego	North-South	Through	One/Day	One/Day	One/Day	One/Day
GREYHOUND US0830: Los Angeles - San Diego	North-South	Through	One/Day	One/Day	One/Day	One/Day
GREYHOUND US083: San Francisco - Los Angeles - Tijuana	North-South	Through	One/Day	One/Day	One/Day	One/Day
FLIXBUS.2017: Los Angeles - San Ysidro	North-South	Through	Two/Day	Two/Day	Two/Day	Two/Day

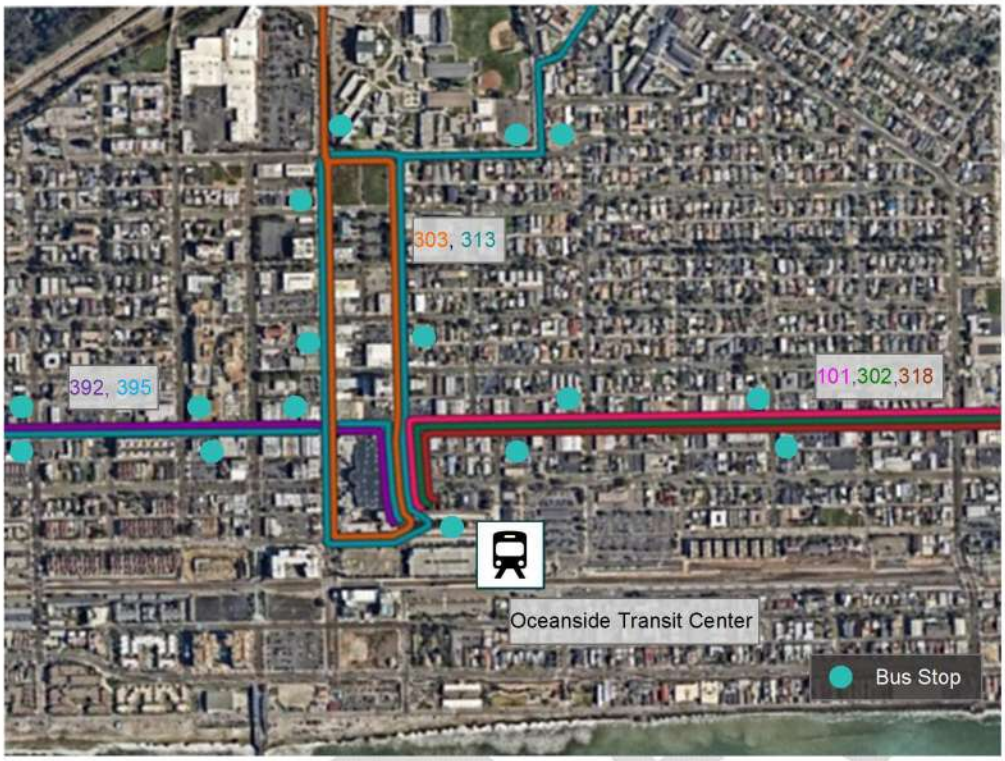
DRAFT

Figure 1 shows current bus routes and stops within a half-mile radius of the transit center. Buses enter and exit the transit center via Seagaze Dr:

- Routes 101, 302 and 318 approach the transit center from the south. Buses destined for the transit center travel north on S. Coast Hwy. toward Seagaze Dr. The last stop before the transit center for these lines is on S. Coast Hwy. farside Michigan Ave. Buses leaving the transit center travel east on Seagaze Dr. and south along S Coast Hwy. The first stop after leaving the transit center is farside Topeka St. Combined hourly weekday bus volume is five buses per direction.
- Routes 392 and 395 approach the transit center from the north. Buses destined for the transit center travel south on S. Coast Hwy. toward Seagaze Dr. The last stop before the transit center for these lines is on N. Coast Hwy. farside Civic Center Dr. Buses leaving the transit center travel east on Seagaze Dr. and north along S Coast Hwy. The first stop after leaving the transit center is farside Mission Ave. Combined hourly weekday bus volume is two buses per direction.
- Routes 303 and 313 approach the transit center from the east and north. Buses destined for the transit center travel via Mission Ave., S. Cleveland St. and Seagaze Dr. The last stop before the transit center for these lines is on Mission Ave. farside N. Ditmar St. Buses leaving the transit center travel east on Seagaze Dr. The first stop after leaving the transit center is nearside N. Ditmar St. Combined hourly weekday bus volume is four buses per direction.

DRAFT

Figure 1: Current Routing and Stop Locations



Previous Routing Studies and Information

The bus circulation concepts for the OTC project evolved across several draft plans, studies, reports, and presentations between 2020 and 2023.[1] Two reoccurring bus circulation patterns were identified throughout the planning process:

- A primary entrance for buses along Seagaze Dr. and S. Cleveland St. and an additional entrance via S. Tremont St.
- Bus exits via Michigan Ave. Avenue and Missouri Ave. Ave.

These patterns are shown in Figure 2 and Figure 3 below.[2]

1 Appendix A, Sources, page 27.

2 Draft Oceanside Transit Center Specific Plan, Draft October 13, 2023, CRTKL and NCTD Oceanside Transit Center Redevelopment, April 2023 Planning Update, Toll Brothers Apartment Living

Figure 2: Oceanside Transit Center Redevelopment Project – Vehicular Circulation (Draft October 13, 2023)

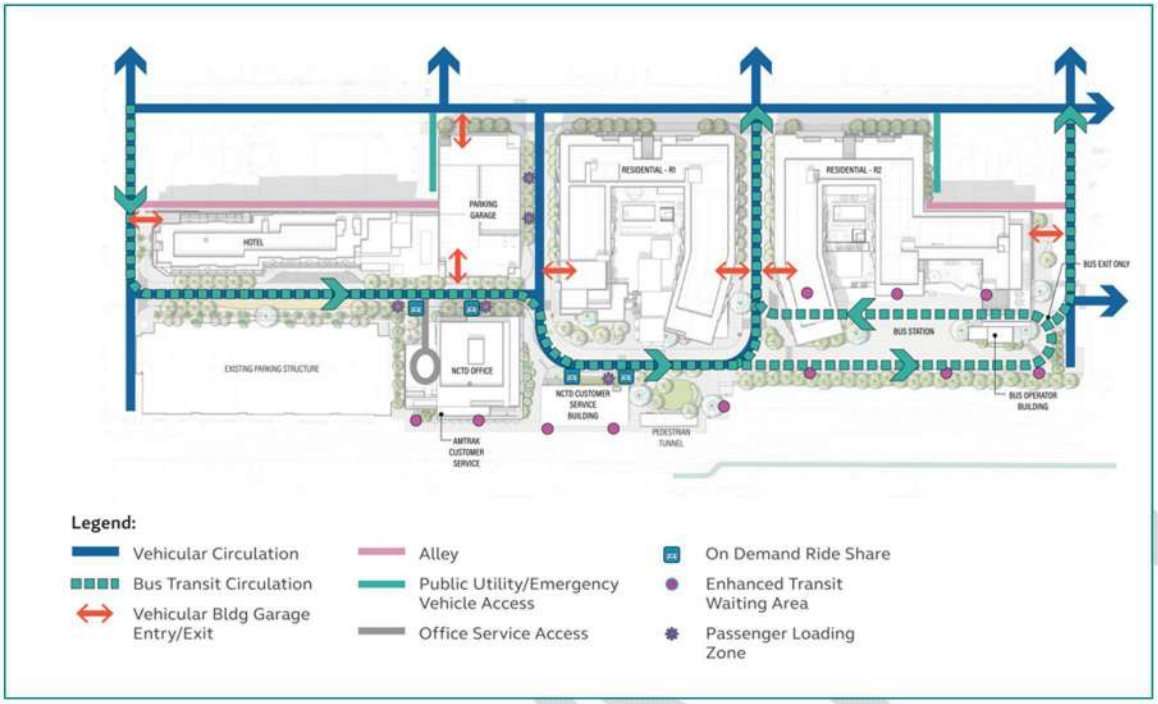
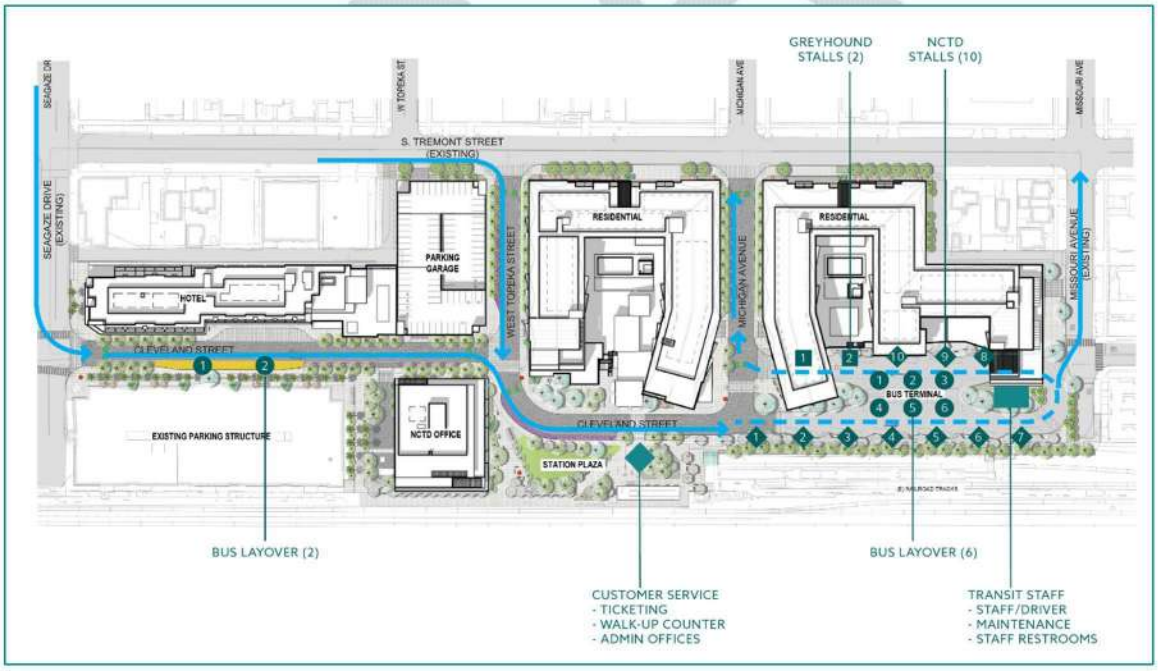


Figure 3: Oceanside Transit Center Redevelopment Project – Bus Circulation (April 21, 2023)



Land Development and Street Design Plans

Oceanside Transit Center Redevelopment Plan

The Oceanside Transit Center Redevelopment Plan proposes development of 547 residential apartments, outdoor amenities, boutique hotel, NCTD headquarters building, customer service center, multiple parking structures with approximately 1,868 parking stalls, and a relocated bus loop that places NCTD BREEZE bus bays adjacent to the NCT SPRINTER and COASTER rail platforms.

Information regarding proposed street designs was collected from OTC redevelopment project materials provided by NCTD and through internet searches.[3] Street design plans are well-developed, showing street and lane widths, turning radii, and parking garage access points.

A comprehensive review of the materials provided essential information about the key components of the design, including:

- Street improvements
- Site access locations
- Stop sign locations
- Crosswalk locations
- Driveway locations
- Right-of-way and curb-to-curb street widths
- Lanes widths and quantities
- On-street parking locations
- Corner turning radii

These street design elements are shown in Figure 4 and Figure 5 below.[4] As discussed in Section 2, they were used to identify constraints and opportunities that would affect bus operations.

DRAFT

3 Appendix A, Sources, page 27.

4 Oceanside Transit Center Redevelopment Project – Local Transportation Study, August 18, 2023, Stantec and Vesting Tentative Map and Development Plan, NCTD Oceanside Transit Center, February 15, 2023, Stantec

Figure 4: Oceanside Transit Center Redevelopment Project –On-Site Project Circulation Plan

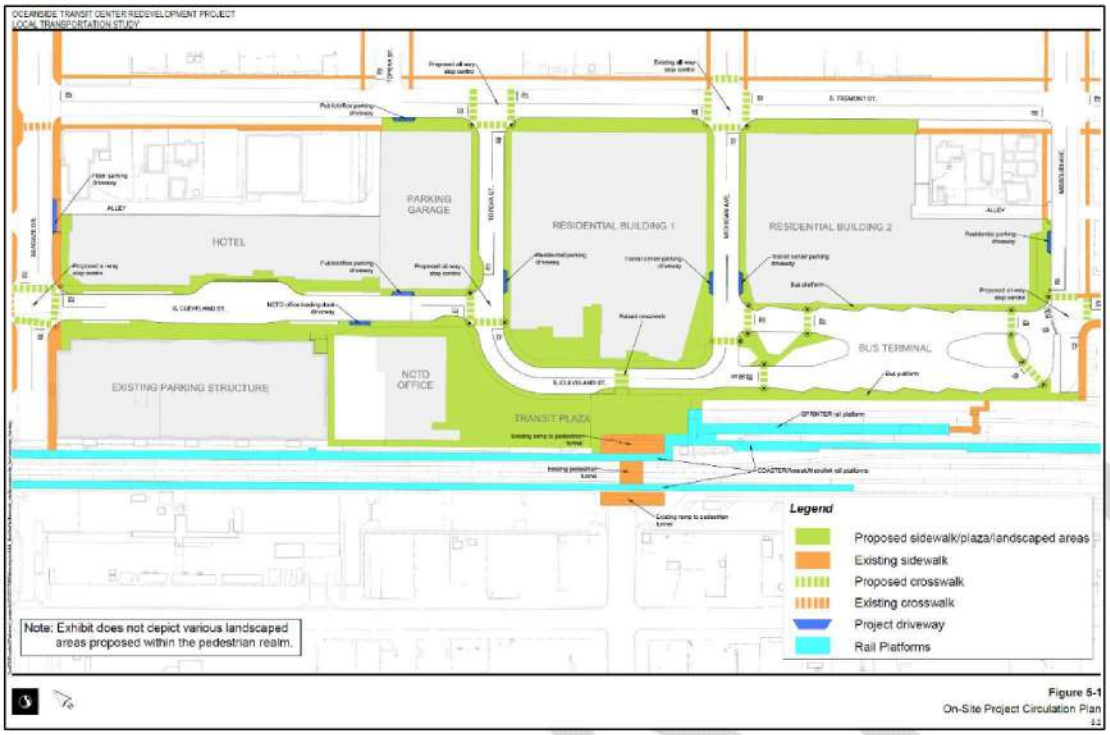
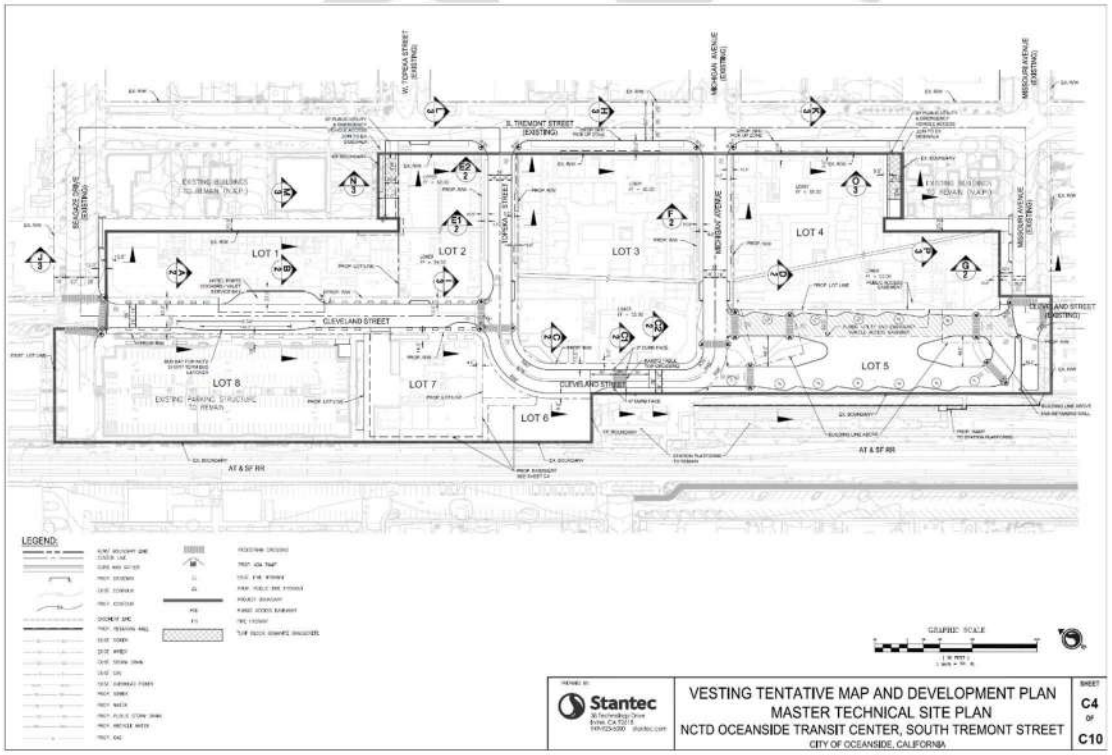


Figure 5: Vesting Tentative Map and Development Plan, Master Technical Site Plan



Redevelopment Projects in the Immediate Area Impacting Circulation at the Oceanside Transit Center

The following projects are being undertaken by other entities, but which are considered significant in terms of their impact to circulation at the Oceanside Transit Center. They are described in brief in this memo for context only. Details regarding these projects are available upon request to the City of Oceanside.

1. City of Oceanside's Coast Highway Project

The City of Oceanside is proposing the Coast Highway Project. The City's objective is to create a complete street that will encourage high-quality redevelopment and to revitalize Coast Highway into a vibrant pedestrian-oriented urban place. The project is between Sportfisher Dr. and Oceanside Blvd. It includes a reduction in auto travel lanes from two to one in each direction, new bike lanes, five roundabouts, and several mid-block crossings. Changes with potential impact to Oceanside Transit Center include:

- Roundabout at Michigan Ave.
- Pedestrian crossing south of Missouri Ave.
- Bulb-outs at Topeka Street.

Figure 6 shows the proposed improvements in the section between Mission Ave. and Washington Ave.[5]

Figure 6: Coast Highway Proposed Improvements



A key issue affecting the routing options for the Oceanside Transit Center is the proposed roundabout at Michigan Ave., as shown in

5 City of Oceanside, Coast Highway Corridor Design Roll Plot, https://www.ci.oceanside.ca.us/home/showpublisheddocument/13699/638416160653330000, January 16, 2024.

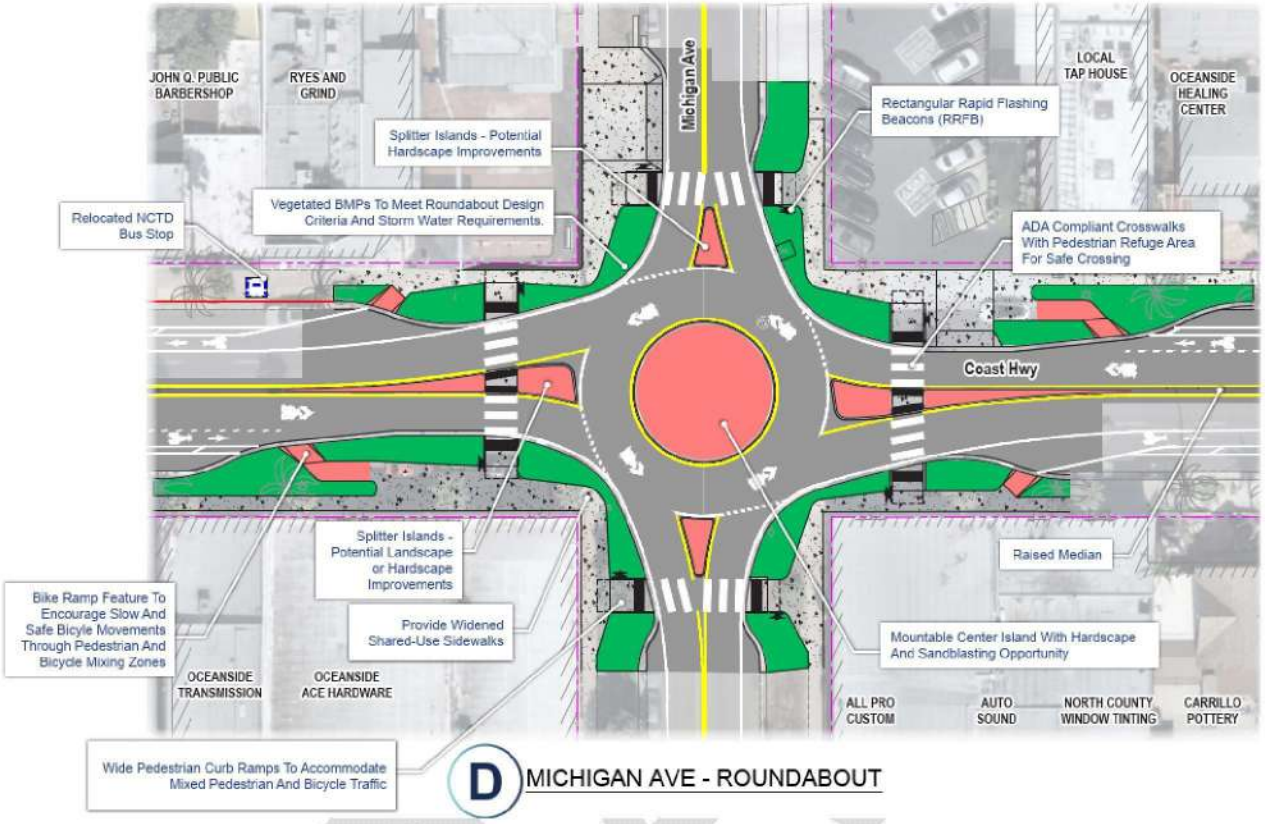
Figure 7.[6] According to the City of Oceanside, the roundabout is designed to accommodate buses travelling along Coast Highway. Michigan Ave. is a potential access street for buses entering and exiting the transit center. The following turning movements will need to be accommodated if buses use Michigan Ave. to access and egress the transit center:

- Northbound S. Coast Highway to westbound Michigan Ave.
- Eastbound Michigan Ave. to southbound S. Coast Highway
- Southbound S. Coast Highway to westbound Michigan Ave.
- Eastbound Michigan Ave. to northbound S. Coast Highway

DRAFT

6 City of Oceanside, Coast Highway Corridor Design, https://www.ci.oceanside.ca.us/home/showpublisheddocument/13703/638416160691930000

Figure 7: Michigan Ave. and Coast Highway Roundabout Concept



If buses exit the transit center via Missouri Ave, then the proposed pedestrian crossing just south of Missouri Ave. would affect those buses as they turn onto S. Coast Highway (

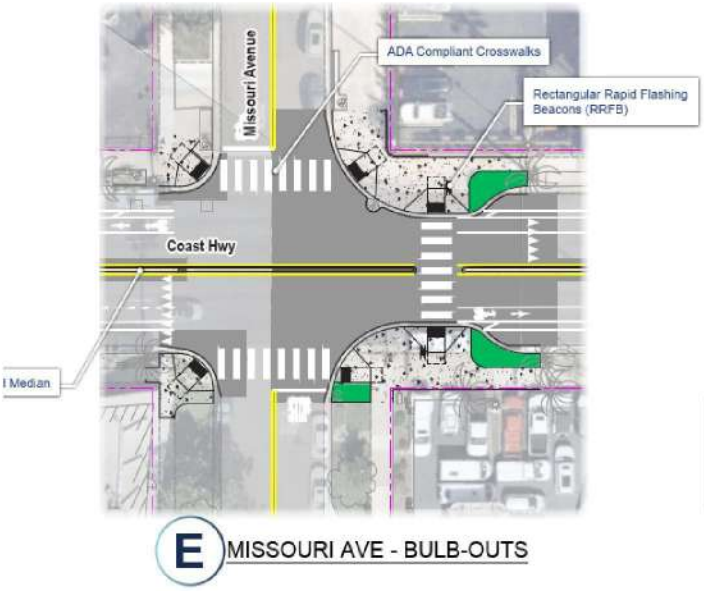
DRAFT

Figure 8).[7] Pedestrians using the crosswalk to access the transit center would need to cross Missouri Ave. at least once.

DRAFT

7 City of Oceanside, Coast Highway Corridor Design, https://www.ci.oceanside.ca.us/home/showpublisheddocument/13703/638416160691930000

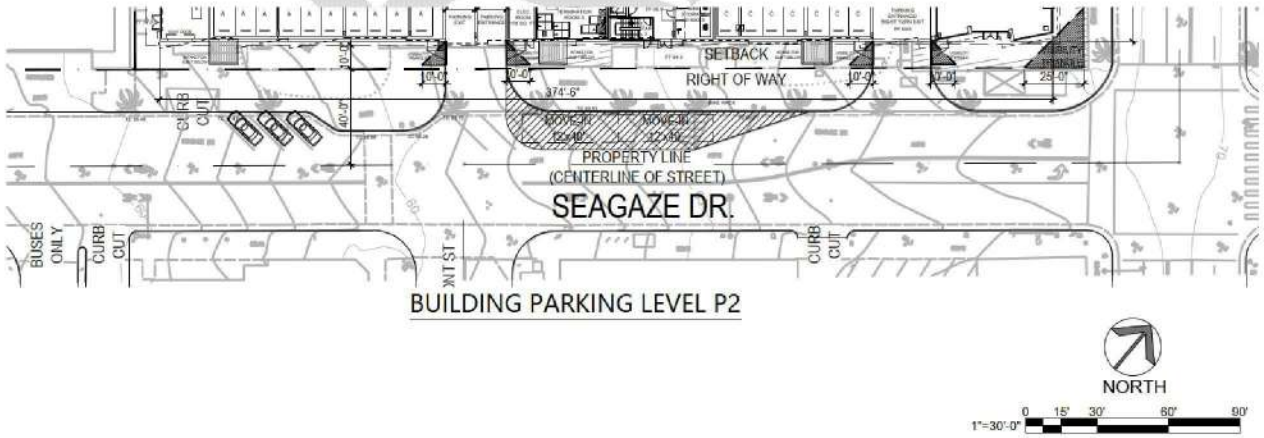
Figure 8: Missouri Ave. and S. Coast Highway Crosswalk Design



2. 401 Mission Redevelopment Project

The proposed 401 Mission project will include 332 residential apartments, approximately 19,291 square feet of commercial space and 10,042 square feet of open plaza and connections.[8] Access to the 595-space parking garage is from Seagaze Dr., with one entrance/exit across from S. Tremont St and another closer to Coast Hwy. A dedicated loading area large enough for two trucks is on Seagaze Dr. adjacent to the garage entry/ exit. Figure 9 shows the proposed design along Seagaze Dr. The addition of this loading activity and garage access could delay buses travelling along Seagaze Dr. or turning between Seagaze Dr. and S. Tremont St.

Figure 9: 401 Mission Project Access on Seagaze Dr.



8 City of Oceanside, 401 Mission Ave. Mixed-Use Development Project, Description and Justification, January 2024: https://crw.cityofoceanside.com/etrakit3/viewAttachment.aspx?Group=PROJECT&ActivityNo=RT23-00001&key=MRE%3a2402260400545297

2. CONCEPT DEVELOPMENT

Routing options were developed based on the information summarized in Section 1 regarding current transit service, previous routing studies, development plans, and planned street designs. The process involved coordination with NCTD staff and other stakeholders, including meetings with City of Oceanside regarding the Coast Highway project. There were several elements that were repeatedly identified throughout the various meetings and coordination process. Some of these elements include:

- Operational environment
- Bus circulation impacts to BREEZE level of service
- Bus circulation impacts to traffic flow
- Coordination with parallel projects (such as the Coast Highway Project, with an emphasis on proposed roundabout locations, speed tables, street design, etc.)

The four routing options were distilled into two routing concepts for evaluation along with the Baseline.

The steps used to develop the routing concepts include:

1. Analyze existing conditions and constraints and opportunities
2. Develop four routing options in addition to the Baseline Option
3. Conduct a field visit and discuss with NCTD staff to investigate routing options and to refine options
4. Distill options into two routing concepts in addition to the Baseline
5. Create a set of goals and performance measures that maximize/optimize speed and reliability
6. Assess the routing concepts and Baseline relative to the performance measures

The results of the assessment were used to develop recommendations in Section 5 for bus circulation and to identify key remaining issues.

Operational Constraints and Opportunities

The Oceanside Transit Center Specific Plan and the Vesting Tentative Map and Development Plan provide information on planned conditions in the area that were a basis for the analysis of the initial bus circulation constraints and opportunities used to develop the routing options.[9] Table 3 lists operational constraints and opportunities that address the constraints.

DRAFT

9 Appendix A, Sources, page 27.

Table 3: Oceanside Transit Center Development Plan Bus Circulation Constraints and Opportunities

Location	Operational Constraint	Opportunity
S. Tremont St./ Seagaze Dr. intersection	Tight turn radius at S. Tremont St./ Seagaze Dr. if buses travel northbound on S. Tremont St.	Shift centerline of S. Tremont St. to the west; field test at intersection
S. Cleveland St. north of Topeka St.	Bikes in travel lane could slow buses	Narrow travel lanes to fit two travel lanes (22'), bike lane (6') and drop-off (8')
S. Cleveland St./ Topeka St.	Potential bus delay for left turn into garage on S. Cleveland St. and tight turn radius at Topeka St.	Restripe lanes to add a left turn refuge; redesign intersection to allow wider right turn for buses (potential curb extension on east side of S. Cleveland St.); field test to confirm adequate turn radius.
S. Cleveland St. south of Topeka St.	Potential bus delay if pick-up/drop-off area is full and cars stop in travel lane	Consider additional pick-up/drop-off space
S. Cleveland St. south of Topeka St.	No pick-up/drop-off on west side of S. Cleveland St.	Consider additional pick-up/drop-off space
Topeka St./ S. Cleveland St.	No crosswalk at the east leg of Topeka St./S. Cleveland St. intersection encourages pedestrians crossing at unmarked crossing and requires pedestrians to use crosswalks on bus route	Add crosswalk on east leg of intersection (accommodate driveway on Topeka St.)
S. Tremont St./ Michigan Ave., Bus Loop	If buses use Michigan Ave. instead of Missouri Ave., they wait to turn right out of bus loop, wait at stop sign at S. Tremont St./Michigan Ave.	Replace all-way stop sign at S. Tremont St./Michigan Ave. with a northbound/southbound stop sign or route southbound buses on Missouri Ave.
S. Cleveland St. north of Topeka St.	Potential bus delay due to hotel traffic as cars enter/exit service bay	Do not route northbound buses on S. Cleveland St.

Routing Options

The Baseline Option for proposed bus circulation is based on information from previous studies and presentations as noted in Section 1. Routings are:

- Buses enter the transit center from the northernmost entry point via either Seagaze Dr. and turn left onto S. Cleveland St. or turn left from Mission Ave. onto S. Cleveland St. and continue into the transit center.

- Buses exit the transit center from Michigan Ave. unless they head south on Coast Hwy.in which case they use Missouri Ave. to exit the transit center, continue along Missouri Ave. and turn right onto Coast Hwy.

Four routing options were developed in addition to the Baseline Option. The options cover a range of routing patterns based on previous studies, identified constraints and opportunities, as well as discussions with NCTD and City of Oceanside staff. Table 6 is a summary of the Baseline and each of the four options. These routing options are shown in Figure 20, Figure 21, Figure 22, Figure 23, and Figure 24.[10] In addition to these options, variants for two options were proposed: Option 3A in which buses use S. Tremont St. between Seagaze Dr. and Michigan Ave. instead of S. Cleveland St. and Option 4A in which buses to and from the South (Routes 101, 302, and 318) would use Missouri Ave. between S. Cleveland St. and S. Coast Highway instead of Michigan Ave.

Field Visit and Technical Review

The project team conducted a field visit at the OTC to observe existing routing conditions, and their findings were used to inform options for the re-routing of NCTD buses in and out of Oceanside Transit Center. The project team prepared the routing options and presented them to NCTD staff to gather technical feedback. The following key comments pertaining to the bus routing options and bus loop design emerged from staff feedback.

Baseline Routing

- Parking garage entrances/exits on Michigan Ave. near the bus loop have potential conflicts with buses turning eastbound onto Michigan from bus loop
- Parking garage entrance/exit on Topeka St. at Cleveland has potential conflicts with bus traffic
- Consider smart signals/barriers for traffic entering/exiting parking garages to hold traffic as bus approaches
- Interaction of on street parking and buses vehicle street parking
- Public concerns were received about potential for buses on S. Tremont St and Missouri Ave
- FlixBus and Greyhound operate 45-foot buses, need to check if 45-foot buses are able to clear the proposed roundabouts on S. Coast Hwy.

Routing Option 1:

- Concern about increased vehicular traffic S. Cleveland St. (between Seagaze Dr. and Topeka St due to proposed hotel) and pedestrian traffic (due to commercial uses)
- S. Tremont St. is option to avoid potential conflicts on S. Cleveland St.
- Public concerns were received about potential for buses on S. Tremont St and Missouri Ave.
- Potential conflicts with vehicle street parking
- Retain Missouri Ave. for maximum routing flexibility for a variety of uses, such as transit operations, emergency access, and construction detours

Routing Options 2 and 3:

- Concern about increased vehicular traffic S. Cleveland St. (between Seagaze Dr. and Topeka St. due to proposed hotel) and pedestrian traffic (due to commercial uses)
- S. Tremont St. is option to avoid potential conflicts on S. Cleveland St.

10 See Appendix C for Routing Option details.

Routing Option 4:

- Avoids conflicts on S. Cleveland St. due to all routes being on Michigan Ave.
- Potential conflicts with vehicle street parking and driveways

Routing Concepts

Following the review of staff feedback regarding the Baseline and four options for bus circulation, and further conversations with NCTD staff, routing elements from different options were combined into three routing concepts for evaluation in addition to the Baseline Concept. These three concepts are in Figure 11, Figure 12, and Figure 13.

Concept 1 includes routing for buses heading to the south to use Missouri Ave. between the bus loop and S. Coast Hwy. instead of S. Tremont St. and Michigan Ave. Concept 1a is a refinement of Option 3 to address concerns about delays to buses along S. Cleveland St. between Seagaze Dr. and Michigan Ave. In Concept 1a, buses both enter and exit the bus loop from Seagaze Dr, via S. Tremont St, and Michigan Ave. Buses would operate in both directions along S. Tremont St. between Seagaze Dr. and Michigan Ave. instead of just operating northbound as in Option 3.

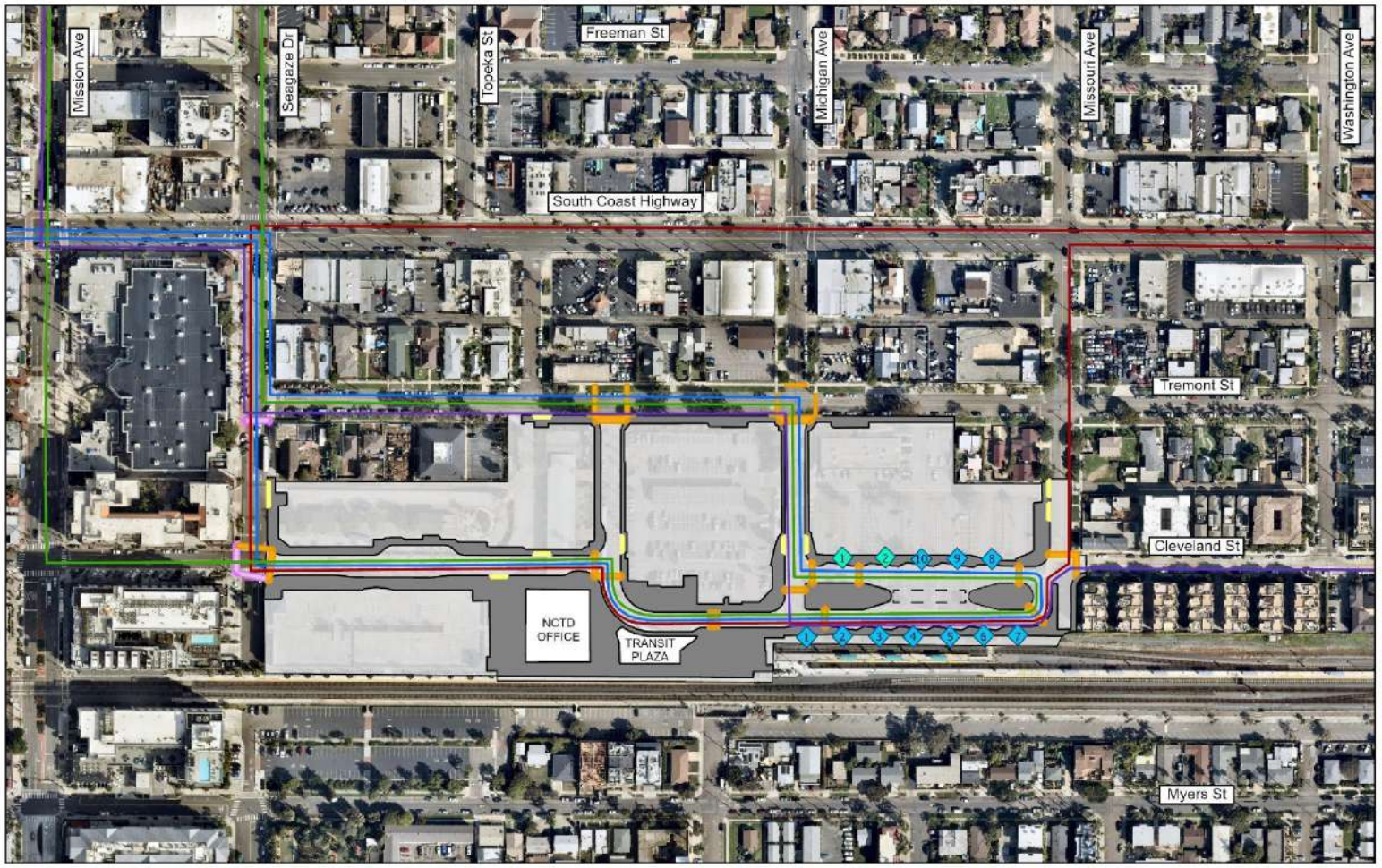
Concept 2 adds routing for buses heading to the south to use Missouri Ave. between the bus loop and S. Coast Hwy. instead of Michigan Ave. Stop locations for these routings are still to be determined. In Concept 2a, buses enter and exit the bus loop along Michigan Ave. between the bus loop and S. Coast Hwy. Concept 2a is the same as Option 4.

Concept 3 is a refined version of Concept 1 with buses heading to the south to use Cleveland St. and Wisconsin Ave. between the bus loop and S. Coast Hwy instead of Missouri Ave.

All three concepts address the concerns with the Baseline routing regarding bus delays along S. Cleveland St. Concepts 1 and 2 introduce buses on Missouri Ave. for buses heading to the south (S. Tremont St. in the case of Concept 1a and Michigan Ave. in Concept 2a). Concept 3 introduces buses on Cleveland St. and Wisconsin Ave for buses heading to the south.

DRAFT

Figure 10: Baseline Concept



Map 1: Baseline Routing

0 125 250 500 Feet

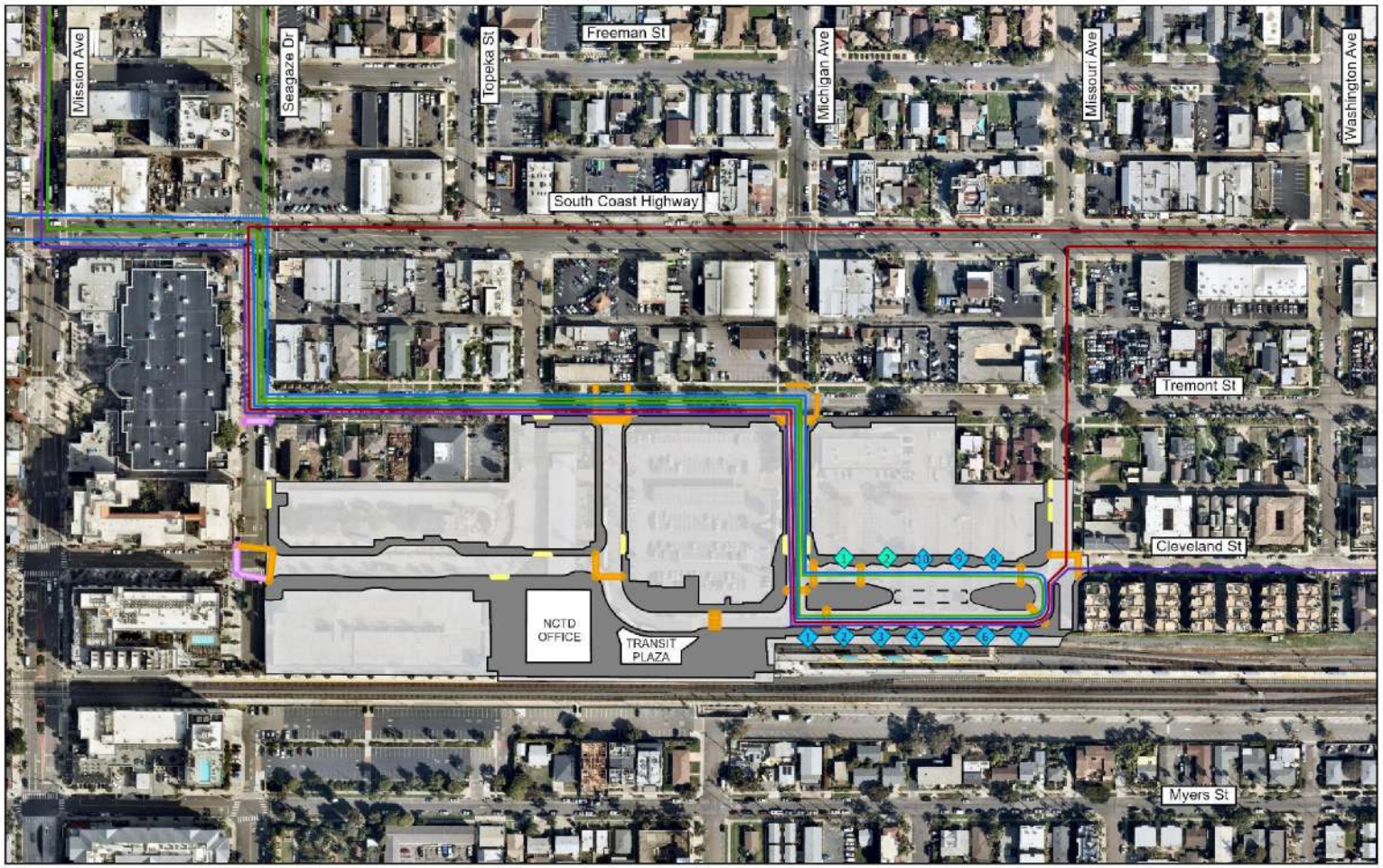
Legend

- Routes from East: 303, 313
- Routes from North: 392, 395
- Routes from South: 101, 302, 318
- SPRINTER Bus Bridge
- Driveways
- Proposed Crosswalks
- Existing Crosswalks
- # BREEZE Bus Bays
- # Intercity Bus Bays
- Layover Stalls (6)
- Sidewalk
- Project Area

NORTH COUNTY TRANSIT DISTRICT

DRAFT

Figure 11: Concept 1



Map 2: Routing Concept 1

0 125 250 500 Feet

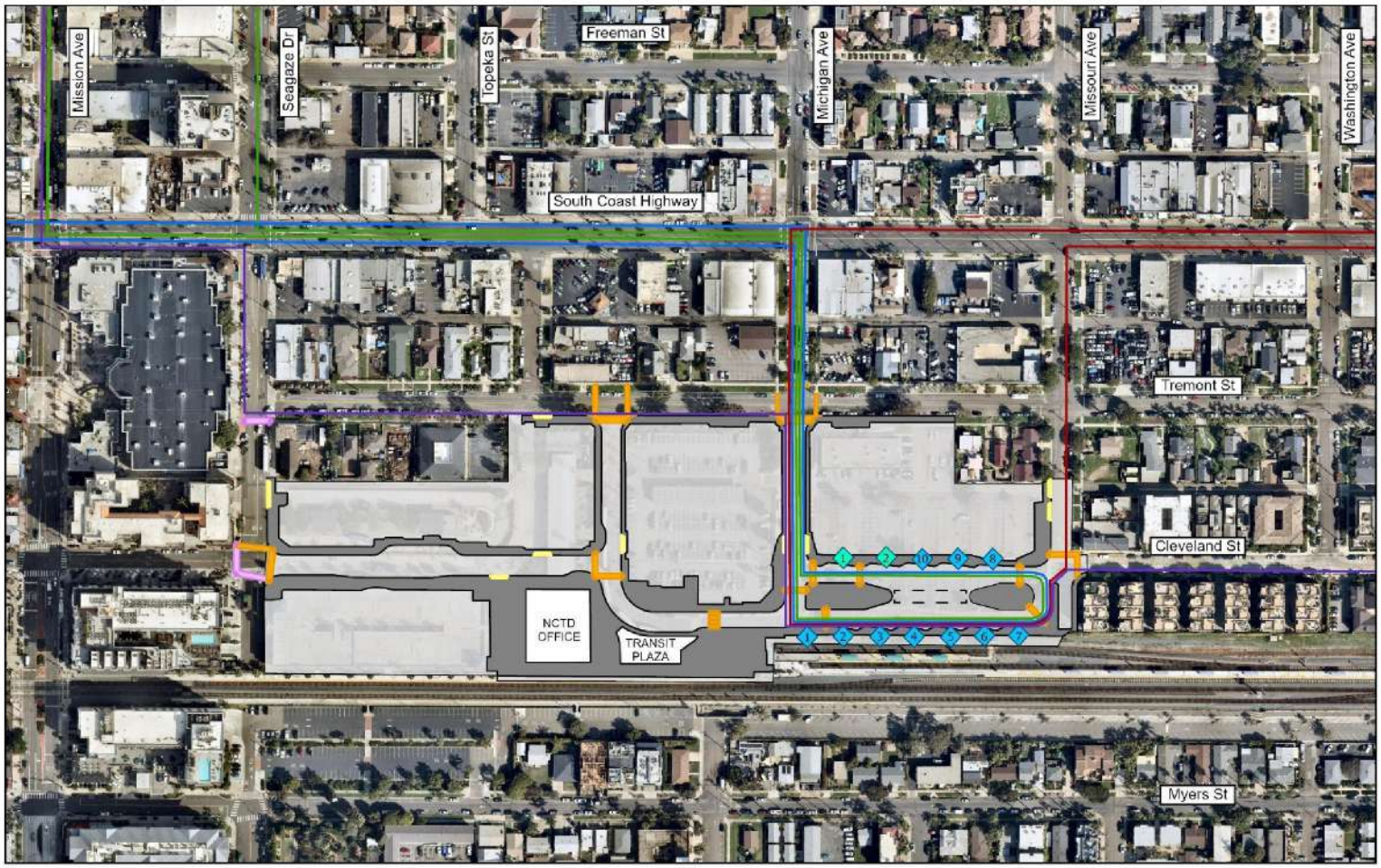
Legend

- Routes from South: 101, 302, 318
- Routes from North: 392, 395
- Routes from East: 303, 313
- SPRINTER Bus Bridge
- Driveways
- Proposed Crosswalks
- Existing Crosswalks
- # BREEZE Bus Bays
- # Intercity Bus Bays
- Layover Stalls (6)
- Sidewalk
- Project Area

NORTH COUNTY TRANSIT DISTRICT

DRAFT

Figure 12: Concept 2



Map 3: Routing Concept 2

0 125 250 500 Feet

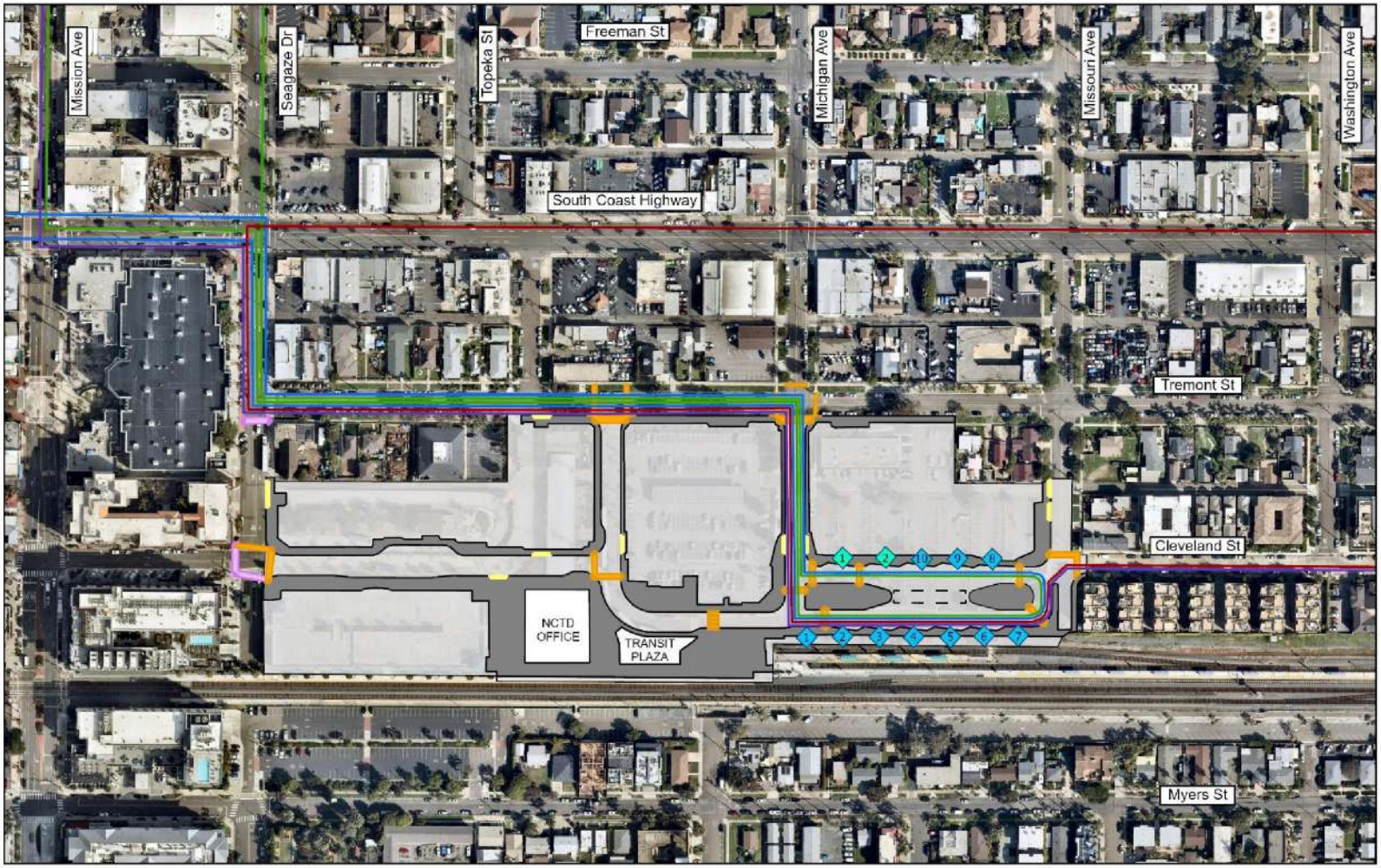
Legend

- Routes from South: 101, 302, 318
- Routes from North: 392, 395
- Routes from East: 303, 313
- SPRINTER Bus Bridge
- Driveways
- Proposed Crosswalks
- Existing Crosswalks
- BREEZE Bus Bays
- Intercity Bus Bays
- Layover Stalls (6)
- Sidewalk
- Project Area

NORTH COUNTY TRANSIT DISTRICT

DRAFT

Figure 13: Concept 3



Map 4: Routing Concept 3

0 125 250 500 Feet

Legend

- Routes from East: 303, 313
- Routes from North: 392, 395
- Routes from South: 101, 302, 318
- SPRINTER Bus Bridge
- Driveways
- Proposed Crosswalks
- Existing Crosswalks
- # BREEZE Bus Bays
- # Intercity Bus Bays
- Layover Stalls (6)
- Sidewalk
- Project Area

NORTH COUNTY TRANSIT DISTRICT

DRAFT

3. PERFORMANCE MEASURES

The following performance measures were developed based on a review of previous planning documents and analyses, discussions with NCTD staff, and results from community outreach and stakeholder presentations. These measures address not only transit operations but also potential effects of bus circulation on traffic and the adjacent community as well as compatibility with planned future changes along Coast Highway and nearby development projects.

Table 4: Performance Measures

1.	**Potential Sources of Delay along Routing**
	a) Number of left turns on bus loop approach and exit b) Number of right turns on bus loop approach and exit c) Number of stop signs/roundabouts on route in both directions d) Number of signals e) Number of driveways within transit center development in direction of travel f) Number of midblock crosswalks within transit center development g) Number of times passing pick-up/drop-off/valet areas within transit center development h) Number of locations with narrow lane width or tight turn radius
2.	**Impact to BREEZE Scheduling**
	a) Round trip distance and estimated travel time between bus loop and Coast Hwy. (between Missouri Ave. and Washington Ave. for lines from/ to the south, and between Seagaze Dr. and Mission Ave. for lines from/ to the north and east
3.	**Operational Environment**
	a) Existing land uses (residential, commercial) along routes between station and S. Coast Hwy. or Seagaze b) Bus volumes on residential streets c) Parking impacts
4.	**Compatibility with Coast Highway Project**
	a) Roadway geometry and bus movements at proposed roundabouts

4. ROUTING CONCEPT ASSESSMENT

The Baseline and the three routing concepts were assessed quantitatively and qualitatively according to the four performance measures. A rating of Least Favorable, Moderate, and Most Favorable was assigned based on each concepts ability to meet the objectives. Each concept has strengths and weaknesses and tradeoffs among performance measures. Table 5 is a summary of the assessment's relative ratings from least favorable (lightest color) to most favorable (darkest color)

Table 5: Assessment Summary

Performance Measure	**Baseline** In: S. Cleveland St. Out: S. Tremont/ Michigan Ave. and Missouri Ave.	**Concept 1** In and Out: S. Tremont St./ Michigan Ave. and Missouri Ave.	**Concept 1a** In and Out: S. Tremont St./ Michigan Ave.	**Concept 2** In: Michigan Ave. Out: Michigan Ave. and Missouri Ave.	**Concept 2a** In and Out: Michigan Ave.	**Concept 3** In: S. Tremont St./ Michigan Ave./ Out: Tremont St and Cleveland Ave.
Potential Sources of Delay along Routing						
Impact to BREEZE Scheduling						
Operational Environment						
Compatibility with Coast Highway Project*	More	More	More	Less	Less	More
Average Summary Rating	**1.67**	**1.67**	**1.33**	**2.67**	**2.67**	**2.33**
Least Favorable ←	**1**	**2**	**3**	→ *Most Favorable*		

*Compatibility with Coast Highway Project was evaluated qualitatively and not factored into the quantitative rating of each concept.

Potential Sources of Delay Along Routing

The rating methodology counted the number of occurrences of each potential source of delay for routes that enter and exit in three directions: north (Routes 392, 395), east (Routes 303, 313), and south (101, 302, 318). These counts were then weighted by the midday hourly bus volumes in each direction: two buses per hour for north, four for east, and six for south.

Concepts 2 and 2a have the lowest potential for bus delay and score higher than the other concepts, particularly benefiting from having fewer turns and stop signs and signals than the Baseline and other concepts. Their routing also has fewer driveways within the transit center development. The Baseline, Concepts 1, 1a, and 3 have potential delays on Seagaze due to parking and loading for 401 Mission. The Baseline has potential delays along S. Cleveland St. due to hotel access and transit passenger pick-up/ drop-off.

- Turns, especially left turns, can add delays to bus traffic. Weighted by midday hourly bus volumes, Concept 2 has the fewest turns and Concept 1a has the most.
- Stop signs and traffic roundabouts can slow buses. Concept 2 has the fewest incidences of buses travelling through intersections with stop signs or roundabouts and Concept 1a has the most.
- Likewise, traffic signals can also introduce delays for buses. Traffic signals in the area are on S. Coast Hwy. at Seagaze Dr. and Wisconsin Ave. and N. Cost Highway at Mission Ave. Concepts 2 and 2a have fewer buses travelling though signalized intersections than the other concepts.
- Driveways to parking garages or loading areas can delay buses due to traffic waiting to turn into the driveway or buses slowing due to traffic exiting the driveway. The hourly bus volumes passing driveways

along the routes within transit center development are lowest for Concept 2 and the highest for Concept 1a.

- Midblock crosswalks also delay buses, particularly at locations with high pedestrian volumes. The Baseline Concept has one mid-block crosswalk at the transit plaza for routes in all three directions, while each of the other Concepts has none.
- Auto pick-up/drop-off zones also introduce potential delay as auto traffic moves into and out of the areas. The number of times passing pick-up/drop-off zones on the side of the street on which buses travel within transit center development ranges from two in the Baseline (planned hotel valet and transit passenger pick-up/drop-off) to none in the other concepts.
- Finally, negotiating tight turns can delay buses. Locations with potentially tight turns are S. Cleveland Ave. right turn onto W. Topeka St., right turn from S. Tremont St. to Seagaze Dr, and left turn from Michigan Ave. into the bus loop. Concept 3 has the fewest potentially tight turns while Concept 1a has the most.

Impact to BREEZE Scheduling

The rating methodology estimated travel distance for each route group between the center of the bus loop and the following points that were common to all concepts: S. Coast Hwy. midway between Seagaze Dr. and Mission Ave. for routes from/to the north and east and midway between Michigan Ave. and Washington Ave. on S. Coast Hwy. for routes from/to the south. Travel times were estimated using midday weekday Google Maps estimates. These distances and times were then weighted by midday bus hourly volumes in each direction.

Concepts 2 and 2a have the shortest distances and times because buses from/to the south turn at Michigan Ave. and S. Coast Hwy. instead of travelling farther north. Concept 3 scores slightly lower than Concepts 2 and 2a but still is rated highly for impacts to scheduling due to its efficient path of travel. Concepts 1 and 1a have the least efficient paths of travel out of all concepts and are rated least favorably.

Operational Environment

Existing residential development is along Missouri Ave. west of S. Tremont St., along S. Tremont St., and along Cleveland Ave. between Missouri Ave. and Wisconsin Ave.

Concept 2a has no incidence of buses travelling past residences followed by Concept 2 with six buses an hour on Missouri Ave (routes 101, 302, and 318). Concepts 1 and 1a have the highest incidence with two-way bus traffic on S. Tremont St. S. Tremont St. has commercial zoning on its east side and public use zoning on the west. Commercial uses, including auto repair businesses, are on both sides of Michigan Ave. between S. Tremont and S. Coast Hwy. Concept 2a has the lowest occurrence of bus traffic on streets with residences because buses would not travel on either Tremont St. or Missouri Ave. Options 1 and 1a have the highest because of heavier two-way bus traffic on Tremont St. between Seagaze Blvd. and Michigan Ave.

No potential parking removal is considered for the Baseline Concept, Concept 1, Concept 1a, or Concept 3. Potential parking removal is considered for Concept 2 and 2a along Michigan Ave. between S. Coast Hwy. and S. Tremont St. to accommodate increased bus volumes and turning movements.

Compatibility with Coast Highway Project and Other Developments

This measure addresses buses traveling through the intersection of S. Coast Highway and Michigan Ave. where a roundabout is proposed as part of the Coast Highway Project. It will be easier for buses to travel straight through the intersection along S. Coast Hwy, that it would be for buses to turn at the intersection (especially left turns onto and off of Michigan Ave.). The Baseline Concept and Concept 1a do not include bus turns at S. Coast Highway and Michigan Ave.; buses travel straight on S. Coast Hwy. at the proposed roundabout. For Concept 2a, It is not clear if left turns to and from Michigan Ave. are possible with the current roundabout design or what modifications to the current proposed design would be needed to accommodate those bus movements. It appears that right turns from S. Coast Highway southbound to Michigan Ave. westbound and from Michigan Ave. eastbound to S. Coast Hwy. southbound are accommodated with the current design.

Also, Concepts 2 and 2a avoid the loading and parking access on Seagaze Dr. near S. Tremont St. for the 401 Mission development.

Summary Ratings

For potential sources of delay, the baseline performed least favorably with Concepts 2 and 2a performing most favorably due to having the fewest stops and turns. For impact to BREEZE scheduling, Concepts 2 and 2a performed the best with the shortest distance and fastest travel time. For operational environment, the Baseline concept is the best, having no residential streets, with the other concepts performing equally. Baseline, Concept 1, and 1a are more compatible with Coast Highway Project than Concepts 2 and 2a because buses would not turn at Michigan Ave. and travel around a proposed roundabout.

Based on the performance measures assessed for this analysis, Concept 2 and Concept 2a received an overall rating of "Most Favorable" and the Baseline Concept, Concept 1, and 1a received the "Least Favorable" overall ratings. Concept 3 received an overall rating of "Somewhat Favorable." These overall ratings are based on a combination of the ratings for each performance measure category and reflect how likely each concept would meet the objectives of NCTD.

5. ROUTING RECOMMENDATION

Based on the performance measure assessment and summary ratings, Concept 2, which provides the maximum operational flexibility and provides for the most reliable and expeditious route options in and out of the Oceanside Transit Center, received a "Most Favorable" rating. This concept would involve routing buses both into and out of the bus loop along Michigan Ave. and providing for buses to exit the bus loop along Missouri Ave. This concept is highest rated in terms of transit operations and operational environment, although it may not be feasible to implement if the proposed roundabout at S. Coast Highway at Michigan Ave. cannot accommodate the required bus turning movements. Additional coordination is required with the City of Oceanside to verify roadway configuration and bus routing. In the event that the Michigan Ave. roundabout poses challenges for bus circulation, Tremont Ave. may provide a reasonable northbound alternative, however, further evaluation may be required to address operational efficiency.

The following items should be considered in making a final routing recommendation:

1. Test turns in all directions at Michigan Ave. with current roundabout design (AutoTURN and in field test) to determine which movements are possible with existing design and what design modifications are needed to accommodate bus turns safely and efficiently at the intersection. Consider "Yield to Bus" dynamic signage. (Concepts 2 and 2a)
2. Test turns in all directions at Michigan Ave. based on existing conditions (AutoTURN and in field test) to determine which movements are possible with current roadway configuration and what design modifications are needed to accommodate bus turns safely and efficiently at the intersection. Consider "Yield to Bus" dynamic signage. (Concepts 2 and 2a)
3. Review Michigan Ave. between S. Coast Highway and S. Cleveland St. to determine if parking removal would facilitate bus, truck, and auto flow (Concepts 2 and 2a). Also assess if any parking removal would be needed along S. Tremont St. (All concepts)
4. Review the existing all-way stop at S. Tremont St. and Michigan Ave. and the proposed all-way stop at S. Tremont St. and Topeka St. to assess if it would be appropriate to not have stop signs in the direction of bus travel. (Concepts 2 and 2a for S. Tremont St. and Michigan Ave., Baseline, Concepts 1,1a and 3 for S. Tremont St. and Topeka St .)
5. Test tight turn radius for right turn at S. Tremont St. and Seagaze Dr. and evaluate traffic control options (e.g., all-way stop, signal) to facilitate bus speed and reliability (Baseline, Concepts 1, 1a, 3). Review design for S. Cleveland St. and Topeka St. regarding location of pedestrians crossings, driveway location, right turn radius for buses from S. Cleveland St. to W. Topeka St. (Baseline). Revise island curb radius at S. Cleveland St. and Michigan Ave at the bus loop (Concepts 1,1a, 2, 2a, and 3).
6. Determine bus stop locations for all concepts, particularly Baseline and Concept 1a which involve routing north of Michigan Ave. (All concepts)

DRAFT

APPENDIX A

Sources

Administrative Draft Initial Study, Section 3.0: Project Description and Section 5.8: Transportation (May 2023)

BREEZE Speed and Reliability Study (March 2024)

Community Outreach Exhibits (April 21, 2023)

Development Plan Submittal (August 26, 2022)

Oceanside Transit Center Bus Bay Relocation Project Study Report (September 28, 2020)

Oceanside Transit Center Redevelopment Project – Local Transportation Study (August 18, 2023)

Oceanside Transit Center Specific Plan CEQA Transportation Analysis (February 22, 2023)

Oceanside Transit Center Specific Plan Draft (February 13, 2023)

Plan for S. Tremont ADA Drop-off Loading Zone (May 10, 2023)

Revitalizing the Oceanside Transit Center Presentation (September 15, 2022)

Small Business Luncheon Presentation (June 13, 2023)

Vesting Tentative Map and Development Plan 235 South S. Tremont Street (February 15, 2023)

DRAFT

APPENDIX B

Field Visit Photos

Figure 14: Michigan Ave. at S. Tremont St. Looking East



Figure 15: Michigan Ave. at S. Coast Hwy. Looking East



Figure 16: Tremont St. between Michigan Ave. and Seagaze Dr. Looking North



Figure 17: Tremont St. at Seagaze Dr. Looking North



Figure 18: Missouri Ave. at Tremont St. Looking West



Figure 19: Missouri Ave. between Tremont St. and S. Coast Hwy.



APPENDIX C

Preliminary Routing Options

Table 6: Routing Options

Option	Buses Approaching Transit Center from the North	Buses Approaching Transit Center from the South
Baseline	Enter from Seagaze Dr. via S. Cleveland St., exit via Michigan Ave.	Enter from Seagaze Dr. via S. Cleveland St., exit via Missouri Ave.
1	Enter from Seagaze Dr. via S. Cleveland St., exit via Michigan Ave. and S. Tremont St.	Enter via Michigan Ave., exit via Missouri Ave.
2	Enter from Seagaze Dr. via S. Cleveland St., exit via Michigan Ave. and S. Tremont St.	Enter and exit via Michigan Ave..
3	Buses approaching from north and south enter from Seagaze Dr. via S. Cleveland St., exit via Michigan Ave. to S. Tremont St.	
3A	Buses approaching from north and south enter from Seagaze Dr. via S. Tremont St. and Michigan Ave., exit via Michigan Ave. to S. Tremont St.	
4	Buses approaching from north and south enter and exit via Michigan Ave. and S. Coast Highway	
4A	Buses approaching from north and south enter via Michigan Ave. and S. Coast Highway; buses to the north exit via Michigan Ave. and buses to the south via Missouri Ave.	

DRAFT

Figure 20: Baseline Routing



Figure 21: Option 1 S. Cleveland St. |S. Tremont St. | Michigan Ave. | Missouri Ave.



Figure 22: Option 2 S. Cleveland St. | S. Tremont St.| Michigan Ave



Figure 23: Option 3 S. Cleveland St. | S. Tremont



Figure 24: Option 4 Michigan Ave.



DRAFT

4.08 ATTACHMENT 8

Application for Discretionary Permit

Development Services Department / Planning Division
(760) 435-3520
Oceanside Civic Center 300 North Coast Highway
Oceanside, California 92054-2885

STAFF USE ONLY	
ACCEPTED	BY

Please Print or Type All Information

HEARING		
X	GPA	
X	MASTER/SP.PLAN	
X	ZONE CH. TO SPECIFIC PLAN	
X	TENT. MAP	
	PAR. MAP	
X	DEV. PL.	
	C.U.P.	
	VARIANCE	
X	COASTAL	
	O.H.P.A.C.	

PART I – APPLICANT INFORMATION

1. APPLICANT	2. STATUS
Toll Brothers Apartment Living	Developer
3. ADDRESS	**4. PHONE/FAX/E-mail**
1140 Virginia Drive Fort Washington, PA 19034	949-503-7703 mwinter2@tollbrothers.com
5. APPLICANT'S REPRESENTATIVE (or person to be contacted for information during processing)	
Michael Winter	
6. ADDRESS	**7. PHONE/FAX/E-mail**
23422 Mill Creek Drive, Suite 105 Laguna Hills, CA 92653	949-293-8500 mwinter2@tollbrothers.com

PART II – PROPERTY DESCRIPTION

8. LOCATION	9. SIZE
235 South Tremont Street, Oceanside, CA 92054	11.81 AC (Environmental Impact Boundary for EIR & subdivision map) 10.06 AC (Specific Plan)

10. GENERAL PLAN	11. ZONING	12. LAND USE	13. ASSESSOR'S PARCEL NUMBER
DT, C-TU, C-RH, C-GC	D-5, D-14, OP, PUT, R-3	Transit Facility & Parking	TRACT II: PARCEL 1: APN 150-046-17-00, PARCEL 2: APN 150-046-01-00 THROUGH 150-046-08-00.TRACT III: PARCEL 1: APN 150-043-01-00 THROUGH 150-043-04-00, PARCEL 2: APN 150-043-05-00 AND 150-043-06-00. Also refer to attached Title Report Legal Description.

14. LATITUDE	15. LONGITUDE
N033°11'33.51"	W117°22'43.48"

PART III – PROJECT DESCRIPTION

16. GENERAL PROJECT DESCRIPTION
THE SITE CONSISTS OF MUTIPLE LOTS TOTALLING APPROX. 10.06 ACRES, CURRENTLY OCCUPIED BY THE OCEANSIDE TRANSIT CENTER AND THE ADJACENT SURFACE PARKING LOTS. A TRANSIT-ORIENTED DEVELOPMENT IS PROPOSED AND WILL BE A MIXED-USE PROGRAM CONSISTING OF FIVE NEW BUILDINGS INCLUDING TWO FIVE-STORY MIXED-USE RESDENTIAL BUILDINGS, ONE FOUR-STORY OFFICE BUILDING, ONE SIX-STORY HOTEL, AND ONE STANDALONE PARKING BUILDING. IN ADDTION TO THE STANDALONE PARKING BUILDING, PARKING SPACES WILL BE PROVIDED ON LEVELS BELOW GRADE AND AN ABOVE-GRADE PARKING STRUCTURE UNDER EACH BUILDING. THE PROPOSED PROJECT ALSO INCLUDES A NEW TRANSIT CENTER, A BUS STATION, A PUBLIC PLAZA, AND VARIOUS PUBLIC AND PRIVATE OPEN SPACES AROUND THE BUILDINGS.

17. PROPOSED GENERAL PLAN	18. PROPOSED ZONING	19. PROPOSED LAND USE	20. NO. UNITS	21. DENSITY
SP (Specific Plan)	PD (Planned Development)	Mixed-use & intermodal transit	547	55 DU/AC (547 UNITS / 10.06 ACRES)

22. BUILDING SIZE	23. PARKING SPACES	24. % LANDSCAPE	25. % LOT COVERAGE or FAR
1,497,410 SF incl. above & below grade parking	1,769	10%	1.88 FAR (824,622 SF / 438,912 SF)

PART IV – ATTACHMENTS

	26. DESCRIPTION/JUSTIFICATION		27. LEGAL DESCRIPTION		28. TITLE REPORT
	29. NOTIFICATION MAP & LABELS		30. ENVIRONMENTAL INFO FORM		31. PLOT PLANS
	32. FLOOR PLANS AND ELEVATIONS		33. CERTIFICATION OF POSTING		34. OTHER (See attachment for required reports)

PART V – SIGNATURES

SIGNATURES FROM ALL OWNERS OF THE SUBJECT PROPERTY ARE NECESSARY BEFORE THE APPLICATION CAN BE ACCEPTED. IN THE CASE OF PARTNERSHIPS OR CORPORATIONS, THE GENERAL PARTNER OR CORPORATION OFFICER SO AUTHORIZED MAY SIGN. (ATTACH ADDITIONAL PAGAES AS NECESSARY).

35. APPLICANT OR REPRESENTATIVE (Print):	36. DATE	37. OWNER (Print)	38. DATE
Toll Brothers Apartment Living: Michael Winter Sr. Development Manager	08-19-2022	North County Transit District Tracey Foster Chief Development Officer	08-19-2022
Sign: DocuSigned by: Michael Winter B26F0AE6B6594DE...		Sign: DocuSigned by: Tracey Foster ECF5C7B7E35D426...	

- **I DECLARE UNDER PENALTYOF PERJURY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT. FURTHER, I UNDERSTANDING THAT SUBMITTING FALSE STATEMENTS OR INFORMATION IN THIS APPLICATION MAY CONSTITUTE FRAUD, PUNISHABLE IN CIVIL AND CRIMINAL PROCEEDINGS.**
- **I HAVE READ AND AGREE TO ABIDE BY THE CITY OF OCEANSIDE DEVELOPMENT SERVICES DEPARTMENT AND ECONOMIC AND COMMUNITY DEVELOPMENT DEPARTMENT POLICY NO. 2011-01/POLICY AND PROCEDURE FOR DEVELOPMENT DEPOSIT ACCOUNT ADMINISTRATION.**

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF

PART I – APPLICANT INFORMATION

1. Applicant: Please indicate the first, middle and last name of the person making the application.
2. Status: Indicate the applicant's status of involvement with the property. Is he/she the owner, developer, lessee or agent?
3. Address: Indicate the applicant's full address.
4. Phone: Number where the applicant can be reached from 8:00 a.m. to 5:00 p.m. on weekdays.
5. Applicant's Representative: If the applicant is being represented by an attorney, engineer, development corporation, etc., please indicate the representative's name here. The staff will deal mostly with the representative during processing, with the owners receiving information, unless other arrangements are requested.
6. Address: Indicate the applicant's representative's complete address.
7. Phone: Number where the representative can be reached from 8:00 a.m. to 5:00 p.m. on weekdays.

PART II – PROPERTY DESCRIPTION

8. Location: Using street numbers and names along with prominent geographical and manmade features, describe where the property is located within the City of Oceanside.
9. Size: The size of the property involved by acreage or square footage.
10. General Plan: The existing General Plan Land Use Designation for the property.
11. Zoning: The existing zoning of the property.
12. Land Use: The existing land use of the property. Please distinguish between vacant land and land being used for agricultural purposes.
13. Assessor's Parcel Number: The Assessor's book, page and parcel number of all parcels included in this application.
14. Latitude: Please provide.
15. Longitude: Please provide.

PART III – PROJECT DESCRIPTION

16. General Project Description: Very briefly describe the nature of your project. Examples might be: Variance to reduce the side-yard setback from 5 feet to 3 feet; or Conditional Use Permit for an automobile service station at the corner of Surfrider Way and North Coast Highway Streets; or Development Plan for 116 single-family detached units.
17. Proposed General Plan: If you are proposing a change in the General Plan, please indicate the new land use designation.
18. Propose Zoning: If you are proposing a Zone Change, please indicate the new zone (s).
19. Proposed Land Use: If you are proposing a change in the land use of the property, please indicate what the new land use will be.
20. Number of Units: If yours is a residential project, please indicate the number of dwelling units which will be in the complete project.
21. Density: If yours is a residential project, please indicate the gross density (dwelling units per acre) of the completed project.
22. Building Size: Residential—the range in square footage of the units you will be building; Commercial/Industrial—the size of your proposed building.
23. Parking Spaces: The total number of parking spaces that will be available within the completed project.
24. Percent Landscaping: The percentage of your entire lot that will be landscaped and irrigated by the developer prior to occupancy of the building or units.
25. Percent Lot Coverage or Floor Area Ratio: The percentage of the lot covered or floor area ratio, as defined in Article 3 of the Oceanside Zoning Ordinance.

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF

PART IV – ATTACHMENTS

ATTACHMENTS 26 THROUGH 32 MUST BE SUBMITTED WITH ALL APPLICATIONS.

26. Description and Justification: Please submit a detailed description of your project. Describe as completely as possible the purpose and objectives of your project, any and all construction that may be accomplished as a result of approval of this project and the project's benefits to yourself, the property, the neighborhood and the City of Oceanside. For all Development Plans, Coastal Permits, Variances and Conditional Use Permits, please address the following questions as required by the Zoning Ordinance:

    Development Plans: Section 4306 of the Zoning Ordinance requires that proof be submitted in support of the following statements:

    (a) That the site plan and physical design of the project as proposed is consistent with the purposes of the Zoning Ordinance;
    (b) That the Development Plan as proposed conforms to the General Plan of the City;
    (c) That the area covered by the Development Plan can be adequately, reasonably and conveniently served by existing and planned public services, utilities and public facilities;
    (d) That the project as proposed is compatible with existing and potential development on adjoining properties or in the surrounding neighborhood.;
    (e) That the site plan and physical design of the project is consistent with the policies contained within Section 1.24 and 1.25 of the Land Use Element of the General Plan, the Development Guidelines for Hillsides, and Section 3039 of this ordinance.

    Coastal Development Permits: The Local Coastal Program requires that proof must be submitted in support of the following statements:

    (a) That the project conforms to the Local Coastal Plan, including the policies of that Plan; and
    (b) That all development within the appeal area conforms to the public access and recreation policies of Chapter 3 of the Coastal Act.

    Variances: Section 4105 of the Zoning Ordinance requires that proof be submitted in support of the following statements:

    (a) That because of special circumstances or conditions applicable to the development site – including size, shape, topography, location or surroundings – strict application of the requirements of this ordinance deprive such property of privileges enjoyed by other property in the vicinity and under identical zoning classifications;
    (b) That granting the application will not be detrimental or injurious to property or improvements in the vicinity of the development site, or to the public health, safety or general welfare; and
    (c) That granting the application is consistent with the purposes of this ordinance and will not constitute a grant of special privilege inconsistent with limitations on other properties in the vicinity and in the same zoning district; and, if applicable,
    (d) OS District Only. That granting the application is consistent with the requirements of Section 65911 of the Government Code and will not conflict with General Plan policies governing orderly growth and development and the preservation and conservation of open-space lands.

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF

Conditional Use Permits: Section 4105 of the Zoning Ordinance requires that proof be submitted in support of the following statements:

(a) That the proposed location of the use is in accord with the objectives of this ordinance and the purposes of the district in which the site is located

(b) That the proposed location of the conditional use and the proposed conditions under which it would be operated or maintained will be consistent with the General Plan; will not be detrimental to the public health, safety or welfare of persons residing or working in or adjacent to the neighborhood of such use; and will not be detrimental to properties or improvements in the vicinity or to the general welfare of the City.

(c) That the proposed conditional use will comply with the provisions of this ordinance, including any specific condition required for the proposed conditional use in the district in which it would be located.

27. Legal Description: A complete legal description of all the property involved is required. This can usually be obtained from the deed to the property or from a title company. A metes-and-bounds legal description or recorded map information is required for each parcel or area on which a Zone Change is being made or a recorded map. This document is separate from the title reports.
28. Title Report: Less than 12 months old.
29. Notification Map and Labels: Pursuant to City Council Policy 300-14 and mailing labels for each individual property owner and tenant is required. The labels must be keyed to the mail notification radius map. Detailed instructions and a sample map are included with this application form. On the mailing labels please include your name, the representative's name and the names of other interested parties. All projects submittals should include one hardcopy of all required mailing labels (with total number of labels denoted); one electronic format CD of the mailing labels preferably in excel format; one hardcopy printout of all addresses with radius map; and the applicable fees submitted. Mailing labels should be updated anytime a six month period has passed.
30. Environmental Information Form: All applications must include an environmental assessment to meet the requirements of the California Environmental Quality Act of 1970. Separate forms for this assessment are attached to this application. Please complete the following instructions on those forms.
31. Plot Plans : (20 copies required, -15 copies with final submittal - and 8 1/2 " X 11" reductions of all plans submitted). The plot plan must be sufficiently detailed to allow all reviewing City departments and other agencies to evaluate all the physical aspects of your project without additional information. Include the information as specified on the attached checklist. (Folded to 8 1/2" X 13" size or similar).
32. Floor Plans and Elevations: (20 copies required -15 copies with final submittal - and 8 1/2 " X 11" reductions of all plans submitted). The floor plans shall detail the proposed uses and indicate exterior wall openings and be fully dimensioned. All elevations must indicate the type and color(s) of all exterior materials and architectural features, showing all exterior wall openings. (NOTE: application will not be accepted unless ALL plans are folded to a size smaller than 8" 1/2" X 14").
33. Certification of Posting: The “Certification of Posting” must be returned to the Planning Division within 24 hours of posting the on site notice of project application sign.
34. Other: This attachment would include any other information, which the City of Oceanside may need to evaluate your project. This might include reports, drawings of proposed signs, marketing information, photographs, renderings, etc. Specific new and redevelopment projects must include an urban runoff threat assessment to meet the requirements of the California Regional Water Quality Control Board Order 2001-01. Separate forms for this assessment are attached to this application.

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF

PART V – SIGNATURES

ALL BLOCKS MUST BE SIGNED AND DATED AS APPROPRIATE OR THE APPLICATION CANNOT BE ACCEPTED.

- Date of applicant's or representative's signature.
- The applicant must sign to certify the correctness of the information on the application form.
- Date of applicant's signature.
- The owners of all the property involved must sign to indicate that the application is being filed with their knowledge. Ownership will be verified against the records of the County Recorder and County Assessor. If signatures are difficult to obtain because of time or distance, letters designating the applicant as the agent of the owner to file on the owner's behalf will be acceptable.
- The owners and applicant of the property agree to abide by the City of Oceanside Development Services Department and Economic and Community Development Department Policy No. 2011-01/Policy and Procedure for Development Deposit Account Administration.

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF

LEGAL DESCRIPTION

Real property in the City of Oceanside, County of San Diego, State of California, described as follows:

TRACT I: (147-350-24-00 AND 147-350-25-00)

PARCEL 1:

LOTS 9 THROUGH 16, BLOCK 7, OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 344, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JULY 1, 1885, LOT 9, BLOCK 7, BRYAN'S ADDITION, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

PARCEL 2:

ALL OF BLOCK 8 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

TOGETHER WITH THOSE PORTIONS OF CLEVELAND STREET AND MICHIGAN AVENUE VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

PARCEL 3:

FRACTIONAL LOT 8 IN BLOCK 9 OF BRYAN'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

TOGETHER WITH THE NORTHERLY 20 FEET OF TOPEKA STREET AS VACATED AND CLOSED TO PUBLIC USE, LYING SOUTHEASTERLY OF AND ADJACENT TO SAID LOT.

PARCEL 4:

LOTS 1, 2, 3, 4 AND 5 IN BLOCK 10 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

ALSO THAT PORTION OF TOPEKA STREET LYING WESTERLY FROM CLEVELAND STREET AND NORTH OF AND ADJACENT TO SAID LOT 1, BLOCK 10, WHICH SAID PORTION OF TOPEKA STREETS WAS CLOSED TO PUBLIC USE BY RESOLUTION NO. 915, IN THE CITY COUNCIL OF THE CITY OF OCEANSIDE, CALIFORNIA.

ALSO TOGETHER WITH THOSE PORTIONS OF CLEVELAND STREET AND TYSON STREET VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

PARCEL 5:

THAT PORTION OF A TRACT OF LAND COMMONLY KNOWN AS THE DEPOT GROUNDS IN OCEANSIDE,

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF

TOGETHER WITH THAT CERTAIN 200.00 FOOT RIGHT-OF-WAY OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY LYING SOUTHEASTERLY OF SAID DEPOT GROUNDS, ALL IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 313, BY H.P VINCENT, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, JULY 19, 1886, DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST WESTERLY CORNER OF LOT 16, BLOCK 7 OF OCEANSIDE, ACCORDING TO MAP THEREOF NO. 344, FILED IN SAID COUNTY RECORDER'S OFFICE ON JULY 1, 1885; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY LINE OF SAID BLOCK 7 AND ITS SOUTHEASTERLY PROLONGATION 443.70 FEET, MORE OR LESS TO THE MOST EASTERLY CORNER OF SAID DEPOT GROUNDS; THENCE SOUTHWESTERLY ALONG THE SOUTHEASTERLY LINE OF SAID DEPOT GROUNDS, 150.00 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF THE ATCHISON, TOPEKA AND SANTA FE RAILROAD BEING ALSO THE NORTHWESTERLY PROLONGATION OF THE SOUTHWESTERLY LINE OF BLOCK 10 OF BRYAN'S ADDITION TO OCEANSIDE AS SHOWN ON MAP THEREOF NO. 219, FILED IN SAID COUNTY RECORDER'S OFFICE ON MARCH 10, 1887; THENCE SOUTHEASTERLY ALONG SAID PROLONGATION AND SAID SOUTHWESTERLY LINE TO THE MOST SOUTHERLY CORNER OF LOT 5 IN SAID BLOCK 10; THENCE SOUTHWESTERLY ALONG THE SOUTHWESTERLY PROLONGATION OF THE SOUTHEASTERLY LINE OF SAID LOT 5, A DISTANCE OF 75.00 FEET; THENCE NORTHWESTERLY ALONG A LINE THAT IS PARALLEL WITH AND 75.00 FEET SOUTHWESTERLY OF SAID SOUTHWESTERLY LINE OF BLOCK 10 OF BRYAN'S ADDITION, MAP NO. 219, A DISTANCE OF 371.70 FEET; THENCE AT RIGHT ANGLES, NORTHEASTERLY 47.00 FEET; THENCE ALONG A LINE THAT BEARS LEFT 45°00'00" FROM THE NORTHEASTERLY PROLONGATION OF THE LAST MENTIONED LINE, 181.02 FEET TO A POINT ON A LINE THAT IS PARALLEL WITH AND 50.00 FEET SOUTHWESTERLY OF THE SOUTHWESTERLY LINE OF SAID BLOCK 7 OF OCEANSIDE, MAP NO. 344; THENCE ALONG SAID PARALLEL LINE, NORTHWESTERLY TO A POINT ON THE SOUTHWESTERLY PROLONGATION OF THE NORTHWESTERLY LINE OF SAID LOT 16, BLOCK 7 OF MAP NO. 344; THENCE NORTHEASTERLY ALONG SAID PROLONGATION, 50.00 FEET TO THE POINT OF BEGINNING.

TRACT II:

PARCEL 1: (APN 150-046-17-00)

LOTS 1, 2, 3, 4 AND 5 IN BLOCK 12 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

PARCEL 2: (APN 150-046-01-00 THROUGH 150-046-08-00)

LOTS 9 THROUGH 16 INCLUSIVE, IN BLOCK 12 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY MARCH 10, 1887.

EXCEPTING THEREFROM, ALL OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER ALL OF THE ABOVE DESCRIBED REAL PROPERTY, BUT WITHOUT ANY RIGHT TO PENETRATE, USE OR DISTURB THE SURFACE OF SAID PROPERTY OR ANY PORTION OF SAID PROPERTY WITHIN FIVE HUNDRED FEET (500') OF THE SURFACE THEREOF.

TOGETHER WITH PORTIONS OF CLEVELAND STREET AND MICHIGAN AVENUE VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

TRACT III:

PARCEL 1: (APN 150-043-01-00 THROUGH 150-043-04-00)

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF

ALL OF LOTS 7 AND 8 IN BLOCK 10 AND 11 OF LOTS 1, 2, 3 AND 4 IN BLOCK 11, ALL BEING BYRON'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887, TOGETHER WITH THAT PORTION OF MICHIGAN AVENUE (80.00 FEET WIDE) LYING ADJACENT TO AND BETWEEN SAID BLOCKS AS VACATED AND CLOSED TO PUBLIC USE ON DECEMBER 23, 1931 BY RESOLUTION NO. 633 OF THE CITY COUNCIL OF THE CITY OF OCEANSIDE.

EXCEPTING FORM SAID LOT 7 IN BLOCK 10, THE NORTHWESTERLY 30.00 FEET THEREOF AS DESCRIBED IN DEED RECORDED TO THE CITY OF OCEANSIDE, RECORDED JANUARY 16, 1932 IN BOOK 88, PAGE 3 OF OFFICIAL RECORDS.

TOGETHER WITH THAT PORTION OF CLEVELAND STREET VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 164097 WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

ALSO TOGETHER WITH THAT PORTION OF TYSON STREET VACATED BY DOCUMENT RECORDED MARCH 14, 1934 WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

PARCEL 2: (APN 150-043-05-00 AND 150-043-06-00)

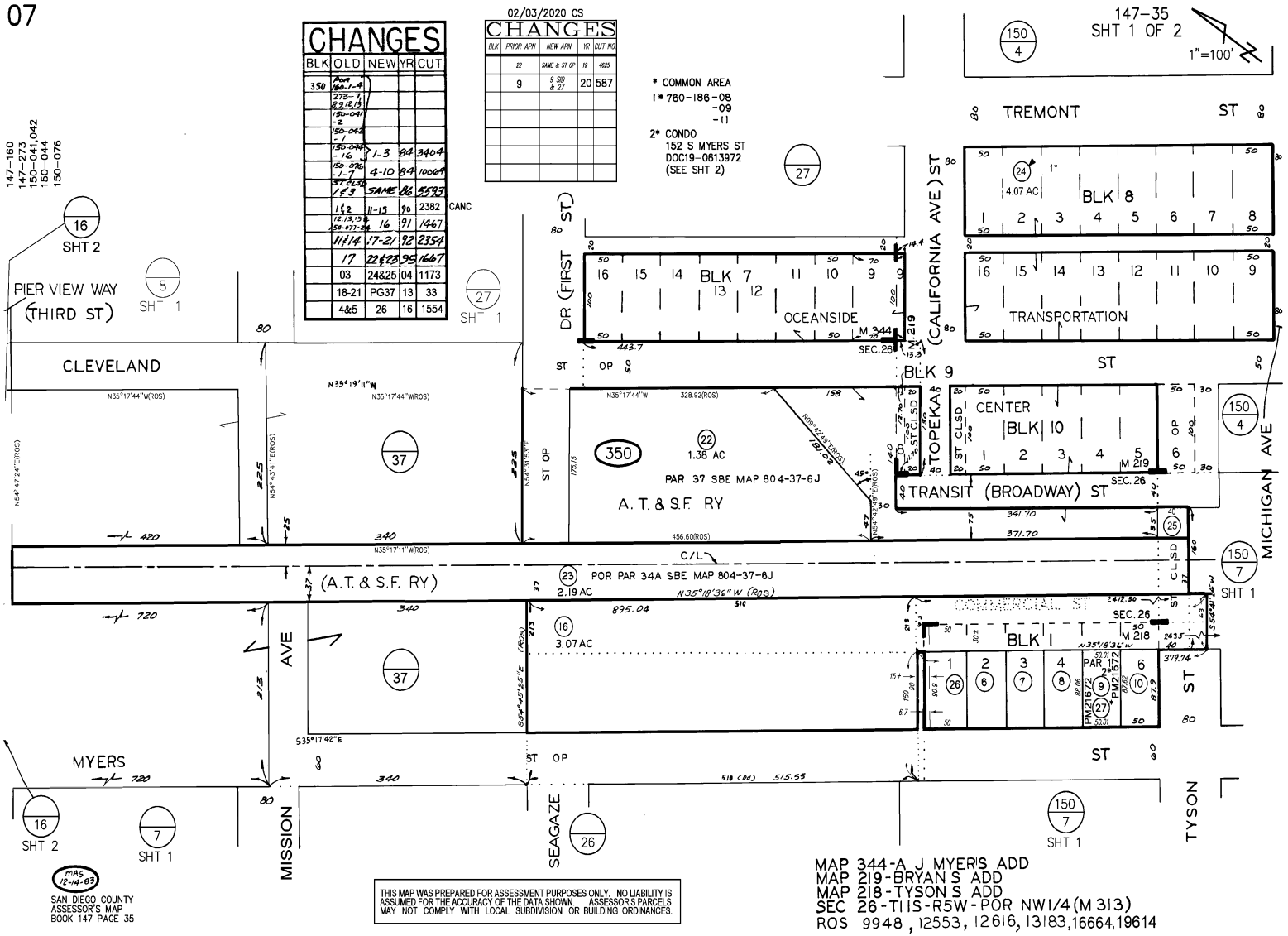
LOTS 5, 6, 7 AND 8 IN BLOCK 11 OF BRYAN'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

TOGETHER WITH THAT PORTION OF CLEVELAND VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

EXCEPTING THEREFROM, ALL OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER ALL OF THE ABOVE DESCRIBED REAL PROPERTY, BUT WITHOUT ANY RIGHT TO PENETRATE, USE OR DISTURB THE SURFACE OF SAID PROPERTY OR ANY PORTION OF SAID PROPERTY WITHIN FIVE HUNDRED FEET (500') OF THE SURFACE THEREOF, AS EXCEPTED IN THE DEED RECORDED MAY 15, 1991 AS INSTRUMENT NO. 91-0227598 OF OFFICIAL RECORDS.

APN: 147-350-24 and 150-046-17 and 150-046-01 and 150-046-02 and 150-046-03 and 150-046-04 and 150-046-05 and 150-046-06 and 150-046-07 and 150-046-08 and 150-043-01 and 150-043-02 and 150-043-03 and 150-043-04 and 150-043-05 and 150-043-06 and 147-350-25

DocuSign Envelope ID: D0A70247-51C8-4919-963F-1F502D177ADF



First American Title

Order Number: OSA-6555761 (mwhp)
Page Number: 11

Oceanside Transit Center Specific Plan & Development Plan
Description & Justification
04.10.24

OTC

OVERVIEW

Project Description: The proposed project encompasses redevelopment of the approximately 10.15-acre Oceanside Transit Center (OTC) property owned by the North County Transit District (NCTD) into a vibrant, mixed-use destination. The proposal as described herein is a refinement of the conceptual plan prepared in response to a Request for Proposal (RFP) issued by NCTD in early 2020 seeking a development team with the capacity to deliver a model transit-oriented development that also improves intermodal connectivity. The property will be developed by the project proponent pursuant to a ground lease with NCTD.

Development of the site will extend and further activate Oceanside's downtown core and reinforce transit ridership by introducing approximately 852,000 square feet of residential, retail, office, and hotel use in a mixed-use format, while featuring a modern intermodal transit facility for travelers by bus and train. The proposed project will include 547 multi-family dwelling units; 83 of the dwelling units are to be designated as inclusionary units. Subterranean and structured parking facilities accommodating up to 1,868 spaces will serve the transit center and support the various land uses. Public amenities will further enliven and enrich the project and serve the community, including streetscape enhancements and a Transit Plaza with capacity to support small- scaled community activities and events.

The proposed project will be developed in two (2) phases with an estimated time frame of seven (7) years from entitlement through final delivery. Phased development will ensure that construction does not interrupt operations of the transit facilities.

Project Site: The project is located at 235 South Tremont Street, the address for the Oceanside Transit Center, and 311 Tremont Street, the address of the NCTD offices. The project site is generally bounded by the railroad right-of-way on the west, S. Tremont Street on the east, Missouri Avenue to the south, and Seagaze Drive to the north. However, various properties are excluded: the six (6) parcels fronting S. Tremont Street between Seagaze Drive and W. Topeka Street (103-131 S. Tremont Street), developed with a church, residences, and an office; the three (3) residential properties at the corner of Tremont Street and Missouri Avenue (310-316 Missouri Avenue and 321-327 S. Tremont Street); and the public parking structure located along the rail tracks at Seagaze Drive. Altogether, the project site encompasses approximately 10.15 acres.

The property is currently occupied by the Oceanside Transit Center, comprised of an existing bus transfer center, train platforms, NCTD offices, and two (2) public parking lots with 560 spaces that primarily serve weekday commuters and weekend beach-goers. Public roadways (S. Cleveland Street and Michigan Avenue) and a roundabout for the bus terminal extend on to the project site; several public roadways (S Tremont Street, Missouri Avenue, and Seagaze Drive) border the project site. A pedestrian tunnel runs below the train tracks connecting south and north bound platforms and provides access to Tyson Street from which it is a

convenient walk to the beach. There is an 11-foot height difference from east to west across the property, with the highest point elevation at Tremont Street and naturally sloping downward toward the oceanfront.

Project Setting: Situated directly alongside the Pacific Surfliner rail line and currently functioning as an intermodal station for the North County Transit District, the project site occupies a high-profile location at the heart of Oceanside. Surrounding properties are generally a mix of commercial, retail, and residential land use, with Oceanside's downtown core advantageously located directly north of the site. Locational advantages include the site's position roughly three (3) blocks east of The Strand and Oceanside City Beach, and one (1) block south of Mission Avenue which functions as the City's downtown core. Farther to the north are other nearby attractions, including the Municipal Pier, Oceanside Harbor, and Camp Pendleton Marine Corps base.

The property benefits from outstanding regional highway and roadway connections. Mission Avenue is one (1) block north of the project site; this east-west arterial runs through the downtown core and provides convenient access to the I-5 Freeway about one-half (1/2) mile distance from the project site. Additionally, the Coast Highway is one (1) block east of the project site, with the interchange of I-5, State Highway 76, and Coast Highway less than one (1) mile distance to the north; this heavily traveled north-south arterial is used by local and pass-through traffic.

The Oceanside Transit Center located on-site functions as a major regional transit hub, providing a unique combination of rail and bus service that affords convenient connections throughout Southern California. Rail travel is provided by Amtrak and various commuter rail services; the Oceanside Transit Center is the northern terminus of the Coaster, the western terminus of the Sprinter, and southern terminus of Metrolink service. Bus service is provided by Greyhound, NCTD, and local commuter bus services.

Entitlement Request: The entitlement application is for 1) Zone Amendment (ZA) to change the zoning designation for the project site to Specific Plan (SP), and 2) a Development Plan to be processed concurrently with the ZA and Specific Plan. The Specific Plan shall serve as the regulating document, including applicable land use regulations, development standards, and design guidelines. The intent of the Development Plan is to ensure architectural compliance with City Ordinances, and to ensure that the proposal does not create public service and facility demands that exceed the capacity of existing and planned infrastructure.

Additionally, the proposed project requires, a General Plan Amendment (GPA) is required to change the land use designation for the project site to Specific Plan (SP), and to maintain consistency between the General Plan and the Specific Plan. The GPA will also revise the Downtown Redevelopment District to remove that portion of the project site which currently lies within its boundaries. Because the site lies within the Coastal Zone, adoption of the Specific Plan and GPA also requires concurrent amendment to the Local Coastal Program's Land Use Plan (LUP).

SPECIFIC PLAN

Specific Plan Authority & Scope: A Specific Plan is a regulatory tool used to implement the City's General Plan and direct development within a defined geographic area. While the General Plan is the primary vehicle to guide city-wide growth and development, a specific plan customizes the development goals and objectives, as well as the land use regulations for a defined area, consistent with the City's vision for the property, the surrounding context, and the distinct characteristics of the property.

The Specific Plan has been prepared pursuant to Section 65450 et seq. of the State of California Government Code which sets forth minimum requirements for a Specific Plan, including provisions for a land use plan, infrastructure plan, and inclusion of criteria and standards for development. Nonetheless, the Government Code is generally flexible regarding the content of a Specific Plan, allowing a public agency to tailor the plan to address particular land use issues and project types. The Specific Plan shall be adopted by resolution of the City Council and administered as prescribed by the Council, consistent with the Government Code, Section 65450 et. seq.

The Specific Plan has been drafted to meet the intent and requirements of the California Government Code and the City of Oceanside's Zoning Ordinance. It customizes the development standards and regulations to achieve the desired vision for the OTC site. In any instance where the Specific Plan conflicts with the requirements of the Zoning Ordinance, the Specific Plan provisions will take precedence. Where the Specific Plan is silent on a topic, the Zoning Ordinance requirements will remain in effect.

Specific Plan Purpose & Objectives: The purpose of the OTC Specific Plan is to provide for the coordinated development of a new, high quality mixed-use project and intermodal transit facility within the identified boundaries. The plan document includes a description of the proposed project, and sets forth the land use program, development standards, design guidelines, and primary infrastructure components that will guide development of the project across multiple phases.

The objectives of the Specific Plan are as follows:

- Promote economic development of the coastal zone, while enhancing livability and walkability by accommodating a compatible mixture of uses that extends the activity of the downtown core into the planning area.
- Support public transit through transit-oriented development that integrates updated transit facilities and other mobility improvements that will increase ridership and enhance the user experience.
- Improve connectivity and in particular build stronger linkages between downtown and the residential neighborhoods to the south of the site.
- Deliver benefits to the public by increasing the available housing supply, including the provision of affordable units, while providing for amenities that create a destination and enrich the quality of life for on-site occupants and the community-at-large.
- Provide adequate infrastructure and public services to support the proposed development.

- Ensure compatibility with surrounding land uses and improve the character of the surrounding community.
- Achieve a high standard of design through application of development standards and design guidelines that support mixed-use development typologies and promote effective placemaking.
- Accommodate phased development of the project with sufficient flexibility in the plan and accompanying development criteria to afford minor modifications in program and design due to a change in conditions.

Specific Plan Development Principles: The Specific Plan sets forth a series of principles that provide a basis for land use regulations, and development standards and guidelines, and direct the development and design of the project.

- Consider **neighborhood context** and impacts on adjoining properties in determining site layout and building design, including appropriate transitions in use and scale.
- Create a sensible and **orderly site plan** based on a clear and functional site organization, including safe and efficient site access and circulation.
- Design **aesthetically pleasing buildings** that contribute to the character and quality of the surrounding neighborhood and foster a sense of place rooted in the local coastal environment.
- Introduce a **variety of amenities** that enhance quality of life and provide benefits to the community, including active ground floor uses and public realm improvements.
- Promote **pedestrian-friendly design** that will improve connections to transit and support safe and convenient passage within and through the site.
- Incorporate **Mobility Hub features** as recommended by SANDAG's Regional Mobility Hub Strategy in support of alternative modes of transportation.
- Provide **useable outdoor space**, including areas for both community-oriented gatherings and resident focused use and enjoyment.
- Encourage rich and **harmonious landscape design** that complements the buildings and site.
- Incorporate **sustainable design practices** that conserve energy and water resources.

DEVELOPMENT PLAN

Development Plan Review & Approval: The City of Oceanside Zoning Ordinance (Article 17, Section 1705) requires that a Development Plan accompany an application for a Zone Amendment to change the zoning designation for the project site to Specific Plan (SP). The Development Plan shall be reviewed by the Planning Division and other appropriate City Departments, with final review and approval by the Planning Commission; the Planning Commission has authority to impose conditions of approval on the Development Plan. The intent is to ensure architectural compliance with City Ordinances, and to ensure that the proposal does not create public service and facility demands that exceed the capacity of existing and planned infrastructure.

Development Plan Description: A model transit-oriented development is envisioned for the roughly 10.15-acre NCTD site, bringing together transit, residential, retail, office, and hospitality uses in a mixed-use format. Development totaling approximately 852,000 square feet will be provided on seven (7) separate development parcels, sufficient to generate critical mass and create a destination that reinforces transit use and extends the activity of downtown. Buildings will not exceed six (6) stories, comparable to nearby downtown buildings and ensuring that they are well integrated with the community fabric. Additionally, transit facilities totaling approximately 7,427 square feet of construction will be provided on four (4) parcels designated for public use.

Urban placemaking and the provision of community benefits are to be given high priority, introducing such features as a public plaza at the heart of the project, while incorporating a boutique hotel and active street level retail along Cleveland Street - the project's north-south spine. Additionally, the development will enhance transit operations and improve the transit user experience, in particular, through provision of an approximately 64,085 square foot NCTD Headquarters and a new intermodal transit pavilion, centrally located within the station plaza.

Two (2) mixed-use buildings will accommodate 547 residential apartment units to further activate the site and surroundings. Market and affordable units will be accommodated, ranging in size from studios to 3-bedrooms, with resident focused amenities to include generous courtyards and upper floor decks. Altogether, up to1,868 parking stalls will be provided above and below ground, taking advantage of the site's change in grade to minimize parking's visual impact while providing more than adequate space to meet the needs of on-site residents and workers, as well as commuters and visitors.

Transit: The project site incorporates the Oceanside Transportation Center, and therefore falls within Oceanside's Downtown Transit Oriented District (TOD); it is also located within a high-quality transit area per SANDAG. The OTC offers local and regional bus and rail connection, including train options via Amtrak, Metrolink lines that travel north to Los Angeles and Orange County, Coaster lines that travel south to San Diego, and the Sprinter line that runs eastward to Escondido. Additionally, bus service is provided along Mission Avenue, a major east-west corridor, and nearby Coast Highway, a major north-south corridor. The proximity to transit along with the availability of bicycle storage and other mobility hub features supports transit options and allows movement throughout the region without reliance on individual vehicles.

Site Access, Circulation & Parking:

- Roadways are reconfigured to better control and coordinate the complex vehicular movement patterns on-site, and to minimize conflict between pedestrians and vehicles.
- Street realignment and a series of transit facility improvements work to improve on-site bus circulation and promote intermodal connectivity; bus circulation will follow the S. Cleveland corridor, leading directly into the bus transfer station.
- Personal vehicles are routed to achieve convenient access to parking facilities and reduce interference with bus operations; access to the parking structure on Parcel 2 is from S. Tremont Street, and parking facilities on Parcels 3 and 4 are accessed from Topeka Street and Michigan and Missouri Avenues.

- The project provides parking sufficient to replace the existing public parking serving the OTC facility, as well as parking to meet the needs of the proposed land uses; a combination of subterranean and above ground parking garages is employed to satisfy the total parking demand generated by development on-site.
- The plan supports alternative modes of transportation and reduces the need for personal vehicle use by strengthening pedestrian and bicycle connectivity.
- A strong pedestrian connection from south to north through the site leading to the downtown core is accomplished through reconfiguration of S. Cleveland Street, introduction of active ground floor uses, and the provision of streetscape amenities.
- Various mobility hub improvements accommodate transit users, pedestrians, and bicyclists, including enhanced transit waiting areas, passenger loading; pedestrian walkways and crossings; bikeways, bicycle parking and bike share; dedicated transit ways; flexible curb space; and wayfinding.

Building Design:

- The design concept derives inspiration from the site's unique coastal setting, reflecting the character and feel of Oceanside and its beachfront neighborhoods; a modern design language is employed, inspired by the unique legacy of the Southern California coastal environment and culture.
- The site layout maintains view corridors by establishing a block pattern that protects cherished views of the ocean along east-west oriented streets.
- The residentially focused buildings on Blocks 3 and 4 are designed around amenity courtyards to create a U-shape layout that opens toward the ocean and maximizes views for their occupants.
- The scale of development is compatible with the downtown environment and especially nearby development associated with the Nine Block Plan, with building heights not to exceed six (6) stories.
- The layout and design incorporate proper transitions in scale to nearby residential development, including articulated building facades that break down the building mass. Such features as porches, balconies, and shading devices further reduce scale and mass and communicate a residential character.
- The development plan takes advantage of the east-west topographic differential to provide a significant portion of the parking in subterranean facilities, thereby reducing the apparent scale and mass of buildings.

Amenities:

- Buildings are located and massed to contain public outdoor space and to especially create a consistent street edge.
- The design promotes street level activation through integration of retail along S. Cleveland Street. Additionally, the main residential lobbies are located along Tremont Street and feature clearly marked entrances and transparent windows, while there are a select number of residential stoop units along the side streets.
- Neighborhood safety and security are enhanced through activated sidewalks and an "eyes on the street" approach that orients residential porches, balconies, and windows toward public and communal outdoor space.

- Streetscape and outdoor public spaces incorporate amenities that support pedestrian comfort and help enrich and activate these spaces, including canopy trees, site furnishings, and special paving.
- A Transit Plaza functions as the active hub of the project, and is designed to accommodate a variety of modestly scaled community activities and events, such as seasonal events, passive art installations and street musician performances.
- The residentially focused buildings on Blocks 3 and 4 incorporate generous amenity courtyards functioning as a social gathering spot for residents, while roof decks afford sweeping ocean views.
- The NCTD Headquarters features cascading roof decks and terraces at every level, providing employees access to outdoors at every level of the building.
- The hotel incorporates amenity decks, including a pool deck, as well as private balconies with ocean views for west facing guestrooms.

Landscape Design:

- The landscape design reinforces the site plan layout and function and complements the architectural character.
- The selected plant palette emphasizes native and drought tolerant species to reflect local character, promote sustainability, and minimize long-term site maintenance.
- Canopies are provided to shade the public plaza and train platform; additional shade structures and seating are provided with each bus bay.

ENGINEERING / INFRASTRUCTURE

Parcel Configuration: The project will encompass 852,434 square feet of development, with an additional 297,673 square feet devoted to above grade parking and 454,276 square feet for below grade parking, supplying up to 1,868 parking stalls. For phasing and programming purposes the project has been divided the site into three (3) private and four (4) public development parcels.

Project Grading: The existing terrain at the site is characterized by mild to moderate sloping pavement areas that generally drain westerly across the site. The existing railroad right-of-way is the lowest westerly point immediately adjacent to the development area. Generally proposed grades across the site will mimic the existing conditions. Vehicular and pedestrian access points will be designed for the new building structures to connect with Tremont St. and the new roadways proposed within the development. Surface grades will be designed to coordinate with drainage and water quality BMP features required to service the prospect. Accessible paths of travel will be provided to meet the current Accessibility Code requirements.

Site Drainage:

Existing Drainage: The project site currently drains offsite in three (3) separate watershed tributaries. The northerly area that includes the existing bus terminal roundabout drains to the north towards the intersection of Cleveland Street and Seagaze Drive where runoff is captured by two (2) curb inlets that are tied to a traditional municipal underground storm drain system that drains to the north to Mission Avenue.

The middle section of the project that includes the transit center, parking lot, and train platform drains to an existing 15" CSP underneath the railroad that discharges into Meyers Street via a curb outlet. A traditional underground storm drain system does not exist in Meyers Street. The nearest municipal storm drain system to this curb outlet is located at the intersection of Tyson Street and Pacific Street. Due to the lack of traditional storm drain facilities downstream, this drainage area includes an existing underground peak reduction detention system consisting of dual 36" RCP pipes in the existing transit center parking lot tied to an orifice plate that reduces the peak discharge from this drainage area through the 15" RCP and curb outlet on Meyers Street. This peak reduction system is in place because the 15" CSP and curb outlet do not provide adequate capacity to convey the peak storm events. This middle drainage area experiences some localized ponding around the drainage area's low point inlet during peak storm events due to the limited capacity of the system.

The drainage originating from the southerly portion of the project that includes the transit parking is picked up by an existing box culvert that discharges via surface flow and a squash box RCB culvert out into Cleveland Street at the Missouri Avenue intersection via a curb outlet structure. A traditional underground storm drain system does not exist in South Cleveland Ave. The nearest municipal storm drain system to this curb outlet is located at the intersection of South Cleveland Avenue and Wisconsin Ave.

Conceptual Drainage Analysis & Alternatives: The project site has deficient municipal storm drain discharge facilities to receive drainage for the southern two-thirds of the site area. As a result, the proposed project will implement peak reduction detention / retarding basins to mitigate post development peak flowrates such that they do not exceed the existing conditions.

Water Quality: Typical water quality requirements will apply to the project to meet the requirements of the local San Diego MS4 permit. The City of Oceanside follows the requirements outlined in the Draft Water Quality Management Plan defined in the MS4 permit. The project will not be required to provide hydromodification storage due to the proximity of the site to the Pacific Ocean. The project will be required to provide low impact design (LID) BMPs to treat water quality flow discharges to remove sediment and contaminants. LID BMPs will be required to provide infiltration if rates at the site are within ranges considered feasible in the MS4 permit. If infiltration rates are not favorable, biofiltration planters, basins, and / or underground modular wetland structures should be considered.

Water: A hydraulic analysis evaluated the capacity of the existing offsite domestic water system and size of pipelines required to support the proposed land use. The hydraulic analysis revealed the need to upsize one off-site domestic water line in Missouri Ave from 6" ACP to 8" PVC. All other offsite pipelines are of sufficient size to support the proposed uses. All on site pipelines will be 8" PVC.

Sewer: A sewer system capacity analysis evaluated the capacity of the existing sewer system to accept developed flows from the project site. The results do not require upsize of any portion of the offsite existing sewer system. All proposed sanitary sewer systems will be required to be 8" PVC to meet City standards.

Dry Utilities:

Electric: SDG&E has two Transformers serving the existing NCTD Transit Center. The transformer serving the existing Oceanside Transit Center building will need to be removed. The transformer serving the Transit Rail at the end of Michigan Avenue will need to be protected in place. The 12KV line serving this transformer will need to be relocated because it will conflict with the proposed development. There are existing overhead electric lines along Michigan Ave that may need to be relocated or undergrounded. There are existing overhead electric lines running along the alley south of Michigan Avenue that serve the existing buildings that will remain. These overhead lines will need to be protected in place. The existing overhead electric 12KV lines along the east side of Tremont Street and the Underground 12 KV electric facilities along Seagaze Drive are possible sources for the new development.

Gas: There is an existing SDG&E Gas main running along the south side of Michigan Avenue that turns north and serves several gas meters for the existing Transit Center Building. The gas meters will be removed along with the services to the meters. There may need to be a relocation of the Gas main line to maintain the SDG&E crossing under the tracks. The existing Gas lines along Tremont Street and Michigan Avenue are possible sources for the new development.

Communications: AT&T has a system running down Cleveland Street that serves the Transit Center and runs under the tracks at the same location as the SDG&E Gas Main. This line will need to be relocated to clear the conflict with the proposed development and maintain the feed under the tracks. The AT&T Maps show Fiber Facilities along Topeka serving the existing site. There are existing overhead AT&T lines along Michigan Ave that may need to be relocated or undergrounded. There are existing overhead AT&T lines running along the alley south of Michigan Avenue that serve the existing buildings that will remain. These overhead lines will need to be protected in place. The existing AT&T facilities along Tremont Street, Michigan Avenue and Topeka are possible sources for the new development.

COX Communications has existing Overhead lines along Michigan Avenue that may need to be relocated or undergrounded. These lines are a possible source for the new development. There are existing overhead COX lines running along the alley south of Michigan Avenue that serve the existing buildings that will remain. These overhead lines will need to be protected in place. There are other fiber/communication lines that serve the existing Transit Center. There will need to be a USA Mark Out done in order to verify the locations of these lines as well as confirming the locations of the other dry utilities.

SUMMARY

A model transit-oriented development is envisioned for the roughly 10.15-acre NCTD site, bringing together transit, residential, retail, office, and hospitality uses in a mixed-use format. Development totaling approximately 852,000 square feet will be provided on seven (7) separate development parcels, sufficient to generate critical mass and create a destination that reinforces transit use and extends the activity of downtown. Buildings will not exceed six (6) stories, comparable to nearby downtown buildings and ensuring that they are well integrated with the community fabric. Additionally, transit facilities totaling approximately 7,427 square feet of construction, and a public plaza will be provided on four (4) parcels designated for public use.

Urban placemaking and the provision of community benefits are to be given high priority, introducing such features as a public plaza and festival space at the heart of the project, while incorporating a boutique hotel and active street level retail along Cleveland Street - the project's north-south spine. Additionally, the development will enhance transit operations and improve the transit user experience, in particular, through provision of an approximately 64,085 square foot NCTD Headquarters and a new intermodal transit pavilion, centrally located within the station plaza.

SPECIFIC PLAN FINDINGS

The City of Oceanside Zoning Ordinance (Article 17, Section 1706) requires that a series of findings be made in support of approval of the Specific Plan. The required findings and rationale are as follows:

1. ***Finding:*** The PD Plan or Specific Plan and the Development Plan are consistent with the adopted Land Use Element of the General Plan and other applicable policies compatible with surrounding development.

Rationale: The proposed development will achieve consistency with General Plan based upon concurrent approval of a change in land use designation to Specific Plan (SP) for the entire planning area. The SP designation will support the mixture of uses and density of residential living that are critical to achieving the vision of a model transit-oriented development that extends the activity of downtown, promotes on-going revitalization of the coastal area, and builds upon the activity of the downtown. In particular, the proposed use complements the adjacent Nine Block Plan, while taking advantage of the presence of the Oceanside Transit Center to create a model transit-oriented development. Additionally, while the proposed scale is compatible with similar development in the Nine Block Plan, suitable transitions in scale will be provided to lower intensity use near the south end of the site.

2. Finding: The PD Plan or Specific Plan and the Development Plan will enhance the potential for superior urban design in comparison with the development under the base district regulations that would apply if they were not approved.

Rationale: The proposed development will achieve a superior level of urban design that enhances the visual character of the coastal area and the surrounding neighborhood. Development standards and design guidelines within the Specific Plan have been tailored to support high-quality infill development featuring a

compatible mixture of uses, while the accompanying Development Plan depicts the quality of the proposed design and its positive response to the coastal environment. Consideration has also been given to improving the public realm and enhancing the pedestrian experience, for example, through the introduction of active uses and retail at the street level and the provision of various streetscape amenities. The presence of street level activity and residents on-site will also increase neighborhood safety and security.

3. Finding: Deviations from the base district regulations that otherwise would apply are justified by compensating benefits of the PD Plan or Specific Plan and the Development Plan.

Rationale: The proposed development offers numerous public benefits to the City of Oceanside and surrounding neighborhood. In summary, the project will expand Oceanside's housing supply, including the provision of affordable housing units, and incorporate a new intermodal transit facility and other significant mobility enhancements that will improve pedestrian access and transit service. Additionally, the project will integrate various amenities to better serve the community, including a highly accessible Transit Plaza and community meeting space.

4. Finding: The PD Plan or Specific Plan and the Development Plan includes adequate provisions for utilities, services, and emergency vehicle access; and public service demands will not exceed the capacity of existing and planned systems.

Rationale: The demand for public services will not exceed the capacity of planned and existing systems as determined in the EIR analysis. Infrastructure improvements will be constructed to meet the needs of the project. Of note, the project will introduce new public and private improvements to create more engaging and efficient circulation patterns across the site, accommodating automobiles, buses, bicyclists, and pedestrians.

DEVELOPMENT PLAN FINDINGS

The City of Oceanside Zoning Ordinance (Article 43, Section 4306) requires that a series of findings be made in support of approval of the Development Plan. The required findings and rationale are as follows:

1. Finding: That the site plan and physical design of the project as proposed is consistent with the purposes of the Zoning Ordinance.

Rationale: A Zone Amendment will designate the site as SP (Specific Plan) to achieve consistent zoning that will support the envisioned project; additionally, the Specific Plan will serve as the regulating document, including applicable land use regulations, development standards, and design guidelines. The site plan and physical design of the project as proposed is consistent with purposes, intents, and requirements of the Specific Plan.

2. Finding: That the Development Plan as proposed conforms to the General Plan of the City.

Rationale: The proposed development will achieve consistency with General Plan based upon concurrent approval of a change in land use designation to Specific Plan (SP) for the entire planning area. The SP designation will support the mixture of uses and density of residential living that are critical to achieving the vision of a model transit-oriented development that extends the activity of downtown and promotes on-going revitalization of the coastal area.

3. Finding: That the area covered by the Development Plan can be adequately, reasonably and conveniently served by existing and planned public services, utilities and public facilities.

Rationale: The demand for public services, utilities, and public facilities will not exceed the capacity of planned and existing systems as determined in the EIR analysis. Infrastructure improvements will be constructed to meet the needs of the project. Of note, the project will introduce new public and private improvements to create more engaging and efficient circulation patterns across the site, accommodating automobiles, buses, bicyclists, and pedestrians.

4. Finding: That the project as proposed is compatible with existing and potential development on adjoining properties or in the surrounding neighborhood.

Rationale: The proposed development will introduce a high-quality infill development that promotes economic development of the coastal area and builds upon the activity of the downtown. In particular, the proposed use complements the adjacent Nine Block Plan, while taking advantage of the presence of the Oceanside Transit Center to create a model transit-oriented development. Additionally, while the proposed scale is compatible with similar development in the Nine Block Plan, suitable transitions in scale will be provided to lower intensity use near the south end of the site.

5. Finding: That the site plan and physical design of the project is consistent with the policies contained within Section 1.24 and 1.25 of the Land Use Element of the General Plan, the Development Guidelines for Hillsides, and Section 3039 of the Zoning Ordinance.

Rationale: The project is an infill development located in proximity to the downtown area and is not located with a hillside area.

6. Finding: For properties located within the coastal zone: That the project is consistent with all applicable policies of the certified Land Use Plan.

Rationale: In conjunction with adoption of the Specific Plan and amendment to the General Plan, an amendment to the Local Coastal Program's Land Use Plan (LUP) is also required due to the proposed changes in underlying land use designation and zoning for the project site. These changes will support development that further revitalizes the coastal area and fosters coastal tourism. The project is consistent with the amendment to LUP.

Exhibit A:

BUILDING ENVELOPE STANDARDS	
FAR:	4.0 maximum
Residential Density:	maximum 547 dwelling units within the Specific Plan area
Height:	90 feet maximum (measured from existing grade)
Setbacks:	0 feet maximum
Building Encroachments:	• **Stoops, Porches, Access Ramps & Stairs:** 6 feet maximum encroachment into the Public R.O.W • **Balconies & Architectural Overhangs:** 6 feet maximum encroachment into the Public R.O.W. • Block 4 may allow for encroachments of occupiable building area into the designated NCTD bus station site, provided the encroachment is in accordance with an approved development plan, and the encroachment promotes architectural interest and does not exceed an area coverage of 10,000 square feet. • Two levels of below grade parking connecting Block 2 and Block 7 shall encroach into the Public R.O.W. in accordance with an approved development plan.

Exhibit A Cont'd:

OPEN SPACE STANDARDS	
Open Space Requirement:	• Area: 150 square feet for each dwelling unit
Common Open Space:	• Dimensions: 10 feet minimum dimension • Location: may be provided at ground level and/or upper-level deck
Private Open Space:	• Dimensions: 6 feet minimum dimension • Location: may be provided as patio or balcony
Landscape Area:	• Area: 10% minimum landscape area • Location: may be provided at ground level and/or upper-level deck • Permissible Landscape: may include areas devoted to planter areas, common patio areas, and pools and other recreational facilities

Exhibit A Cont'd:

PARKING & LOADING STANDARDS	
Parking Ratios:	• Residential: - 1.0 space per studio dwelling unit - 1.25 spaces per 1-bedroom dwelling unit - 1.75 spaces per 2-bedroom dwelling unit - 2.0 spaces per 3-bedroom dwelling unit - the above ratios are inclusive of guest parking • Commercial - Retail: 2.5 spaces per 1,000 square feet • Commercial - F&B: 5.0 spaces per 1,000 square feet • Commercial & Government Office: 2.9 spaces per 1,000 square feet • Hotel: - 0.8 spaces per hotel room - 10.0 spaces per 1,000 square feet of hotel meeting room
Commuter Parking:	560 replacement parking stalls for the Oceanside Transit Center shall be provided within the Specific Plan area
Parking Location:	Required parking for uses on a given parcel may be provided on another parcel within the Specific Plan Area
Parking Reduction:	A reduction in parking may be approved by the City Planner for shared parking and inclusionary dwelling units, subject to the findings of a parking study

Exhibit A Cont'd:

PARKING & LOADING STANDARDS CONT'D	
Loading Requirements:	• Hotel: 1 loading space per building primarily devoted to hotel use • Commercial & Government Office: 1 loading space per building primarily devoted to office • Commercial - Retail / F&B: none required; street loading permissible • Residential: none required; white curb loading permissible • Size: 10 feet x 20 feet with 10 feet vertical clearance
EV Parking:	40% of required parking spaces shall be dedicated to EV parking / 25% of required EV spaces shall provide a charger
Bicycle Parking:	Bicycle parking shall be provided in the amount of 5% of the total parking requirement; required parking shall be for commercial use (non-public use)

LEGAL DESCRIPTION

Real property in the City of Oceanside, County of San Diego, State of California, described as follows:

TRACT I: (147-350-24-00 AND 147-350-25-00)

PARCEL 1:

LOTS 9 THROUGH 16, BLOCK 7, OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 344, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JULY 1, 1885, LOT 9, BLOCK 7, BRYAN'S ADDITION, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

PARCEL 2:

ALL OF BLOCK 8 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

TOGETHER WITH THOSE PORTIONS OF CLEVELAND STREET AND MICHIGAN AVENUE VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

PARCEL 3:

FRACTIONAL LOT 8 IN BLOCK 9 OF BRYAN'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

TOGETHER WITH THE NORTHERLY 20 FEET OF TOPEKA STREET AS VACATED AND CLOSED TO PUBLIC USE, LYING SOUTHEASTERLY OF AND ADJACENT TO SAID LOT.

PARCEL 4:

LOTS 1, 2, 3, 4 AND 5 IN BLOCK 10 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

ALSO THAT PORTION OF TOPEKA STREET LYING WESTERLY FROM CLEVELAND STREET AND NORTH OF AND ADJACENT TO SAID LOT 1, BLOCK 10, WHICH SAID PORTION OF TOPEKA STREETS WAS CLOSED TO PUBLIC USE BY RESOLUTION NO. 915, IN THE CITY COUNCIL OF THE CITY OF OCEANSIDE, CALIFORNIA.

ALSO TOGETHER WITH THOSE PORTIONS OF CLEVELAND STREET AND TYSON STREET VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

PARCEL 5:

THAT PORTION OF A TRACT OF LAND COMMONLY KNOWN AS THE DEPOT GROUNDS IN OCEANSIDE,

TOGETHER WITH THAT CERTAIN 200.00 FOOT RIGHT-OF-WAY OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY LYING SOUTHEASTERLY OF SAID DEPOT GROUNDS, ALL IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 313, BY H.P VINCENT, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, JULY 19, 1886, DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST WESTERLY CORNER OF LOT 16, BLOCK 7 OF OCEANSIDE, ACCORDING TO MAP THEREOF NO. 344, FILED IN SAID COUNTY RECORDER'S OFFICE ON JULY 1, 1885; THENCE SOUTHEASTERLY ALONG THE SOUTHWESTERLY LINE OF SAID BLOCK 7 AND ITS SOUTHEASTERLY PROLONGATION 443.70 FEET, MORE OR LESS TO THE MOST EASTERLY CORNER OF SAID DEPOT GROUNDS; THENCE SOUTHWESTERLY ALONG THE SOUTHEASTERLY LINE OF SAID DEPOT GROUNDS, 150.00 FEET TO THE NORTHEASTERLY RIGHT-OF-WAY LINE OF THE ATCHISON, TOPEKA AND SANTA FE RAILROAD BEING ALSO THE NORTHWESTERLY PROLONGATION OF THE SOUTHWESTERLY LINE OF BLOCK 10 OF BRYAN'S ADDITION TO OCEANSIDE AS SHOWN ON MAP THEREOF NO. 219, FILED IN SAID COUNTY RECORDER'S OFFICE ON MARCH 10, 1887; THENCE SOUTHEASTERLY ALONG SAID PROLONGATION AND SAID SOUTHWESTERLY LINE TO THE MOST SOUTHERLY CORNER OF LOT 5 IN SAID BLOCK 10; THENCE SOUTHWESTERLY ALONG THE SOUTHWESTERLY PROLONGATION OF THE SOUTHEASTERLY LINE OF SAID LOT 5, A DISTANCE OF 75.00 FEET; THENCE NORTHWESTERLY ALONG A LINE THAT IS PARALLEL WITH AND 75.00 FEET SOUTHWESTERLY OF SAID SOUTHWESTERLY LINE OF BLOCK 10 OF BRYAN'S ADDITION, MAP NO. 219, A DISTANCE OF 371.70 FEET; THENCE AT RIGHT ANGLES, NORTHEASTERLY 47.00 FEET; THENCE ALONG A LINE THAT BEARS LEFT 45°00'00" FROM THE NORTHEASTERLY PROLONGATION OF THE LAST MENTIONED LINE, 181.02 FEET TO A POINT ON A LINE THAT IS PARALLEL WITH AND 50.00 FEET SOUTHWESTERLY OF THE SOUTHWESTERLY LINE OF SAID BLOCK 7 OF OCEANSIDE, MAP NO. 344; THENCE ALONG SAID PARALLEL LINE, NORTHWESTERLY TO A POINT ON THE SOUTHWESTERLY PROLONGATION OF THE NORTHWESTERLY LINE OF SAID LOT 16, BLOCK 7 OF MAP NO. 344; THENCE NORTHEASTERLY ALONG SAID PROLONGATION, 50.00 FEET TO THE POINT OF BEGINNING.

TRACT II:

PARCEL 1: (APN 150-046-17-00)

LOTS 1, 2, 3, 4 AND 5 IN BLOCK 12 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

PARCEL 2: (APN 150-046-01-00 THROUGH 150-046-08-00)

LOTS 9 THROUGH 16 INCLUSIVE, IN BLOCK 12 OF BRYAN'S ADDITION, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY MARCH 10, 1887.

EXCEPTING THEREFROM, ALL OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER ALL OF THE ABOVE DESCRIBED REAL PROPERTY, BUT WITHOUT ANY RIGHT TO PENETRATE, USE OR DISTURB THE SURFACE OF SAID PROPERTY OR ANY PORTION OF SAID PROPERTY WITHIN FIVE HUNDRED FEET (500') OF THE SURFACE THEREOF.

TOGETHER WITH PORTIONS OF CLEVELAND STREET AND MICHIGAN AVENUE VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

TRACT III:

PARCEL 1: (APN 150-043-01-00 THROUGH 150-043-04-00)

ALL OF LOTS 7 AND 8 IN BLOCK 10 AND 11 OF LOTS 1, 2, 3 AND 4 IN BLOCK 11, ALL BEING BYRON'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887, TOGETHER WITH THAT PORTION OF MICHIGAN AVENUE (80.00 FEET WIDE) LYING ADJACENT TO AND BETWEEN SAID BLOCKS AS VACATED AND CLOSED TO PUBLIC USE ON DECEMBER 23, 1931 BY RESOLUTION NO. 633 OF THE CITY COUNCIL OF THE CITY OF OCEANSIDE.

EXCEPTING FORM SAID LOT 7 IN BLOCK 10, THE NORTHWESTERLY 30.00 FEET THEREOF AS DESCRIBED IN DEED RECORDED TO THE CITY OF OCEANSIDE, RECORDED JANUARY 16, 1932 IN BOOK 88, PAGE 3 OF OFFICIAL RECORDS.

TOGETHER WITH THAT PORTION OF CLEVELAND STREET VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 164097 WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

ALSO TOGETHER WITH THAT PORTION OF TYSON STREET VACATED BY DOCUMENT RECORDED MARCH 14, 1934 WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

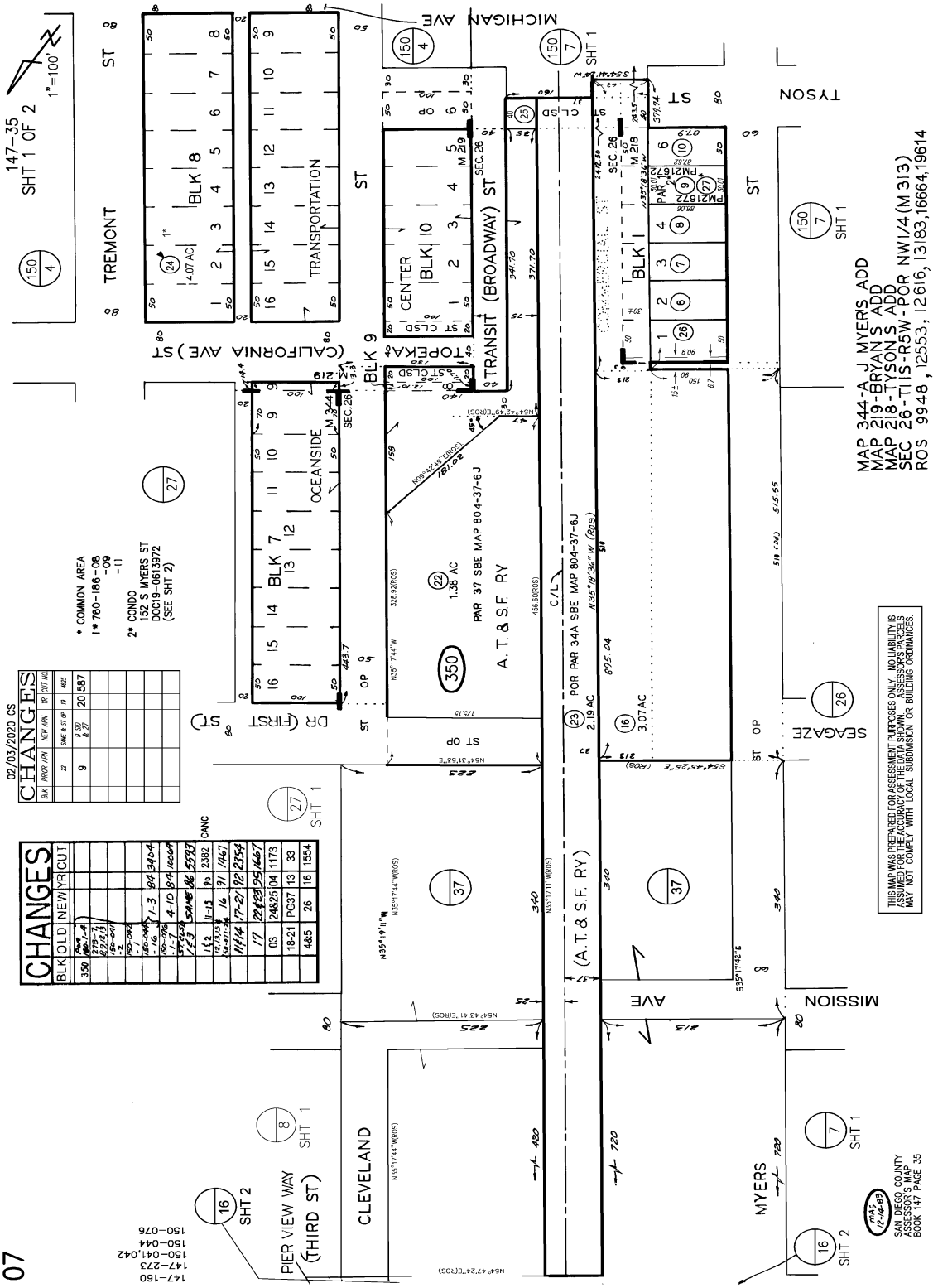
PARCEL 2: (APN 150-043-05-00 AND 150-043-06-00)

LOTS 5, 6, 7 AND 8 IN BLOCK 11 OF BRYAN'S ADDITION TO OCEANSIDE, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 219, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MARCH 10, 1887.

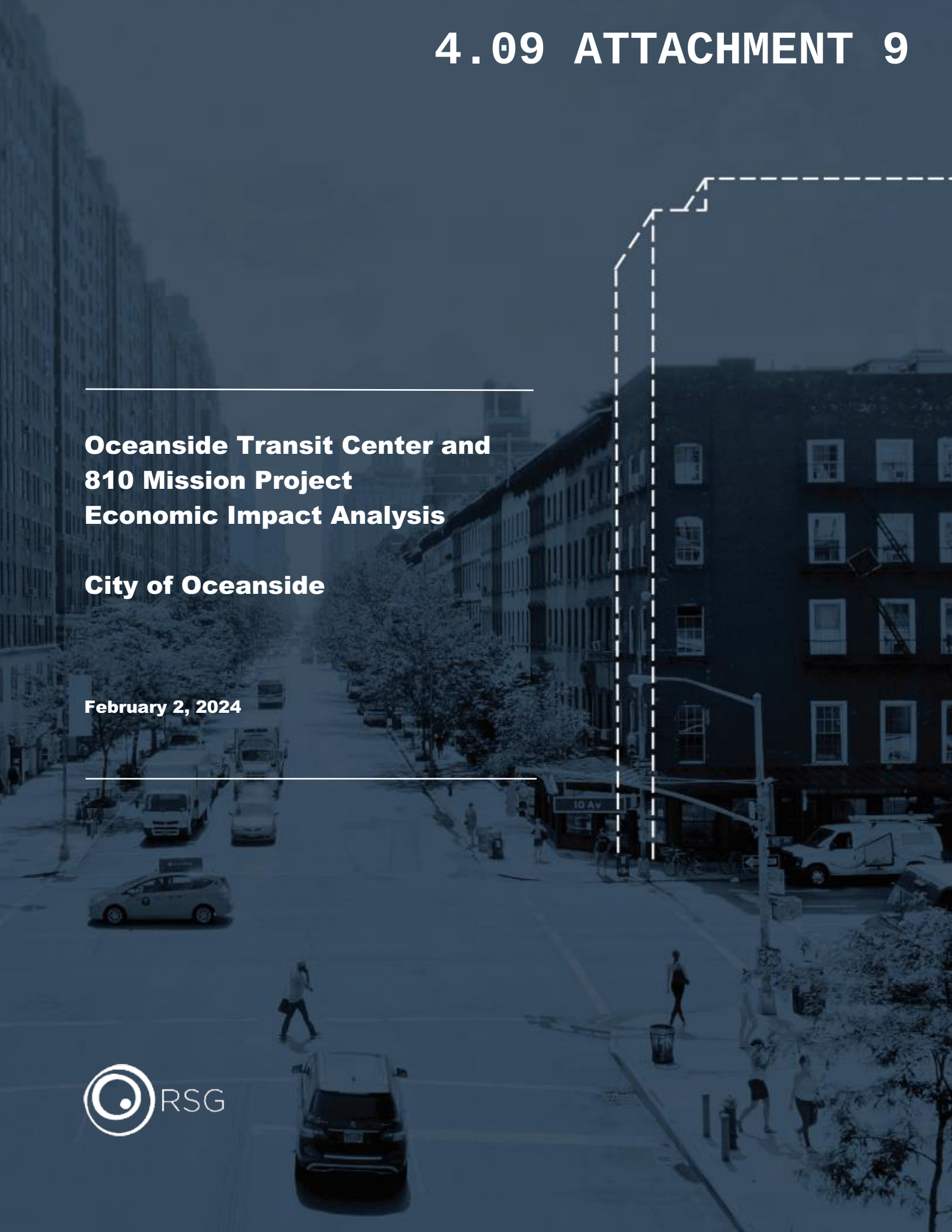
TOGETHER WITH THAT PORTION OF CLEVELAND VACATED BY DOCUMENT RECORDED MARCH 14, 1994 AS INSTRUMENT NO. 94-0164097 OF OFFICIAL RECORDS WHICH WOULD REVERT TO SAID LAND BY OPERATION OF LAW.

EXCEPTING THEREFROM, ALL OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER ALL OF THE ABOVE DESCRIBED REAL PROPERTY, BUT WITHOUT ANY RIGHT TO PENETRATE, USE OR DISTURB THE SURFACE OF SAID PROPERTY OR ANY PORTION OF SAID PROPERTY WITHIN FIVE HUNDRED FEET (500') OF THE SURFACE THEREOF, AS EXCEPTED IN THE DEED RECORDED MAY 15, 1991 AS INSTRUMENT NO. 91-0227598 OF OFFICIAL RECORDS.

APN: 147-350-24 and 150-046-17 and 150-046-01 and 150-046-02 and 150-046-03 and 150-046-04 and 150-046-05 and 150-046-06 and 150-046-07 and 150-046-08 and 150-043-01 and 150-043-02 and 150-043-03 and 150-043-04 and 150-043-05 and 150-043-06 and 147-350-25


MAP 344-A J MYERS ADD
MAP 219-BRYAN S ADD
MAP 218-TYSON S ADD
SEC 26-T11S-R5W-POR NW1/4(M313)
ROS 9948, 12553, 12616, 13183, 16664, 19614
CHANGES
02/03/2020 CS
* COMMON AREA
1* 760-186-08
-09
-11
2* CONDO
152 S MYERS ST
DOC19-0613972
(SEE SHT 2)
TREMONT ST
CALIFORNIA AVE (ST)
MICHIGAN AVE
TYSON ST
TOPEKA ST
TRANSIT (BROADWAY) ST
CENTER ST
FIRST ST
SEAGAZE DR
MISSION AVE
CLEVELAND ST
MYERS ST
PIER VIEW WAY (THIRD ST)
BLK 1
BLK 7
BLK 8
BLK 9
BLK 10
OCEANSIDE
TRANSPORTATION
A. T. & S.F. RY
PAR 37 SBE MAP 804-37-6J
POR PAR 34A SBE MAP 804-37-6J
1.38 AC
2.19 AC
3.07 AC
4.07 AC
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES.
SAN DIEGO COUNTY ASSESSOR'S MAP BOOK 147 PAGE 35
147-35
SHT 1 OF 2
1"=100'
147-160
147-273
150-041,042
150-044
150-076
07

4.09 ATTACHMENT 9



Oceanside Transit Center and 810 Mission Project Economic Impact Analysis

City of Oceanside

February 2, 2024

RSG

TABLE OF CONTENTS

INTRODUCTION....3
Executive Summary....3
Project Description....3
PROJECT ECONOMIC IMPACT ANALYSIS....5
Employment Impact Summary....5
Economic Output Summary....8

INTRODUCTION

RSG, Inc. ("RSG") is providing this Economic Impact Analysis for the proposed Oceanside Transit Center and 810 Mission developments ("Projects"). The Oceanside Transit Center Project is located at 235 South Tremont Street in Oceanside, and is proposed as a mixed-use development containing multi-family apartments, office space, a hotel and commercial use. The 810 Mission Project, located at 810 South Mission Avenue in Oceanside, will be purely residential and shall include 206 new multi-family units. The 810 Mission Project site is currently occupied by North County Transit District ("NCTD") offices which shall relocate to the offices at the proposed Oceanside Transit Center. The Oceanside Transit Center Project site is currently built out as a transit center, parking, and ancillary uses. The scope of work was to analyze the economic impacts of the two Projects including direct, indirect, and induced jobs and economic output generated by the construction and ongoing operations of the Projects.

EXECUTIVE SUMMARY

Based on the Project descriptions, assumptions, and methodology outlined herein, Table 1 presents the conclusions of RSG's economic impact analysis:

Table 1: Summary of Proposed Economic Impacts

	Direct	Indirect	Induced	Total
Oceanside Transit Center				
Jobs	2,714	272	1,082	4,068
Economic Output ($)	$333,541,480	$62,578,347	$201,440,736	$597,560,562
810 Mission				
Jobs	638	54	288	980
Economic Output ($)	$78,567,900	$11,836,339	$53,563,662	$143,967,900
Total Jobs	**3,352**	**325**	**1,370**	**5,048**
Total Economic Output	**$412,109,380**	**$74,414,685**	**$255,004,397**	**$741,528,462**

Sources: IMPLAN, NCTD, RSG Fiscal Impact Analysis

RSG's key findings are summarized below:

- The **total jobs generated by both Projects is estimated to be 5,048**, of which 4,390 will be temporary jobs during construction of the Projects and 658 will be permanent jobs derived from the ongoing business operations and new resident spending in the community.
- The **total economic output generated by both Projects is estimated to be $741,528,462**, of which $637,197,812 will be from temporary impacts during construction of the Projects, and $104,330,650 annually thereafter from ongoing business operations and new resident spending.

RSG's findings are based on the Developer's Development Plan Submittal dated August 26, 2022, and employment data provided by North County Transit District on December 11, 2023, prior to any approvals, completion of construction documents, or identification of specific tenants for the project. Any changes to the scope of the Project may materially affect the findings and conclusions in this Economic Impact Analysis.

PROJECT DESCRIPTION

Toll Brothers Apartment Living ("Developer") is seeking entitlements to redevelop NCTD's existing offices at 810 South Mission Avenue as well as Oceanside Transit Center. The Developer's proposal includes the construction of 206 multifamily units at 810 South Mission Avenue and the relocation of NCTD's

existing offices to the Oceanside Transit Center. The proposed Oceanside Transit Center will include a mix of commercial, retail, and residential land uses on 10.6 acres. The specific uses being proposed at each of the Project sites are further described below:

Oceanside Transit Center Project Proposed Uses:

- 547 multifamily units (83 affordable, 464 market rate)
- Hotel with 170 keys
- 29,709 square feet of commercial retail and restaurant space
- 61,007 square feet of office
- A transit plaza and a parking structure

810 Mission Project Proposed Uses:

- 206 multifamily units (31 affordable, 175 market rate)

As part of the application for development with the City, the Developer has been asked to provide an economic impact analysis of the proposed Projects.

PROJECT ECONOMIC IMPACT ANALYSIS

The Projects will generate jobs and economic value through industry production during both the construction phases and ongoing operations. In this Economic Impact Analysis, RSG utilized the economic impact software IMPLAN to estimate the total direct, indirect, and induced economic impacts (jobs and economic value known as output) that will result from the proposed developments, including induced impacts resulting from new household spending.

IMPLAN is an input-output analysis modeling software that measures the relationship between a given set of demands for final goods and services and the inputs required to satisfy those demands based on specific industry data and economic trends for the local region. Different activities generate different amounts of employment or economic value and similarly have varying indirect and induced impacts on the larger regional economy. IMPLAN can be used to measure the varying impacts from both temporary activities, such as construction of the Projects, and ongoing permanent employment that will be generated by the new businesses located in the Projects. RSG analyzed these temporary and permanent impacts for all land uses at the proposed Projects using the most recent data year available (2022) for San Diego County, adjusted for 2024 dollars.

IMPLAN breaks down the resulting economic impacts into three categories: direct, indirect, and induced.

- Direct Effects: Direct effects that occur on the project site resulting from development costs and operational sales revenue.
- Indirect Effects: Changes in sales, jobs, and/or income within the businesses that supply goods and services to the Projects. Indirect effects do not occur directly on the project-site but are an indirect effect to surrounding or related businesses.
- Induced Effects: Regional changes resulting from additional spending earned either directly or indirectly from the Project.

For example, if a retail clothing store is being built, IMPLAN will determine how many direct temporary construction jobs will be needed to actually build the store, based on the total construction budget. IMPLAN will also project the number of indirect jobs generated from any expenditures on goods and services by a developer during construction, like building materials. Finally, IMPLAN tabulates any new employment created as a result of the increased expenditures on goods and services by the direct and indirect employees generated by the Projects as induced jobs.

Permanent employment on the other hand, is projected based on that retail's total business income once built. Similarly, direct employment includes the permanent retail employees that will be employed to support the operations of the business. Indirect employment includes jobs created as a result of expenditures in industries that support the retail store, such as restaurants, management, and administrative jobs. Induced employment in this scenario is generated by household spending by the new direct and indirect employment created, such as jobs created at other existing retail shops and food establishments.

EMPLOYMENT IMPACT SUMMARY

RSG's analysis of the temporary and permanent economic impacts of each land use type at both of the Projects are further detailed below. The Oceanside Transit Center is projected to generate a total of 4,068 temporary and permanent jobs as shown in Table 2. Of these, 2,714 are expected to be direct jobs, 272

will be indirect, and 1,082 will be induced. Each of the use types and IMPLAN inputs used in RSG's methodology are further described below:

Table 2: Detailed Summary of Proposed Economic Impacts

	Generated Jobs			
Oceanside Transit Center	**Direct**	**Indirect**	**Induced**	**Total**
Multi-Family Residential				
Temporary (Construction)	1,682	143	522	2,347
Permanent (Once Built)	5	0	0	6
Household Spending[1]	0	0	240	240
Hotel				
Temporary (Construction)	575	68	185	828
Permanent (Once Built)	110	22	28	161
Retail				
Temporary (Construction)	74	9	24	107
Permanent (Once Built)	64	10	13	87
Office				
Temporary (Construction)	154	18	50	222
Permanent (Net New Once Built)	50	2	19	71
Total Temporary	2,485	238	781	3,503
Total Permanent	229	34	301	564
Grand Total	**2,714**	**272**	**1,082**	**4,068**

[1]Impacts generated by new household spending are by definition induced impacts.

Sources: IMPLAN, NCTD, RSG Fiscal Impact Analysis

Each of the land uses proposed to be built at the Oceanside Transit Center required a unique methodology for estimating direct, indirect, and induced impacts, as described below.

- Multi-Family Residential: Temporary impacts from construction were estimated based on the development costs of the new residential units. As with the other proposed use types, majority of the jobs generated by the Project will be temporary construction workers and employees in related services. The permanent impacts were generated using business income which was calculated from current market rate rents,[1] as well as the 2023 rent limits for 80% Area Median Income households for San Diego County[2]. As shown in Table 2, very little permanent employment is generated by residential uses because it generally only takes a few onsite staff to manage a large apartment building.

  RSG also modeled the induced employment generated from spending by the 547 new households living in the multifamily units based on an estimate of new household income. The median household income for the City of Oceanside is approximately $83,300 per year.[3] RSG calculated the total new household income generated by the Project, including adjusted income for the 83 affordable units, which served as an input for IMPLAN. As a result the new household spending in the community will generate 240 induced jobs.

[1] Source: CoStar, data collected on January 10, 2024

[2] Source: California Department of Housing and Community Development, 2023 income limits

[3] Source: American Community Survey, 2022

- Hotel: Similar to the residential portion, construction costs were used to the estimate the temporary impacts of constructing the hotel, while business income was used to estimate the permanent impacts. The assumed business income for the first full year of operations was calculated by RSG based on market research of comparable hotel rates[4]. RSG also applied an occupancy rate of approximately 77%. The Hotel produces much more permanent employment than the residential apartments since many more staff are needed for management, maintenance, and cleaning.

- Retail: Development costs and business income were again used to estimate the temporary and permanent impacts, respectively. To calculate the assumed business income, RSG used a rate of $340 in gross receipts per retail square foot based comparable retail stores[5].

- Office: Development costs were used to estimate temporary impacts, however the permanent direct employment impacts were provided to RSG by NCTD based on anticipated capacity at the new facility. NCTD estimates that the new facility will accommodate between 220 and 243 total employees at the new offices at Oceanside Transit Center. This is a net increase of 40 to 63 jobs from the current estimate of 180 jobs located at the existing 810 South Mission Avenue, 510 Mission Avenue, and Tremont offices. RSG used an input of 50 net, permanent, direct jobs in its IMPLAN analysis, the mid-range of NCTD's projections in order to generate and estimate of net new indirect and induced jobs.

RSG applied the same methods to model the impacts of the new multifamily units being built at 810 South Mission Avenue. Table 3 details the total temporary and permanent jobs that are projected. Of a total of 980 new jobs, 638 are expected to be direct, 54 will be indirect, and 288 will be induced.

Table 3: Detailed Summary of Proposed Economic Impacts

	Generated Jobs			
810 Mission	**Direct**	**Indirect**	**Induced**	**Total**
Multi-Family Residential				
Temporary (Construction)	635	54	197	886
Permanent (Once Built)	3	0	0	3
Household Spending[1]	0	0	90	90
Total Temporary	635	54	197	886
Total Permanent	3	0	91	94
Grand Total	**638**	**54**	**288**	**980**

[1]Impacts generated by new household spending are by definition induced impacts.
Sources: IMPLAN, NCTD, RSG Fiscal Impact Analysis

The 810 Mission Project is proposed to be exclusively multifamily. The methodology for estimating direct, indirect, and induced impacts of the 810 Mission Project is outlined below.

- Multi-Family Residential: The same methodology applied to the residential units at Oceanside transit Center was used for the 810 Mission Project. Because the only use at this Project site is residential, very few permanent jobs will be generated to support ongoing on-site operations. 90 induced jobs will be generated from new household spending by the 206 new households residing in the residential units.

[4] Source: Smith Travel Research

[5] Sources: US Business Reporter, HdL

ECONOMIC OUTPUT SUMMARY

In addition to jobs, IMPLAN also estimates the resulting labor income and added value by the proposed Projects, known as economic output. labor income includes employee compensation and benefits, and proprietor income. Value added provides a measure of the Project's contribution to local GDP, which includes total output less the cost of intermediate inputs, goods or services that are used in the production of other goods or services. Therefore, economic output represents the total value of the Project's production. Figure 1 below illustrates the various components of economic output.

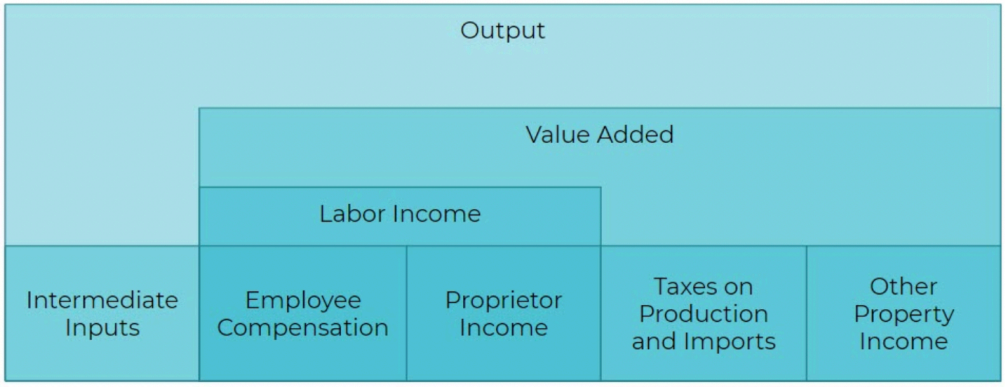


Figure 1 (Source: IMPLAN)

RSG's analysis of the economic output of the proposed Projects is summarized in Table 4 below. The Oceanside Transit Center is expected to generate a total of $597,560,562 in economic output from both temporary and permanent impacts. Whereas 810 Mission is expected to generate a total of $143,967,900 in temporary and permanent economic outputs. The various components of the analysis are further described below:

Table 4: Summary of Proposed Economic Outputs

	Direct	Indirect	Induced	Total
Oceanside Transit Center				
Temporary (Construction)	$309,624,573	$55,649,237	$145,395,093	$510,668,903
Permanent (Once Built)	$23,916,907	$6,929,110	$11,411,340	$42,257,356
Household Spending[1]	$0	$0	$44,634,303	$44,634,303
Subtotal	**$333,541,480**	**$62,578,347**	**$201,440,736**	**$597,560,562**
810 Mission				
Temporary (Construction)	$77,989,322	$11,818,970	$36,720,617	$126,528,909
Permanent (Once Built)	$578,578	$17,369	$29,444	$625,391
Household Spending[1]	$0	$0	$16,813,601	$16,813,601
Subtotal	**$78,567,900**	**$11,836,339**	**$53,563,662**	**$143,967,900**
Total Temporary	$387,613,895	$67,468,207	$182,115,710	$637,197,812
Total Permanent	$24,495,485	$6,946,478	$11,440,783	$42,882,746
Total Household Spending[1]	$0	$0	$61,447,904	$61,447,904
Grand Total	**$412,109,380**	**$74,414,685**	**$255,004,397**	**$741,528,462**

[1]Impacts generated by new household spending are by definition induced impacts.
Sources: IMPLAN, NCTD, RSG Fiscal Impact Analysis

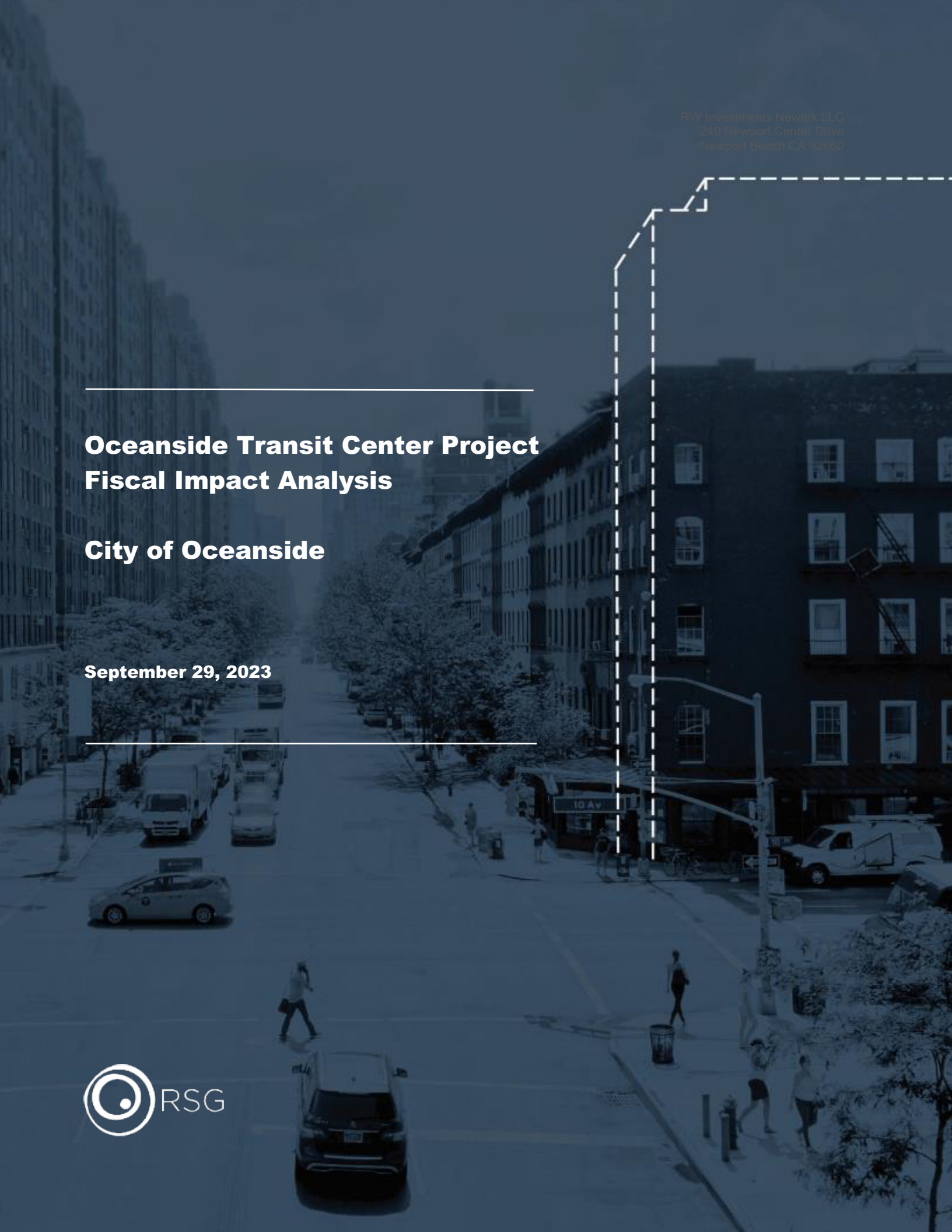
- Economic outputs from temporary (construction) impacts: The direct economic output of the construction phases of the Projects is equal to the amount that is being invested to develop the Projects. IMPLAN then estimates the indirect and induced outputs which represent the industry

production value that is generated in related industries due to spending on Project construction (indirect impacts), and consumer expenditures by employees engaged in the construction of the new proposed Projects (induced impacts). The total economic output from the construction of the proposed Projects is estimated to be $637,197,812.

- Economic outputs from permanent (ongoing operations) impacts: Once the Projects are built the new uses will generate economic output from ongoing operations. For direct impacts this includes employee compensation, revenues, taxes, and other income generated by the uses at the project. Whereas the indirect and induced outputs represent industry productivity in related industries serving the Projects. IMPLAN estimates that the Projects will generate $42,882,746 in total economic output annually, excluding new household spending.

- Economic outputs from household spending: New households at the Projects would generate induced economic output by spending income in the region which would generate additional industry productivity. The estimated induced economic output of the new household spending, based on median household incomes for the area, is $61,447,904 per year.

RW Investments Newark LLC
240 Newport Center Drive
Newport Beach CA 92660



Oceanside Transit Center Project Fiscal Impact Analysis

City of Oceanside

September 29, 2023

RSG

TABLE OF CONTENTS

INTRODUCTION **1**
Executive Summary 1
Project Description 2
PROJECT FISCAL IMPACT ANALYSIS **4**
Fiscal Impact Summary 4
Transient Occupancy Tax 6
Property Tax 6
Property Tax In Lieu of Vehicle License Fees 7
Community Facilities District Fees 8
Sales Tax and Transaction and Use Tax 9
Business License Fees 10
Municipal Expenditures 10
Development Impact Fees 11
CONCLUSION **12**

INTRODUCTION

RSG, Inc. ("RSG") is providing this Fiscal Impact Analysis for the proposed Oceanside Transit Center mixed-use development ("Project"). The Project is located at 235 Tremont Street, Oceanside, CA, and is currently occupied by North County Transit District ("NCTD"). The scope of work was to analyze the fiscal impacts and impact fees of the Project over 31 years (including a 6-year construction period ending in 2030 plus 25 years of operations after completion of construction). The objective is to estimate the fiscal impacts and development impact fees of the Project (once built) for the City of Oceanside ("City").

EXECUTIVE SUMMARY

Based on the Project description, assumptions, and methodology outlined herein, Table 1 presents the conclusions of RSG's fiscal impact and impact fees forecast:

Table 1: Fiscal Impact Projection Summary: 25-Year Recurring Tax Forecast

	Proposed Project Fiscal Impacts		
Revenue Category	**Annual (2031)**	**Total (2023-2055)**	**NPV 4%**
Transient Occupancy Tax	$1,741,002	$69,073,684	$31,594,974
Property Tax	788,156	27,800,992	13,060,287
Property Tax In-Lieu of VLF	295,442	10,427,652	4,900,900
Community Facilities District Fees	242,523	10,156,009	4,860,380
Sales Tax	105,732	3,871,842	1,670,964
Business License Fees	23,840	1,056,877	467,599
Municipal Expenditures	(343,350)	(12,894,284)	(5,674,892)
Total Tax Revenues	**$2,853,346**	**$109,492,773**	**$50,880,213**
Total Impact Fees (2025)		**16,097,694**	**$14,310,791**
Total Tax Revenues & Impact Fees	**$2,853,346**	**$125,590,467**	**$65,191,004**

- Total transient occupancy tax revenues are projected to produce approximately $1.7 million per year beginning in 2031 and will total approximately $69.1 million ($31.6 million present value) over the 31-year projection period.
- Total projected property tax revenues are projected to produce approximately $788,200 per year beginning in the first year of operations in 2031 and will total approximately $27.8 million ($13.1 million present value) over the 31-year projection period.
- Total property tax in lieu of motor vehicle license fee revenues are projected to produce approximately $295,000 per year beginning in the first year of operations in 2031 and will total approximately $10.4 million ($4.9 million present value) over the 31-year projection period.
- Total Community Facilities District fee revenues are projected to produce approximately $243,000 per year beginning in the first year of operations in 2031 and will total approximately $10.2 million ($4.9 million net present value) over the 31-year projection period.
- Total sales tax revenues are projected to amount to approximately $106,000 per year beginning in the first year of operations in 2031 and will total approximately $3.9 million ($1.7 million net present value) over the 31-year projection period. Sales taxes include retail sales tax apportioned

to the City and increased sales tax generated by the consumer spending by the new households living in the Project.

- Total business license fee revenues are projected to produce approximately $24,000 per year beginning in the first year of operations in 2031 and will total approximately $1.1 million ($468,000 net present value) over the 31-year projection period.
- The total cost to provide municipal services to the Project is approximately $343,000 per year beginning in the first year of operations in 2031 and a total of $12.9 million ($5.7 million net present value) over the 31-year projection period.
- Total City development impact fee revenues are projected to generate approximately $16.1 million ($14.3 million net present value) over the 31-year projection period including aggregated fees that amount to about $10,200 per residential unit, $3 per commercial square foot, and $900 per hotel key. The Project will generate an additional $2.4 million in school fees.

As a result, the net new General Fund revenue (revenues less expenditures) is projected to be approximately $125.6 million ($65.2 million present value) over the 31-year projection period if the Project were developed as proposed.

PROJECT DESCRIPTION

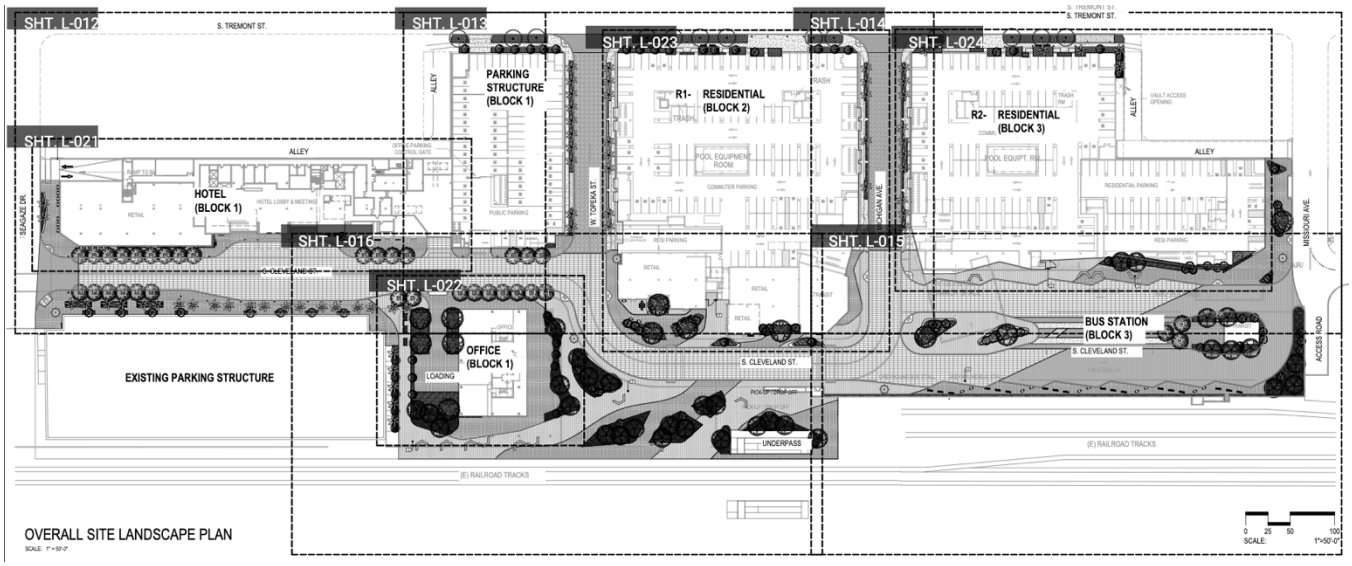
Toll Brothers Apartment Living ("Developer") is seeking entitlements to redevelop Oceanside Transit Center, a transit center located adjacent to a mix of commercial, retail, and residential land uses. The Developer's proposal includes the construction of 547 multifamily units (15 percent affordable, 85 percent market rate), a hotel with 170 keys, 29,709 square feet of retail, 61,007 square feet of office, a transit plaza, and a parking structure on 10.6 acres. As part of the application for development with the City, the Developer has been asked to provide a fiscal impact analysis of the proposed Project.

The Project is bound by the railroad right-of-way on the west, South Tremont Street on the east, Missouri Avenue to the south, and Seagaze Drive to the north. Proposed land uses include residential, hotel, commercial, and retail. The Development Plan Submittal (dated August 26, 2022) envisions a buildout of 10.6 acres over a 6-year construction period consisting of two phases with Phase 1 beginning in January 2025 and ending June 2027 and Phase 2 beginning June 2027 and ending March 2030. The breakdown of the anticipated development program at buildout consists of the following:

- 547 residential units, including 464 market-rate units and 83 affordable units
- 170 key hotel
- 29,709 total square feet of retail
- 61,007 square feet of office
- Transit plaza
- Parking structure

The proposed Project site plan is illustrated below (dated August 26, 2022). Block One (1) and Block Two (2), which include one (1) residential building (R1), as well as the hotel, retail, office, and parking structure, will be built during the first Phase. Block Three (3), which includes the residential building R2, will be built during the second Phase. A separate residential building located at 810 Mission Avenue will be constructed concurrently with Phase 2.

Figure 1: Project Site Plan (Source: Developer, August 26, 2022)



PROJECT FISCAL IMPACT ANALYSIS

The Project will provide benefits to the City in the form of site-specific tax revenues generated by the proposed development in addition to development impact fees. In this Fiscal Impact Analysis, RSG projected the total impact fees that will result from the proposed development program, and total revenues derived from the improvements and the business operations on the site. Total revenues are calculated as the amount generated by the Project at the end of the 31-year period, which consists of a 6-year construction period and 25 years of operation.

The following fiscal impact analysis of the Project-generated revenue is categorized by the following recurring revenue sources and development impact fees:

- Transient Occupancy Tax
- Property Tax
- Property Tax In-Lieu of Motor Vehicle License Fees
- Community Facilities District Fees
- Sales Tax and Transactions and Use Tax
- Business License Fees
- Municipal Expenditures
- Development Impact Fees

In addition to the recurring revenue sources and development impact fees, RSG estimated the recurring expenditures associated with the increase in demand for municipal services generated by the proposed Project. RSG also estimated the one-time total development impact fees generated upon approval of the Project entitlements. The sections that follow outline the fiscal impacts generated by the proposed Project.

FISCAL IMPACT SUMMARY

Table 2 provides a summary by revenue source of the total revenues apportioned to the City over both the 6-year construction period and the 25-year projection period. Total revenues apportioned to the City as a result of the proposed Project through 2055 amount to approximately $125.6 million ($65.2 million net present value).

Table 2: Fiscal Impact Projections
Construction Period + 25-Year Recurring Tax Forecast

Year		Transient Occupancy Tax	Property Tax	Property Tax In-Lieu of VLF	Community Facilities District Annual Fees	Sales Tax	Business License Fees	Municipal Expenditures	City Development Impact Fees	Total City Tax Revenues
CY1	2025	$0	$85,022	$32,952	$203,109	$0	$0	$0	$16,097,694	$16,418,778
CY2	2026	0	173,445	65,905	209,203	0	0	0	0	448,552
CY3	2027	724,160	381,062	144,169	215,479	4,043	8,959	(89,870)	0	1,388,002
CY4	2028	1,542,517	506,688	191,705	221,943	4,164	10,490	(92,566)	0	2,384,941
CY5	2029	1,641,061	637,186	240,192	228,601	4,289	10,805	(95,343)	0	2,666,792
CY6	2030	1,690,293	772,702	289,649	235,459	4,418	11,129	(98,203)	0	2,905,447
1	2031	1,741,002	788,156	295,442	242,523	105,732	23,840	(343,350)	0	2,853,346
2	2032	1,793,232	803,920	301,350	249,799	108,904	28,805	(353,651)	0	2,932,359
3	2033	1,847,029	819,998	307,377	257,293	112,172	29,669	(364,260)	0	3,009,278
4	2034	1,902,440	836,398	313,525	265,012	115,537	30,559	(375,188)	0	3,088,282
5	2035	1,959,513	853,126	319,795	272,962	119,003	31,476	(386,444)	0	3,169,431
6	2036	2,018,298	870,188	326,191	281,151	122,573	32,420	(398,037)	0	3,252,785
7	2037	2,078,847	887,592	332,715	289,585	126,250	33,393	(409,978)	0	3,338,405
8	2038	2,141,213	905,344	339,369	298,273	130,038	34,395	(422,278)	0	3,426,353
9	2039	2,205,449	923,451	346,157	307,221	133,939	35,426	(434,946)	0	3,516,697
10	2040	2,271,613	941,920	353,080	316,438	137,957	36,489	(447,995)	0	3,609,501
11	2041	2,339,761	960,758	360,142	325,931	142,096	37,584	(461,434)	0	3,704,837
12	2042	2,409,954	979,973	367,344	335,709	146,358	38,711	(475,277)	0	3,802,774
13	2043	2,482,253	999,573	374,691	345,780	150,749	39,873	(489,535)	0	3,903,384
14	2044	2,556,720	1,019,564	382,185	356,153	155,272	41,069	(504,222)	0	4,006,742
15	2045	2,633,422	1,039,956	389,829	366,838	159,930	42,301	(519,348)	0	4,112,927
16	2046	2,712,424	1,060,755	397,625	377,843	164,728	43,570	(534,929)	0	4,222,017
17	2047	2,793,797	1,081,970	405,578	389,178	169,670	44,877	(550,977)	0	4,334,093
18	2048	2,877,611	1,103,609	413,689	400,854	174,760	46,224	(567,506)	0	4,449,241
19	2049	2,963,939	1,125,681	421,963	412,879	180,002	47,610	(584,531)	0	4,567,545
20	2050	3,052,858	1,148,195	430,402	425,266	185,403	49,039	(602,067)	0	4,689,095
21	2051	3,144,443	1,171,159	439,011	438,024	190,965	50,510	(620,129)	0	4,813,982
22	2052	3,238,777	1,194,582	447,791	451,164	196,694	52,025	(638,733)	0	4,942,300
23	2053	3,335,940	1,218,474	456,747	464,699	202,594	53,586	(657,895)	0	5,074,145
24	2054	3,436,018	1,242,843	465,881	478,640	208,672	55,193	(677,631)	0	5,209,618
25	2055	3,539,099	1,267,700	475,199	493,000	214,932	56,849	(697,961)	0	5,348,818
Total		**$69,073,684**	**$27,800,992**	**$10,427,652**	**$10,156,009**	**$3,871,842**	**$1,056,877**	**($12,894,284)**	**$16,097,694**	**$125,590,467**
NPV	**4%**	**$31,594,974**	**$13,060,287**	**$4,900,900**	**$4,860,380**	**$1,670,964**	**$467,599**	**($5,674,892)**	**$14,310,791**	**$65,191,004**
Inflation Rate		*3%*	*2%*	*2%*	*3%*	*3%*	*3%*	*3%*		

TRANSIENT OCCUPANCY TAX

Transient occupancy tax ("TOT") revenue is generated from a City tax charged on hotel room stays. The City has a 10 percent TOT rate. RSG's projection of TOT revenue incorporates an ADR of $322 at opening in July 2027, as well as a three (3) percent annual inflation in ADR in Years 2 through 25. Additionally, our TOT revenue projections incorporate occupancy rates of 72.5 percent occupancy rate in Year 1, 74.9 percent occupancy rate in Year 2, and 77.4 percent occupancy rate thereafter. The Year 3 stabilized occupancy rate (77.4 percent), and the average daily rate is based on a historical average for comparable coastal hotels in North County San Diego.[1]

As shown in Table 3 below, the Project is expected to generate approximately $1.6 million (2023$) in the first stabilized year of operations in 2029.

Table 3: Transient Occupancy Tax

Average Daily Rate	$322
Stabilized Occupancy Rate	77.43%
Estimated Annual Room Revenue	15,468,577
TOT Rate	10%
Total Annual TOT Revenue (2023$)	1,546,858
Total Annual TOT Revenue (2029) (2023$)	$1,641,061
Total TOT Revenue (2023-2055)	**$69,073,684**
NPV Total TOT Revenue (2023-2055) (2023$)	**$31,594,974**

Sources: Costar, RSG Inc., STR, Toll Brothers Apartment Living

PROPERTY TAX

The City receives a portion of the ad valorem property taxes to pay for municipal services. The proposed Project is divided into two different Tax Rate Areas. Phase 1 is within Tax Rate Area 007-000 while Phase 2 is within Tax Rate Area 007-000 and 007-095. For the purpose of this analysis, RSG assumed that Phase 1 would be taxed according to the Tax Rate Area that it is currently in and Phase 2 would be taxed according to the average of the two Tax Rate Areas that it is currently within. Additionally, RSG assumed that the ground lease will be taxed as a possessory interest, meaning that the Assessor will assign a taxable value to the improvements made by Toll Brothers. The City's General Fund share of the 2022-23 property tax for the two Tax Rate Areas containing the Project site is 19.64 percent of the one (1) percent property tax levy for Phase 1 and 19.73 percent of the one (1) percent property tax levy for Phase 2.[2]

The estimated property taxes were based on the Developer's construction budget, which was provided to RSG in January 2023. The Developer estimates that the total Project cost would be $342 million. Because a market study has not yet been prepared, actual Project assessed valuations based on performance (rents, absorption) may differ. RSG utilized the total Project cost as a proxy for the assessed value.

Based on the total Project development cost upon completion of construction in 2031, assuming no resale, and the existing maximum Proposition 13 inflation rate of two (2) percent annually, property tax

[1] STR, Custom Trend Report dated January 29, 2023

[2] Source: County of San Diego, Auditor Controller's Office

revenues to the City would total approximately $788,000 in 2031 or $27.8 million ($13.1 million net present value) over the 31-year projection period.

RSG's estimate of the property tax revenues for the City is presented in Table 4.

Table 4: Property Tax Revenue

Current Valuation	$0
Proposed Project Total Assessed Value	**341,550,000**
Phase 1 Total Assessed Value	*124,808,504*
Phase 2 Total Assessed Value	*216,741,496*
Phase 1	
City Share of 1% Property Tax	19.64%
Existing Property Tax Revenue (2023$)	0
Proposed Project Tax Revenues (2023$)	245,161
Phase 2	
City Share of 1% Property Tax	19.73%
Existing Property Tax Revenue (2023$)	0
Proposed Project Tax Revenues (2023$)	427,523
New Property Tax Revenue (2031)	788,156
Total New Property Tax Revenue (2023-2055)	**$27,800,992**
NPV New Property Tax Revenue (2023-2055) (2023$)	**$13,060,287**

Sources: RSG Inc., San Diego County Auditor Controller, San Diego County Assessor

PROPERTY TAX IN LIEU OF VEHICLE LICENSE FEES

Established in 1935, the Motor Vehicle License Fee ("VLF") was essentially a tax on vehicle ownership. The State of California ("State") collects VLF annually when vehicles are registered, and the revenues were historically allocated to cities and counties based on a statutory formula.

In 2004, during the State's budget crisis, about 90 percent of each city's VLF revenue was replaced with property tax revenue, and cities began to receive an allocation of property tax from the Educational Revenue Augmentation Fund ("ERAF") in an amount equal to what they would have received in VLF under the VLF allocation formula. Under current law, the property tax in-lieu of VLF revenue increases based on assessed value growth in a jurisdiction, thus estimated net new revenues are based on changes in assessed value created by the Project.

Based on projected assessed values, the Project would generate approximately $295,000 in annual property tax in-lieu of VLF revenues at build-out as depicted in Table 5.

Table 5: Property Tax In-Lieu of VLF Revenue	
Current Valuation	$0
Current Property Tax In-Lieu of VLF (2023)	0
Proposed Project Total Assessed Value	341,550,000
Proposed Project Property Tax In-Lieu of VLF (2023)	260,027
Total Property Tax In-Lieu of VLF (2027)	$295,442
Total Property Tax In-Lieu of VLF (2023-2055)	**$10,427,652**
NPV Net New Property Tax In-Lieu of VLF (2023-2055) (2023$)	**$4,900,900**

Sources: CaliforniaCityFinance.com, RSG Inc., San Diego County Auditor Controller, Toll Brothers

Over the 31-year forecast, the cumulative property tax in-lieu of VLF from the Project is projected to be approximately $10.4 million ($4.9 million net present value).

COMMUNITY FACILITIES DISTRICT FEES

On February 6, 2019, City Council updated Policy 300-02 to allow the formation of Public Safety Services Community Facilities Districts ("CFD"). These districts provide financing of ongoing public safety services including police and fire services. New development projects meeting certain parameters would be conditioned to annex into a newly formed CFD and provide an ongoing revenue source dedicated to the funding of public safety services to meet the service demands associated with new development.

On November 2, 2022, the City Council adopted the Resolution of Intention declaring its intention to establish the CFD and levy a special tax on property within the CFD to pay the costs of providing certain public safety services. On December 7, 2022, City Council formally approved the formation of the CFD and for an election to be held within the CFD on the approval of the special taxes within the CFD.

All future residential developments would be annexed into CFD Zone B and subject to the tax rates indicated below. Future annexations to Zone B would pay Fiscal Year 2022-23 special taxes per unit as follows:

- Single Family or Duplex Residence $376
- Multi-family Residence $350
- Assisted/Skilled Nursing Living Unit $339

The maximum special taxes within Zone B increase annually based on the percentage change in the Consumer Price Index for the San Diego region as published by the United States Bureau of Labor Statistics, with a maximum annual increase of 4% and a minimum annual increase of 2%. Any future residential developments over 16 units in size, that meet the following criteria, shall be annexed into Zone B of the CFD:

- Projects which are subject to a General Plan Amendment necessary to accommodate residential uses
- Mixed-Use projects proposed on commercially zoned land, including mixed-use projects in the Downtown District

- Residential projects exceeding base density allowances
- Assisted Living or Skilled Nursing facilities of any size

The Project consists of 547 multi-family residences and therefore meets the parameters to be within Zone B of the CFD and is subject to a fee of $350 per unit beginning in FY 22-23. Per the Policy, RSG assumes a three (3) percent annual inflation in the fee over the 31-year projection. The estimated CFD Annual Fee revenue is presented in Table 6.

Table 6: Community Facilities District Annual Fees

Fee Per unit	$350
# of Units	547
Proposed Project CFD Revenue (2023$)	203,109
New CFD Revenue (2031)	242,523
New Total CFD Revenue (2023-2055)	**$10,156,009**
NPV New Total CFD Revenue (2023-2055) (2023$)	**$4,860,380**

Sources: City of Oceanside Policy No. 300-02, RSG Inc.

Over the 31-year forecast, the CFD annual fee revenue from the Project is projected to be approximately $10.2 million ($4.9 million net present value).

SALES TAX AND TRANSACTION AND USE TAX

The Project includes 23,794 square feet of retail space that will generate sales tax for the City's General Fund. The total sales tax rate at the Project site is 8.25 percent with one (1) percent apportioned to the City. The City also has a 0.5 percent Measure X transactions and use tax that was approved by 56 percent of voters in 2018. Measure X transaction and use tax has a sunset date of March 31, 2026, unless extended by a majority of voters. For our analysis, we conservatively assume that Measure X will not be extended by voters and therefore the 0.5 percent will not be in effect when the first retail facility opens after Phase 1 of construction completes in June 2027.

We have also assumed that approximately 70 percent of the transactions from the new households created by the Project will remain in Oceanside while taking into account that 83 households will be living in affordable housing units. We have also assumed that the new retail space will generate $340 in sales per square foot.

RSG understands that the NCTD offices will relocate from 810 Mission Street to the Project site once the office construction (Phase 1) completes. RSG assumed that office tenant employee spending within the City will not result in a measurable increase in sales tax revenues.

RSG estimates that the Project will generate approximately $103,600 in sales tax revenue annually in 2031 and a total of approximately $3.9 million ($1.7 million net present value) in sales tax and transaction and use tax revenue over the 31-year period, as presented in Table 7.

Table 7: Sales Tax Revenue		
Total Taxable Retail Sales (2023$)		$10,101,060
Total Taxable Household Expenditures (2023$)		13,596,573
City Share of Sales Tax from Retail (2023$)	1.00%	8,333
City Share of Sales Tax from Household Spending (2023$)	1.00%	95,176
Annual Existing Sales Tax to City (2023$)		0
Net New Sales and Transactions and Use Tax to City (2023$)		103,509
Sales and Transactions and Use Tax (2031)		$105,732
Total Sales and Transactions and Use Tax (2023-2055)		**$3,871,842**
NPV Sales and Transactions and Use Tax (2023-2055) (2023$)		**$1,670,964**

Sources: ESRI Business Analyst, RSG Inc.

BUSINESS LICENSE FEES

The City levies a business license tax calculated per $1,000 gross receipts for each business, with a minimum cap of $50 annually (as of September 2022). RSG understands that no existing businesses are operating at the Project Site, so there is no existing revenue from business registration. The proposed Project is expected to have approximately $41.7 million in gross receipts split across retail, hotel, and residential uses. As shown in Table 8 below, the Project is expected to have net new business license tax revenues of approximately $1.1 million ($468,000 net present value) over the 31-year period.

Table 8: Business License Fee	
Estimated Gross Receipts Residential	$20,308,536
Estimated Gross Receipts Hotel	13,743,631
Estimated Gross Receipts Retail	10,101,060
Business License Fee Rate	$0.50 per $1,000
Total Business License Fee (2031)	$23,840
Total Business License Fee (2023-2055)	**$1,056,877**
NPV Total Business License Fee (2023-2055) (2023$)	**$467,599**

Sources: City of Oceanside Consolidated Fees, Taxes, and Assessment Schedule, effective 8/8/2022, Costar, RSG Inc.

MUNICIPAL EXPENDITURES

The additional population that will reside at the Project and employees that will work at the Project will result in fiscal impacts to the City's General Fund. RSG assumed that each studio would house one (1) resident, each one-bedroom unit would house two (2) residents, each two-bedroom unit would house three (3) residents, and each three-bedroom unit would house four (4) residents.

RSG estimates that at full occupancy, the residential buildings of the Project could hold 1,145 residents. Taking into account that a small percentage of the units will normally be vacant due to turnover, we estimate the fiscal impacts based on residents' time spent in the City. This is done by converting residents to full-time equivalent (FTE) residents, defined as those who spend the vast majority of their time in

Oceanside. The assumption is that the proportion of new residents who work outside of the City, do not consume or rely on City services, such as policing, fire and emergency medical services, and other municipal services, during the time they are working outside of the City.

Forty-six percent of the City's population is employed. Approximately 37 percent of City's residents work within the City, which, in effect means that the City is servicing these resident employees 100 percent of the time. Another 63 percent of City residents work outside the City. Assuming the residents that work outside of the City are outside City limits for a 40-hour work week, Oceanside is servicing these residents approximately 76 percent of the time. The City's remaining non-working residential population (about 54 percent) is assumed to be serviced by the City 100 percent of the time. Accounting for all residents and employees based on the percent of time spent in the city, the Project will generate an FTE population of 1,666 persons.[3]

RSG identified variable costs, as opposed to fixed costs, by department in the City of Oceanside FY 2022-23 Adopted Budget. Variable costs are City expenditures that increase or decrease based on the resident and employee population. The City Manager and City Attorney offices, for example, are fixed costs that will not vary based on the relatively minor changes to population size as a result of the Project. Police and Fire departments will need to scale based on population growth and development. Therefore, RSG estimates expenditure increases of approximately $343,000 during the first full year of operations in 2031. As presented in Table 9, over a 25-year projection period, the Project will add approximately $12.9 million in City expenditures ($5.7 million net present value) which represents an expenditure increase of 0.05 percent.

Table 9: Municipal Expenditures

City Department	Total Project-derived Department Expenditures	Department Total Expenditures	% Increase
All Other Departments	$55,412	$295,185,685	0.02%
Police	81,929	74,514,434	0.11%
Public Works	4,994	58,361,180	0.01%
Housing and Neighborhood Services	1,235	42,482,421	0.00%
Fire	44,784	40,078,297	0.11%
Development Services	82,691	29,026,583	0.28%
Net New Expenditures (2023$)	**$271,044**	**$539,648,500**	**0.05%**
Total Net New Expenditures (2031)	**$343,350**		
Total Net New Expenditures (2023-2055)	**$12,894,284**		
NPV Net New Expenditures (2023-2055) (2023$)	**$5,674,892**		

Sources: City of Oceanside Adopted Budget FY 2022-23, RSG Inc., U.S. Census Bureau

DEVELOPMENT IMPACT FEES

The City has park impact fees, public facilities impact fees, school fees, traffic signal and thoroughfare fees, drainage and flood control fees, wastewater system capacity fees, water system capacity fees, and San Diego County Water Authority fees.[4] Based on RSG's review of the City's Impact Fees for New Development, RSG assumed that the proposed affordable housing units would exempt the Project from inclusionary housing in-lieu fees. The estimated development impact fees are presented in Table 10.

[3] Source: US Census

[4] Source: City of Oceanside Consolidated Fees, Taxes, and Assessment Schedule, effective August 2022

Table 10: Development Impact Fees

	City Fee	Project Fees
Public Facility - Residential	$2,621 per unit	$1,433,687
Parks - Residential only	$4,431 per unit	2,423,757
Traffic Signal & Thoroughfare - Apartment	$2,689 per unit	1,470,883
Drainage and Flood Control - Att. Dwellings - Apt.	$467 per unit	255,449
Subtotal Multi-family Residential Fees		**$5,583,776**
Multi-family Residential Fees per Unit	547 units	**$10,208 per unit**
Public Facility - Commercial/Industrial	$0.902 per commercial sf	$226,206
Traffic Signal & Thoroughfare - Community Retail	$7.23 per community retail sf	122,209
Traffic Signal & Thoroughfare - Office	$1.80 per office sf	109,813
Traffic Signal & Thoroughfare - Sit-Down Restaurant	$14.46 per restaurant sf	185,175
Drainage and Flood Control - Commerical Coastal Uses	$0.46 per commercial sf	114,859
Subtotal Commercial Fees		**$758,261**
Commercial Fees per Square Feet	250,783 commercial sf	**$3.02 per sf**
Traffic Signal & Thoroughfare - Hotel w/ Convention Fac	$904 per hotel key	$153,680
Subtotal Hotel Fees		**$153,680**
Hotel Fees per Key	170 hotel keys	**$904 per key**
Wastewater System Capacity Buy-In Fee - Non-Res & MFR	$11,691 per water meter	$6,394,977
Water System Capacity Buy-In Fee - Res & Non-Res	$45,440 per water meter	181,760
San Diego County Water Authority - Res & Non-Res	$3,025,240 per water meter	3,025,240
Subtotal Water Fees		**$9,601,977**
Total City Impact Fees		**$16,097,694**
Schools - Residential	$4.08 per residential sf	$2,275,542
Schools - Commercial/Industrial	$0.66 per commercial sf	63,446
Schools - Hotel/Motel	$0.48 per hotel sf	74,233
Total School Impact Fees		**$2,413,222**

Source: City of Oceanside Consolidated Fees, Taxes, and Assessment Schedule, effective 8/8/2022

The Project is projected to generate approximately $16.1 million in development impact fee revenue for the City, which includes approximately $5.6 million from the multi-family residential component of the Project, $758,000 from the commercial component of the Project, $154,000 from the hotel component of the Project, and $9.6 million from the new water meters for the Project. The projected development impact fees amount to about $10,200 per residential unit $3 per commercial square foot, and $900 per hotel key. The proposed Project will generate an additional $2.4 million for the school district.

CONCLUSION

RSG prepared this Fiscal Impact Analysis to help the City and Developer understand the impacts associated with the Developer's proposed Project. The key findings are presented below:

- The proposed Project will generate substantial fiscal impacts for the City, totaling approximately $2.9 million annually, and about $125.6 million ($65.2 million net present value) over the first 25-years of operations.

- Revenues generated from transient occupancy tax and property tax represent more than half of the anticipated fiscal impacts. Transient occupancy tax is expected to generate approximately

$1.7 million annually, or about $69.1 million ($31.6 million net present value) over the 25-year projection period. Additionally, the proposed Project will generate property taxers in excess of $788,000 annually beginning in the first year of operations and total revenues of $27.8 million ($13.1 million net present value) over the projection period.

- In addition to revenues, this Fiscal Impact Analysis estimated the impact of the proposed Project on the City's General Fund. RSG expects that the cost to provide municipal services to the Project is approximately $343,000 per year beginning in 2031, or about $12.9 million ($5.7 million net present value) over the projection period.

Stantec

Memo

To:	City of Oceanside	From:	Daryl Zerfass and Maria Morris Stantec
File:	2042217900	Date:	April 24, 2025

Reference: Oceanside Transit Center Specific Plan – Preliminary Draft Transportation Demand Management Plan Technical Analysis

This memorandum provides a technical analysis of the preliminary draft Transportation Demand Management (TDM) Plan for the proposed Oceanside Transit Center (OTC) Specific Plan (Project)[1]. A preliminary draft TDM Plan has been developed consistent with the City of Oceanside Climate Action Plan (CAP) Measure TL5[2] and Zoning Ordinance 3050 Transportation Demand Management[3] in advance of the Project's entitlement to provide an indication of the TDM features and benefits of the Project (see attachment). In accordance with City requirements, a final TDM Plan will be implemented concurrent with Project occupancy. The purpose of this memorandum is to quantify the effectiveness of the preliminary draft TDM plan's measures to reduce single occupancy vehicle (SOV) trips and lessen greenhouse gas (GHG) impacts.

Each individual non-residential use within the Project that generates more than 50 daily employee trips is subject to a TDM plan per City Ordinance; therefore, the proposed North County Transit District (NCTD) office and the proposed hotel are subject to a TDM plan since each are expected to generate more than 50 daily employee trips. TDM measures for the Project's residential and retail commercial uses are not required by ordinance but will be provided by the residential and retail building management for the benefit of residents and retail employees.

The residential portion of the project has been designed to encourage transit usage, walking, and biking, thereby reducing SOV trips made by residents. Implementation of the OTC Specific Plan will provide improvements to the existing bicycle facilities and pedestrian network, implementation of traffic calming measures, improvements to transit station accessibility, comfort and safety, a designated area for microtransit, a comprehensive wayfinding program, and parking management, all of which would minimize residents' reliance on SOVs. Free PRONTO regional transit fare payment cards for use on NCTD and San Diego Metropolitan Transit System (MTS) services will be provided to new residents upon move-in.

Project Description

The Project site is located at 235 S. Tremont Street and is comprised of the 10.15-acre OTC property owned by NCTD. The Project proposes the demolition of existing structures and construction of a mixed-use transit-oriented community. The site is generally comprised of the area bounded by Tremont Street to the east, Seagaze Drive to the north, railroad tracks to the west, and Missouri Avenue to the south.

The Project would construct 547 multi-family residential units with associated indoor and outdoor amenities, a 170-room boutique hotel with amenities, a 64,085 square-foot office building for the NCTD headquarters,

[1] Preliminary Draft – Oceanside Transit Center Specific Plan Transportation Demand Management (TDM) Plan, March 2024.
[2] Oceanside Climate Action Plan, City of Oceanside, April 2019.
[3] City of Oceanside Comprehensive Zoning Ordinance Article 30 Site Regulations (Citywide) Zoning Ordinance 3050 Transportation Demand Management https://www.ci.oceanside.ca.us/home/showpublisheddocument/4060/637953039168370000

Reference: Oceanside Transit Center Specific Plan – Draft Transportation Demand Management Plan Technical Analysis

29,196 square feet of retail/food/beverage uses, and approximately 1,868 parking spaces in structure parking. In addition, transit improvements would include a 7,427 square-foot modern intermodal customer service center, 12 commuter bus stalls and bus layover space, enhanced transit waiting areas, bicycle parking areas, dedicated pick-up and drop-off areas for rideshare, and wayfinding assistance.

Since the Project is located in a mixed-use area with high quality transit service, the net volume of vehicle trips is substantially lower than would occur in a lower density, less walkable, and low transit area. The walkable mixed-use nature of the site, together with the high-quality transit service results in fewer vehicle trips overall.

The residential portion of the Project is anticipated to have approximately 1,466 residents and the non-residential portion of the Project is anticipated to have approximately 448 employees (approximately 214 employees from the NCTD office, approximately 178 employees from the hotel, and approximately 58 employees from the retail/restaurant/beverage businesses). The complementary land use mix provides residents to live and work within the Project site.

Employees from the existing NCTD office at 810 Mission Avenue would be relocated to the new NCTD office. NCTD encourages their employees to utilize regional transit services to the fullest extent feasible. Transit services on all NCTD and MTS routes are free to all NCTD employees through an NCTD issued PRONTO card. NCTD has also implemented a Remote Work Program that enables workers to work from home up to one day per week if their job position allows. According to NCTD, approximately 30% of their employees are currently eligible for their work from home program and approximately 60% of those eligible employees currently utilize the program. The employee parking area for NCTD employees will be gated allowing NCTD to implement a parking management program that aligns with their employee commute goals.

Background and TDM Plan Methodology

On May 9, 2019, the City of Oceanside adopted the CAP as part of the first phase of the comprehensive General Plan Update. The goal of the CAP is to reduce local GHG emissions consistent with the state emission reduction goals. The City's CAP includes a CAP Consistently Checklist[4] that is intended to ensure that new development is consistent with the City's emissions reduction goals and provides an alternative to project-specific GHG emissions analysis. In regard to transportation, the City has recently revised the CAP Consistency Checklist to remove reference to specific TDM measures to allow developers and businesses to choose measures appropriate for their Project[5]. Therefore, the Project's preliminary draft TDM plan does not utilize a point system and does not make use of the City's revised TDM plan template as it is not available at this time.

On August 5, 2020, the City approved Zoning Ordinance Text Amendments that include Zoning Ordinance 3050, requiring a TDM Plan for new non-residential development and additions to existing non-residential development that generate more than 50 daily employee trips. Per Zoning Ordinance 3050, the TDM plan is

[4] Table 19, Page 4-21 of Oceanside Climate Action Plan, City of Oceanside, April 2019. https://www.ci.oceanside.ca.us/home/showpublisheddocument/3902/637952870174670000

[5] Zoning Text Amendments (ZA20-00003/AZ20-00004/ZA20-00005/ZA20-00006) and Local Coastal Program Amendment Establishing Standards for Renewable Energy Facilities, Electric Vehicle Charging Facilities, Urban Forestry, and Transportation Demand Management and Establishing the Amended Text of Zoning Ordinance Articles 10C, 11C, 13C, 30 and 31, City of Oceanside Planning Commission Staff Report on May 18, 2020.

required to be prepared and implemented to result in a minimum alternative employee commute share of 20 percent. Alternative commute modes include ridesharing, public transit, active transportation, telecommuting, and zero-emission vehicles.

The Project's preliminary draft TDM plan analyzed here includes all the required TDM components in Zoning Ordinance 3050 and the City's CAP Measure TL5.

Existing Setting

The existing roadway network in the vicinity of the Project site can generally be characterized as a small urban grid. Intersections are typically closely spaced with many two-lane roadways and some key four-lane roadways, as well as one-way roadways. The Project area generally has a well-developed pedestrian circulation system, which includes sidewalks, marked crosswalks at certain locations, plazas, as well as direct access to bus and train transit stops. Sidewalks are provided continuously around the Project perimeter. Marked crosswalks exist at the Seagaze Drive/Cleveland Street intersection (west and north legs) and at the Seagaze Drive/Tremont Street intersection (west leg).

Just west of the Project site is the northern terminus of the Coastal Rail Trail, a Class I off-street bicycle path that extends south until it reaches Oceanside Boulevard. Upon completion, the Coastal Rail Trail is anticipated to connect approximately 44 miles of off-street trails from Oceanside to the Santa Fe Depot in the City of San Diego. There is also a secure bicycle parking facility within the transit center parking lot at the terminus of the Coastal Rail Trail to provide a secure parking option for cyclists. Seagaze Drive between Cleveland Street and Coast Highway is classified as a Class III on-street bicycle route in both directions of travel and is marked with sharrows. East of Coast Highway, where Seagaze Drive transitions into a one-way eastbound street, a Class II on-street bicycle lane begins and continues east to the intersection with Clementine Street. Cleveland Street is classified as a Class III on-street bicycle route north of Seagaze Street in both directions of travel and is marked with sharrows. Tremont Street is classified as a Class III on-street bicycle route for its entire length south to Oceanside Boulevard.

The Project site is located within a SANDAG Smart Growth Opportunity Area (SGOA), specifically "Oceanside-2" (Mixed Use Transit Corridor). Smart growth is characterized by compact, higher-density development in urbanized areas that are walkable, bike-friendly, near public transit, and promote good community design. SGOA have been identified by SANDAG and are locations within the region that can support smart growth and transportation investments. The OTC Specific Plan is consistent with smart growth as it enhances accessibility to a number of transit options (listed below) and creates a sense of community with the development of residential, office, and commercial uses. SGOA's are prime locations for compact, walkable, mixed-use development near transit. Transit options at the Project site include bus and rail transit with services that extend throughout the County of San Diego, as well as rail service to locations north of the County. Several NCTD BREEZE bus routes stop at the site, as well as Greyhound. In addition, rail transit is also available, such as COASTER, SPRINTER, Amtrak, and Metrolink. The City of Oceanside operates the GO'side shuttle program, an app-based on-demand microtransit system using low speed Neighborhood Electric Vehicles (NEV). GO'side services the area around the Oceanside Transit Center and provides first and last mile connectivity as well as local circulation for Oceanside residents and tourists predominately west of Interstate 5.

There are multiple employment opportunities within a half-mile of the Project site, which is located in the downtown Oceanside area, including the Oceanside City Hall, retail shops, restaurants, services, and hotels. Community amenities within a half-mile of the Project include the Oceanside Public Library, Oceanside

Museum of Art, Oceanside High School, Oceanside Municipal Fishing Pier, Oceanside City Beach, Ocean Place Regal Cinemas, Junior Seau Beach Community Center & Amphitheater, Sunshine Brooks Theater, Pacific Street Linear Park, Strand Beach Park, and Tyson Street Park.

Shared-mobility amenities (i.e., bikeshare, rideshare, etc.) within a half-mile of the Project site include the Oceanside City Hall Bike Station (parking facility and charging station for electric bicycles) and the Oceanside Transit Center Bike Station (parking facility with bicycle repair station). While the City does not currently have a public bikeshare program, several bicycle rental businesses exist within a half-mile of the Project site.

TDM Measures

Project Components

The preliminary draft TDM plan identifies Project components that would encourage transit usage, walking, and biking, thereby reducing single occupancy vehicle trips made by residents, hotel employees, retail employees, and visitors. These components consist of the following:

The Project will construct a transit-oriented development.

The Project will construct a transit-oriented development (TOD) that includes residential, commercial, and office uses integrated into the transit station. Residents, employees, and visitors would have easy and direct access to existing high-quality transit that would encourage transit usage and active modes of transportation for residents and the general public. The transit station provides access to NCTD Breeze, NCTD COASTER, NCTD SPRINTER, Amtrak, and Metrolink. On-site pedestrian infrastructure and traffic calming measures further support active transportation. Per the California Air Pollution Control Officers Association (CAPCOA) GHG Handbook[6], a transit-oriented development has the potential to reduce GHG emissions from Project VMT by up to 31% because the accessibility to high-quality transit would reduce the number of single occupancy vehicles trips (Measure T-3 – Provide Transit-Oriented Development).

1. **The Project will make improvements to adjacent bicycle facilities.**

   The existing bicycle facilities around the Project site are consistent with the designations shown in the current Bicycle Master Plan except for a Class III bike route designated along Cleveland Street between Seagaze Drive and Topeka Street (currently used by buses only), and along Topeka Street between Seagaze Drive between Cleveland Street and Tremont Street (currently used by buses only). Instead, a Class III bike route is currently provided via Seagaze Drive to Tremont Street.

   With implementation of the Project, Cleveland Street between Seagaze Drive and Topeka Street, and Topeka Street between Cleveland Street and Tremont Street, are each converted to two-lane public streets with traffic calming elements, which is appropriate for use as a Class III bike route. As such, the Project will be implementing bicycle facilities consistent with the current Bicycle Master Plan. To support the bicycle infrastructure, the Project will provide private and public bike storage and parking and collaborate with the City's active transportation and

[6] Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity, CAPCOA, December 2021.

micromobility coordinator and the volunteer Bike and Ped Committee on secure bike storage facilities, including SANDAG's bike locker program.

CAPCOA's GHG Handbook describes that providing bicycle infrastructure helps to improve biking conditions within an area and encourages a mode shift from vehicles to bicycles, reducing VMT and GHG emissions.

The GHG Handbook also describes that constructing or improving bike facilities potentially reduces VMT up to 0.8% (Measure T-19-A – Construct or Improve Bike Facility), which is accounted for in the 31% transit-oriented development trip reduction noted above. This is applicable to both employees and residents of the Project.

2. The Project will provide pedestrian network improvements.

The Project will provide pedestrian network improvements within and adjacent to the Project site. Pedestrians will access the Project from Seagaze Drive, Tremont Street, Michigan Avenue, and Missouri Avenue and utilize a robust on-site pedestrian network. There will be enhanced pedestrian crossings at four key intersections surrounding the site: Tremont Street at Topeka Street, Seagaze Drive at Cleveland Street, Tremont Street at Michigan Avenue, and Cleveland Street at Missouri Avenue. In addition, the OTC is accessible from west of the railroad tracks via an existing undercrossing on-site. The Project would provide crosswalks along the Project's access points and on-site intersections. A mid-block raised crosswalk would also be provided on Cleveland Street where heavy pedestrian traffic is anticipated, connecting the centralized customer service center and station plaza to the retail and residential uses to the east. The on-site sidewalks would connect to the surrounding off-site sidewalks. The project is designed to encourage walkability through the activation of Cleveland Street and Tremont Street. On Tremont Street, building components like stoops and balconies break up the facades and create visual interest, and landscaped parkways improve the pedestrian experience. Activation on Cleveland is through engaging retail options, opportunities for outdoor dining, public art, a community room, and widened sidewalk and landscaping.

Per CAPCOA's GHG Handbook, providing pedestrian network improvements has the potential to reduce VMT up to 6.4% (Measure T-18 – Provide Pedestrian Network Improvement), which is accounted for in the 31% transit-oriented development trip reduction noted above. This is applicable to both employees and residents of the Project.

3. The Project will implement traffic calming measures.

The Project will implement traffic calming measures within and adjacent to the Project site. Such traffic calming measures include curb bulb-outs, low-speeds for vehicles, signage, roadway markings designating shared use with bicycles, and mid-block raised pedestrian crossings. Traffic calming measures would lower vehicle speeds to accommodate all modes of transportation.

CAPCOA's GHG Handbook notes that traffic calming measures encourage people to walk or bike instead of drive, resulting in a mode shift and decrease in VMT. This is applicable to both employees and residents of the Project; however, these treatments only achieve a nominal reduction in VMT based on the GHG Handbook T-35 – Provide Traffic Calming Measure.

Reference: Oceanside Transit Center Specific Plan – Draft Transportation Demand Management Plan Technical Analysis

4. The Project will improve transit access, safety, and comfort.

The Project will improve transit access, safety, and comfort. The Project will implement improvements in and around the transit center consistent with SANDAG's recommendations for Mobility Hubs. Improvement includes enhanced transit waiting areas, dedicated pick up and drop off zones, wider sidewalks, traffic calming elements, enhanced pedestrian crosswalks within site improving transit stops, bus stalls, and bus layover space. This would include improvements to shelters, benches, street lighting, an enhanced station plaza experience, and relocation of bus terminals to improve pedestrian connections between different modes. In addition, residents will be provided local resources such as trail maps, bike safety seminars, mobility opportunities, and connections to local groups such as the volunteer Bike and Ped Committee. Residents will receive free PRONTO regional transit fare payment cards upon move-in for use on NCTD and MTS services.

This measure would achieve a nominal reduction in VMT and GHG emissions based on the GHG Handbook T-46 – Improve Transit Access, Safety, and Comfort measure.

5. The Project will include a designated area for a bike sharing station.

A designated area for microtransit (bike share and scooter share) options such as has been identified for the Project but is contingent the City of Oceanside finalizing an agreement with a service provider. The GHG Handbook does quantify a VMT reduction for providing bike share, electric bike, or scooter share stations, however since the services are contingent on the City's program, it is not quantified here.

6. Comprehensive wayfinding and signage.

To complement the improvements to the bicycle facilities and pedestrian network, a wayfinding and signage program will foster safe and efficient multi-modal transportation. The GHG Handbook does not quantify VMT reductions from implementing wayfinding, therefore it is not quantified here.

7. Parking management.

The Project is designed to adapt to evolving travel patterns with the goal of building a parking program that accommodates the needs of the market at the time the structure is built and into the future, as well as the needs of the different user groups. For the residential portion of the Project, a modified unbundling program where each unit will receive one space, with additional parking spaces available for a fee will be implemented. For the hotel, a paid parking program will be developed for hotel guests that will capitalize on the accessibility of public transit as well as the proximity to Downtown Oceanside. For the NCTD office, employee parking would be managed by a parking management program that would align with the Project's TDM goals. The GHG Handbook does not provide a quantification methodology for implementing a parking management program, therefore it is not quantified here.

Commute Trip Reduction Program

The NCTD office and the hotel component of the Project are anticipated to generate more than 50 daily employee trips. As such, a TDM plan with an employee commute reduction target of 20% is required for

the NCTD office and for the hotel. The individual retail/restaurant/beverage businesses are anticipated to have less than 50 daily employee trips each and, therefore, would not require a TDM plan. Per the Zoning Ordinance, a TDM plan is not required for the residential portion of the Project. However, in response to community feedback, supplemental TDM measures have been included herein for these user groups.

Commute Trip Reduction Program for the NCTD Office

By submitting a TDM plan, the applicant acknowledges the following requirements of Zoning Ordinance 3050:

- TDM plan shall be implemented upon full occupancy.
- Minimum of 20% alternative employee commute-mode share shall be documented within 3 years of Project completion, with ongoing monitoring and reporting based on goal attainment. (i.e., issuance of final building permits or certificates of occupancy). Should the goals not be met in 3 years, the TDM plan shall be revised within 6 months and report commute mode share information to the City on an annual basis.
- If the minimum 20% alternative employee commute mode share is achieved within 3 years, report employee commute mode share information to the City every 3 years.

The preliminary draft TDM plan includes an Employer Commute Trip Reduction (CTR) Program for the NCTD office that would include the following (TDM measures A through E are requirement of Zoning Ordinance 3050):

A. The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.

B. The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.

C. The building tenant/occupant will provide customized travel plans for employees, upon request.

D. The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.

E. The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.

F. The building tenant/occupant will implement a free transit program. For NCTD employees, transit services on all NCTD and MTS modes are free through an NCTD issued PRONTO card.

G. The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking, lockers, and showers) for employee use. There will be 274 bicycle parking stalls (total public and residential uses) throughout the project site. End of trip amenities such as lockers and showers will be provided for the office employees.

H. The building tenant/occupant will implement a Remote Work Program that enables employees to work from home up to one day per week if job requirements allow.

I. The building tenant/occupant will implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting. The Project will designate passenger loading/unloading and waiting areas and may develop a program to coordinate rides.

The above TDM measures apply to the CTR Programs for the employees of the NCTD office. CAPCOA's GHG Handbook Measure T-6 – Implement Commute Trip Reduction Program with Mandatory Implementation and Monitoring estimates that a CTR Program can reduce up to 26% of commute VMT. Similarly, SANDAG's VMT Reduction Calculator estimates that the CTR Program would achieve a 26% reduction in VMT (see attachment). In addition, SANDAG's VMT Reduction Calculator estimates that the Remote Work Program will increase the development's overall commute VMT reduction to a total of 28.0% (see attachment).

Commute Trip Reduction Program for the Hotel

By submitting a TDM plan, the applicant acknowledges the following requirements of Zoning Ordinance 3050:

- TDM plan shall be implemented upon occupancy.
- Minimum of 20% alternative employee commute-mode share shall be documented within 3 years of Project completion, with ongoing monitoring and reporting based on goal attainment. (i.e., issuance of final building permits or certificates of occupancy). Should the goals not be met in 3 years, the TDM plan shall be revised within 6 months and report commute mode share information to the City on an annual basis.
- If the minimum 20% alternative employee commute mode share is achieved within 3 years, report employee commute mode share information to the City every 3 years.

The preliminary draft TDM plan includes an Employer Commute Trip Reduction (CTR) Program for the hotel that would include the following (TDM measures A through E are requirement of Zoning Ordinance 3050):

A. The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.

B. The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.

C. The building tenant/occupant will provide customized travel plans for employees, upon request.

D. The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.

E. The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.

F. The building tenant/occupant will implement a free transit program for hotel employees through management provided PRONTO cards for new employees.

G. The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking and lockers) for employee use. End of trip amenities such as lockers and showers will be provided to the hotel employees.

H. The building tenant/occupant will implement a rideshare program for employees.

I. The building tenant/occupant will implement an employer-sponsored vanpool program for employees.

The above TDM measures apply to the CTR Programs for the employees of the hotel. CAPCOA's GHG Handbook Measure T-6 – Implement Commute Trip Reduction Program with Mandatory Implementation and Monitoring estimates that a CTR Program can reduce up to 26% of commute VMT (see attachment).

TDM Measures for the Residential and Retail Commercial Uses

The following TDM measures are not required by ordinance, but will be provided by the residential and retail building management for the benefit of residents and retail employees:

A. The residential and retail building management will each conduct trip reduction marketing and outreach strategies that educate residents and employees about sustainable travel choices and promote available programs.

B. The residential and retail building management will each provide customized travel plans for residents and employees, upon request.

C. The residential and retail building management will each implement and maintain a free transit program through management provided PRONTO cards for new residents and employees.

D. The residential and retail building management will each provide end of trip bicycle facilities (i.e., parking and lockers) for resident and employee use.

E. The residential and retail building management will each implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting.

Reference: Oceanside Transit Center Specific Plan – Draft Transportation Demand Management Plan Technical Analysis

TDM Plan Trip Reduction Calculations

Table 1 summarizes the Project Components and CTR Programs for the Project. To quantify the alternative mode share achieved by the Project Components and the CTR Programs, SANDAG's Mobility Management Toolbox[7] was utilized.

Table 1: Preliminary Draft TDM Plan Project Components and Commute Trip Reduction Programs

Measure Description		Alternative Mode Share
Project Components: Alternative mode share would apply to residents, hotel employees, office employees, retail employees, and visitors.		
PC	The Project will construct a transit-oriented development.	Up to 31% VMT reduction due to alternative mode share[(a)]
	1. The Project will make improvements to adjacent bicycle facilities.	
	2. The Project will provide pedestrian network improvements.	
	3. The Project will implement traffic calming measures.	
	4. The Project will improve transit access, safety, and comfort.	
	5. The Project will include bike share, electric bike, and scooter share stations.	
Employer Commute Trip Reduction Program for the NCTD office that would include the following:		
A	The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.	28.0% VMT reduction due to alternative employee commute mode share[(b)]
B	The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.	
C	The building tenant/occupant will provide customized travel plans for employees, upon request.	
D	The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.	
E	The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.	
F	The building tenant/occupant will implement a free transit program. For NCTD employees, transit services on all NCTD and MTS modes are free through an NCTD issued PRONTO card.	
G	The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking, lockers, and showers) for employee use. There will be 274 bicycle parking stalls (total public and residential uses) throughout the project site. End of trip amenities such as lockers and showers will be provided to the office employees.	
H	The building tenant/occupant will implement a Remote Work Program that enables employees to work from home up to one day per week if job requirements allow.	

[7] VMT Reduction Calculator Tool, SANDAG Mobility Management Toolbox, https://www.icommutesd.com/planners/TDM-local-governments, Accessed August 2023.

Reference: Oceanside Transit Center Specific Plan – Draft Transportation Demand Management Plan Technical Analysis

I	The building tenant/occupant will implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting. The Project will designate passenger loading/unloading and waiting areas and may develop a program to coordinate rides.	
Employer Commute Trip Reduction Program for the hotel that would include the following:		
A	The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.	26% VMT reduction due to alternative employee commute mode share[c]
B	The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.	
C	The building tenant/occupant will provide customized travel plans for employees, upon request.	
D	The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.	
E	The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.	
F	The building tenant/occupant will implement a free transit program for hotel employees through management provided PRONTO cards for new employees.	
G	The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking, lockers, and showers) for employee use. End of trip amenities such as lockers and showers will be provided to the hotel employees.	
H	The building tenant/occupant will implement a rideshare program for employees.	
I	The building tenant/occupant will implement an employer-sponsored vanpool program for employees.	
The following TDM measures are not required by ordinance, but will be provided by the residential and retail building management for the benefit of residents and retail employees:		
A	The residential and retail building management will each conduct trip reduction marketing and outreach strategies that educate residents and employees about sustainable travel choices and promote available programs.	n/a[d]
B	The residential and retail building management will each provide customized travel plans for residents and employees, upon request.	
C	The residential and retail building management will each implement and maintain a free transit program through management provided PRONTO cards for new residents and employees.	
D	The residential and retail building management will each provide end of trip bicycle facilities (i.e., parking and lockers) for resident and employee use.	
E	The residential and retail building management will each implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting.	

[a] CAPCOA Handbook, Measure T-3, Provide Transit-Oriented Development

[b] SANDAG VMT Reduction Calculator

[c] CAPCOA Handbook, Measure T-6. Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)

[d] Not applicable (trip reductions not required by ordinance)

Reference: Oceanside Transit Center Specific Plan – Draft Transportation Demand Management Plan Technical Analysis

Conclusion

The preliminary draft OTC Specific Plan TDM Plan identifies specific actions to reduce SOV trips to achieve the City's GHG emissions goals. As demonstrated in this memorandum, the combination of Project Components and CTR Programs are expected to result in VMT reductions that would meet or exceed the City's Zoning Ordinance requirements of a 20% alternative mode share.

Sincerely,

Stantec Consulting Services Inc.

Maria Morris AICP, PTP
Sr. Transportation Planner
Phone: (949) 923-6072
Maria.Morris@stantec.com

Daryl Zerfass PE, PTP
Principal, Transportation Planning & Traffic Engineering
Phone: (949) 923-6058
Daryl.Zerfass@stantec.com

Attachments: Pages from CAP Checklist for TDM
CAPCOA Handbook Excerpts
SANDAG VMT Reduction Tool Calculator Outputs
Oceanside Transit Center Specific Plan – Draft Transportation Demand Management Plan

Transportation Demand Management (TDM)

As outlined in Section 3050 of the City's Zoning Ordinance, the City requires that all new non-residential development expected to generate at least 50 daily employee commute trips prepare and implement a transportation demand management (TDM) plan that achieves a minimum 20 percent alternative commute mode share, with alternative commute modes being those that don't involve single-occupancy vehicle commute trips in combustion engine vehicles. The City does not prescribe specific TDM measures but rather allows developers and employers to tailor their TDM plans to suit their business location and operations.

Is the project subject to this requirement?

☑ Yes ☐ No

If yes, does the applicant accept this requirement as a condition of project approval?

☑ Yes ☐ No

If yes, please provide a preliminary indication of the resources that will be utilized to prepare the TDM Plan (e.g., qualified traffic consultant, SANDAG Mobility Management Toolbox).

Qualified traffic consultant, NCTD staff, SANDAG Mobility Management Toolbox

The TDM Plan must include a monitoring and reporting program that commits the project to submitting a bi-annual status report to the City. Does the applicant agree to conduct ongoing monitoring and reporting of employee commuting choices?

☑ Yes ☐ No

Urban Forestry

As part of its urban forestry efforts, the City requires that all new development establish a minimum tree canopy and permeable surface area. When meeting the minimum tree canopy and permeable surface area requirements on the project site is determined to be infeasible,

T-35. Provide Traffic Calming Measures

This measure requires projects to include pedestrian/bicycle safety and traffic calming measures above jurisdictional requirements. Roadways should also be designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips with traffic calming features. Traffic calming features may include marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others. Providing traffic calming measures encourages people to walk or bike instead of using a vehicle. This mode shift will result in a decrease in vehicle miles traveled. In 2017, 3,904 people were killed and 277,160 injured by vehicle collisions in California; traffic calming can reduce injuries and death, which improves health (State of California et al., 2018). Traffic calming also promotes active transportation, which improves physical health.

T-36. Create Urban Non-Motorized Zones

The measure requires projects to convert a percentage of its roadway miles to transit malls, linear parks, or other non-motorized zones. These features encourage non-motorized travel and thus a reduction in vehicle miles traveled. This measure is only applicable to projects located in urban environments. Consider access issues for paratransit users and those with mobility impairments.

T-37. Dedicate Land for Bike Trails

This measure requires projects to provide for, contribute to, or dedicate land for the provision of off-site bicycle trails linking the project to designated bicycle commuting routes in accordance with an adopted citywide or countywide bikeway plan. Existing desire paths can make good locations, as it represents a community-identified transportation need.

Transportation (Trip Reduction Programs)

T-38. Provide First and Last Mile TNC Incentives

This measure requires a first-last mile partnership between a municipality/transit agency and a transportation network company (TNC) for subsidized, shared TNC rides to or from the local transit station within a specific geographic area. This measure encourages a shift to transit mode for longer trips. Consider providing inclusive mechanisms so people without bank accounts, credit cards, or smart phones can access the incentives.

T-39. Implement Preferential Parking Permit Program

This measure requires projects provide preferential parking in terms of free or reduced parking fees, priority parking, or reserved parking in convenient locations (such as near public transportation or building entrances) for commuters who carpool, vanpool, ride-share or use sustainably fueled vehicles. Projects should also provide wide parking spaces to accommodate vanpool vehicles. Commercial preferential parking can accommodate workers who work non-standard hours by providing opportunities to participate. Residential preferential parking can consider an equitable distribution of permits, giving priority to owners of sustainably fueled vehicles.

T-40. Implement School Bus Program

This measure will provide school bus service transporting students to a school project. A school bus service can reduce the number of private vehicle trips to drop-off or pick-up students, thereby reducing VMT and associated GHG emissions, as well as onsite air pollution emissions, especially if the bus is zero emissions. Best practices include concentrating service for students who live further away from schools, providing service both before and after school, and encouraging parents to utilize the service. This measure is more effective at schools that draw students from a larger enrollment area, such as high schools or private schools.

T-46. Improve Transit Access, Safety, and Comfort

This measure requires projects improve transit access and safety through sidewalk/crosswalk safety enhancements, bus shelter improvements, improved lighting, and other features. Work with the community to determine barriers to use, most desired improvements, and other access challenges.

T-47. Provide Bike Parking Near Transit

This measure requires the project to provide short-term and long-term bicycle parking near rail stations, transit stops, and freeway access points where there are commuter or rapid bus lines. Include locations for shared micromobility devices as well as higher-security parking for personal bicycles.

Transportation (Parking or Road Pricing/Management)

T-48. Implement Area or Cordon Pricing

This measure requires projects implement a cordon pricing scheme. The pricing scheme will set a cordon (boundary) around a specified area to charge a toll to enter the area by vehicle. The cordon location is usually the boundary of a central business district or urban center but could also apply to substantial development projects with limited points of access. The toll price can be based on a fixed schedule or be dynamic, responding to real-time congestion levels. It is critical to have an existing, high quality transit infrastructure for the implementation of this strategy to reach a significant level of effectiveness. The pricing signals will only cause mode shifts if alternative modes of travel are available and reliable. This measure should provide an exception for low-income residents or workers within the pricing zone.

T-49. Replace Traffic Controls with Roundabout

This measure requires projects install a roundabout as a traffic control device to smooth traffic flow, reduce idling, eliminate bottlenecks, and manage speed. In some cases, roundabouts can improve traffic flow and reduce emissions. The emission reduction depends heavily on what the roundabout is compared to (e.g., uncontrolled intersection, stop sign, traffic signal). Design roundabout so cyclists have the option to join traffic or bypass the roundabout with an adjacent path.

T-50. Required Project Contributions to Transportation Infrastructure Improvement

This measure requires projects contribute to traffic-flow improvements or other multi-modal infrastructure projects that reduce emissions and are not considered as substantially growth inducing. The local transportation agency should be consulted for specific needs. Larger projects may be required to contribute a proportionate share to the development and/or continuation of a regional transit system. Contributions may consist of dedicated right-of-way, capital improvements, or easements. Ensure the jurisdictional fee system does not disadvantage infill projects over greenfield projects.

T-51. Install Park-and-Ride Lots

This measure requires projects install park-and-ride lots near transit stops and high occupancy vehicle lanes. Park-and-ride lots also facilitate car- and vanpooling. Parking lots can also incorporate cool pavements, tree canopy, or solar photovoltaic shade canopies to reduce the urban heat island effect as well as evaporative emissions from parked vehicles and dedicated electric vehicle parking spots and/or charging infrastructure.

T-3. Provide Transit-Oriented Development



GHG Mitigation Potential



Up to 31.0% of GHG emissions from project VMT in study area

Co-Benefits (icon key on pg. 34)



Climate Resilience

Providing TOD puts a large number of people close to reliable public transportation, diversifying their transportation options during an extreme weather event.

Health and Equity Considerations

TOD may increase housing prices, leading to gentrification and displacement. Please refer to the *Accountability and Anti-Displacement and Housing* section in Chapter 5, *Measures for Advancing Health and Equity*, for potential strategies to minimize disruption to existing residents. TOD coupled with affordable housing options can help to support equity by helping to lower transportation costs for residents and increase active mobility.

Measure Description

This measure would reduce project VMT in the study area relative to the same project sited in a non-transit-oriented development (TOD) location. TOD refers to projects built in compact, walkable areas that have easy access to public transit, ideally in a location with a mix of uses, including housing, retail offices, and community facilities. Project site residents, employees, and visitors would have easy access to high-quality public transit, thereby encouraging transit ridership and reducing the number of single-occupancy vehicle trips and associated GHG emissions.

Subsector

Land Use

Locational Context

Urban and suburban. Rural only if adjacent to commuter rail station with convenient rail service to a major employment center.

Scale of Application

Project/Site

Implementation Requirements

To qualify as a TOD, the development must be a residential or office project that is within a 10-minute walk (0.5 mile) of a high frequency transit station (either rail, or bus rapid transit with headways less than 15 minutes). Ideally, the distance should be no more than 0.25 to 0.3 of a mile but could be up to 0.5 mile if the walking route to station can be accessed by pedestrian-friendly routes. Users should confirm "unmitigated" or "baseline" VMT does not already account for reductions from transit proximity.

Cost Considerations

TOD reduces car use and car ownership rates, providing cost savings to residents. It can also increase property values and public transit use rates, providing additional revenue to municipalities, as well as open new markets for business development. Increased transit use will likely necessitate increased spending on maintaining and improving public transit systems, the costs of which may be high.

Expanded Mitigation Options

When building TOD, a best practice is to incorporate bike and pedestrian access into the larger network to increase the likelihood of transit use.

T-6. Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)

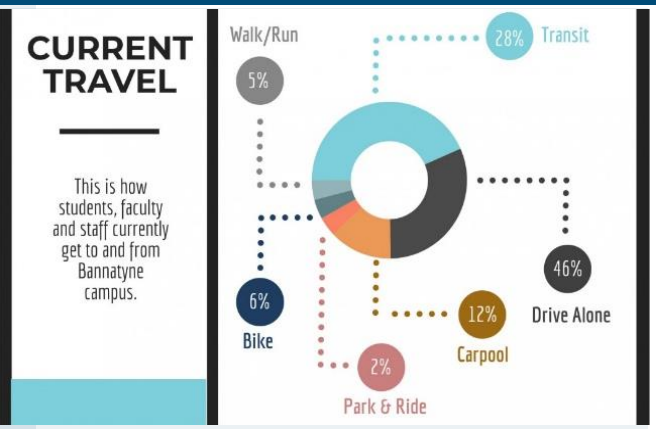


Photo Credit: University of Manitoba, 2018

GHG Mitigation Potential



Up to 26.0% of GHG emissions from project/site employee commute VMT

Co-Benefits (icon key on pg. 34)



Climate Resilience

Commute trip reduction programs could result in less traffic, potentially reducing congestion or delays on major roads during peak AM and PM traffic periods. When this reduction occurs during extreme weather events, it better allows emergency responders to access a hazard site. Lower transportation costs would also increase community resilience by freeing up resources for other purposes.

Health and Equity Considerations

Design of CTR programs needs to consider existing mobility options in diverse communities and ensure equitable access and benefit to all employees.

Measure Description

This measure will implement a mandatory CTR program with employers. CTR programs discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions.

Subsector

Trip Reduction Programs

Locational Context

Urban, suburban

Scale of Application

Project/Site

Implementation Requirements

The mandatory CTR program must include all other elements (i.e., Measures T-7 through T-11) described for the voluntary program (Measure T-5) plus include mandatory trip reduction requirements (including penalties for non-compliance) and regular monitoring and reporting to ensure the calculated VMT reduction matches the observed VMT reduction.

Cost Considerations

Employer costs may include recurring, direct costs for transit subsidies, capital and maintenance costs for alternative transportation infrastructure, and labor costs for staff to manage the program. If the local municipality has a mandatory VMT reduction ordinance, additional employer costs could include non-compliance penalties if the municipality fines CTR programs that do not meet a VMT goal. Municipal costs may include the labor costs for government staff to track the efficacy of the program, which may be outweighed by revenue generated from fines collected from non-compliant businesses.

Expanded Mitigation Options

This program typically serves as a complement to the more effective workplace CTR measures, such as pricing workplace parking (Measure T-12) or implementing employee parking "cash-out" (Measure T-13).

T-18. Provide Pedestrian Network Improvement



GHG Mitigation Potential

6.4%

Up to 6.4% of GHG emissions from vehicle travel in the plan/community

Co-Benefits (icon key on pg. 34)

Climate Resilience

Improving pedestrian networks increases accessibility of outdoor spaces, which can provide health benefits and thus improve community resilience. This can also improve connectivity between residents and resources that may be needed in an extreme weather event.

Health and Equity Considerations

Ensure that the improvements also include accessibility features to allow for people of all abilities to use the network safely and conveniently. Ensure that sidewalks connect to nearby community assets, such as schools, retail, and healthcare.

Measure Description

This measure will increase the sidewalk coverage to improve pedestrian access. Providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and GHG emissions.

Subsector

Neighborhood Design

Locational Context

Urban, suburban, rural

Scale of Application

Plan/Community

Implementation Requirements

The GHG reduction of this measure is based on the VMT reduction associated with expansion of sidewalk coverage expansion, which includes not only building of new sidewalks but also improving degraded or substandard sidewalk (e.g., damaged from street tree roots). However, pedestrian network enhancements with non-quantifiable GHG reductions are encouraged to be implemented, as discussed under *Expanded Mitigation Options*.

Cost Considerations

Depending on the improvement, capital and infrastructure costs may be high. However, improvements to the pedestrian network will increase pedestrian activity, which can increase businesses patronage and provide a local economic benefit. The local municipality may achieve cost savings through a reduction of cars on the road leading to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

When improving sidewalks, a best practice is to ensure they are contiguous and link externally with existing and planned pedestrian facilities. Barriers to pedestrian access and interconnectivity, such as walls, landscaping buffers, slopes, and unprotected crossings should be minimized. Other best practice features could include high-visibility crosswalks, pedestrian hybrid beacons, and other pedestrian signals, mid-block crossing walks, pedestrian refuge islands, speed tables, bulb-outs (curb extensions), curb ramps, signage, pavement markings, pedestrian-only connections and districts, landscaping, and other improvements to pedestrian safety (see Measure T-35, *Provide Traffic Calming Measures*).

T-19-A. Construct or Improve Bike Facility



GHG Mitigation Potential



Up to 0.8% of GHG emissions from vehicles parallel roadways

Co-Benefits (icon key on pg. 34)

Climate Resilience

Constructing and improving bike facilities can incentivize more bicycle use and decrease vehicle use, which have health benefits and can thus improve community resilience. This can also improve connectivity between residents and resources that may be needed in an extreme weather event.

Health and Equity Considerations

Prioritize low-income and underserved areas and communities with lower rates of vehicle ownership or fewer transit options. Make sure that the bicycle facility connects to a larger existing bikeway network that accesses destinations visited by low-income or underserved communities.

Measure Description

This measure will construct or improve a single bicycle lane facility (only Class I, II, or IV) that connects to a larger existing bikeway network. Providing bicycle infrastructure helps to improve biking conditions within an area. This encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. When constructing or improving a bicycle facility, a best practice is to consider local or state bike lane width standards. A variation of this measure is provided as T-19-B, *Construct or Improve Bike Boulevard*.

Subsector

Neighborhood Design

Locational Context

Urban, suburban

Scale of Application

Plan/Community. This measure reduces VMT on the roadway segment parallel to the bicycle facility (i.e., the corridor). An adjustment factor is included in the formula to scale the VMT reduction from the corridor level to the plan/community level.

Implementation Requirements

The bicycle lane facility must be either Class I, II, or IV. Class I bike paths are physically separated from motor vehicle traffic. Class IV bikeways are protected on-street bikeways, also called cycle tracks. Class II bike lanes are striped bicycle lanes that provide exclusive use to bicycles on a roadway.

Cost Considerations

Capital and infrastructure costs for new bike facilities may be high. The local municipality may achieve cost savings through a reduction of cars on the road leading to lower infrastructure and roadway maintenance costs.

Expanded Mitigation Options

Implement alongside Measures T-22-A, T-22-B, and/or T-22-C to ensure that micromobility users can ride safely along bicycle lane facilities and not have to ride along pedestrian infrastructure, which is a risk to pedestrian safety.

MOBILITY MANAGEMENT VMT REDUCTION CALCULATOR TOOL

Return to Main
Print Results

	Project-Level Strategies	VMT Type	Change in VMT	Exclusions
Employer Commute Trip Reduction Programs				
1A	Voluntary Employer Commute Program	Employee commute trips		Strategy 1B selected
1B	Mandatory Employer Commute Program	Employee commute trips	-26.0%	
1C	Employer Carpool Program	Employee commute trips		Included in 1A or 1B
1D	Employer Transit Pass Subsidy	Employee commute trips		Included in 1A or 1B
1E	Employer Vanpool Program	Employee commute trips		Included in 1A or 1B
1F	Employer Telework Program	Employee commute trips	-2.6%	
Land Use Strategies				
2A	Transit Oriented Development	Project-generated trips	-3.7%	
2B	Mixed Use Development	Project-generated trips	-0.6%	
Parking Management				
3A	Parking Pricing	Project-generated trips		
3B	Parking Cash Out	Employee commute trips		
	Employee Commute Trips - Total Change in VMT		**-28.0%**	
	Project-Generated Trips - Total Change in VMT		**-4.2%**	

Because the user has calculated the VMT reduction for this strategy, the results for 1A will be excluded from the Results Summary total.

1B. Mandatory Employer Commute Program

Level of application: **Project/Site**
Type of VMT affected: **Employee commute trips**
Max VMT reduction: **26.0%**

Return to Main
Results Summary

Description: Employer offers a mandatory employer commute trip reduction program. The program may include a carpool or vanpool program, subsidized or discounted transit passes, bike amenities, encouragement for telecommuting and alternative work schedules, commute trip reduction marketing, and preferential parking permit program. **This strategy encompasses strategies 1C, 1D, and 1E and cannot be analyzed in combination with these strategies.** Unlike strategy 1A (Voluntary Employer Commute Program), this strategy would be contractually required of the developer or property owner and is accompanied by a regular performance monitoring and reporting program. **If this strategy is selected, strategy 1A cannot be analyzed as part of the total VMT reduction.**

Is the program contractually required of the developer or property owner and accompanied by a regular performance monitoring and reporting program?	yes	user input, source (1)
% of employees eligible	100%	user input
% change in commute VMT	-26.0%	constant, source (2, 3)
Change in VMT	**-26.0%**	☐ Exclude from Results

Formula: % Change in VMT = % of employees eligible * % change in commute VMT

Sources:

(1). California Air Pollution Control Officers Association. 2010. "Quantifying Greenhouse Gas Mitigation Measures." www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf
(2). City of South San Francisco. 2015. "2015 Genentech Annual Report." http://ci-ssf-ca.granicus.com/MetaViewer.php?view_id=2&clip_id=859&meta_id=62028
(3). Cambridge Systematics. 2009. "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions." Technical Appendices. Prepared for the Urban Land Institute. www.reconnectingamerica.org/assets/Uploads/2009movingcoolerexecsumandappend.pdf

1F. Employer Telework Program

Level of application: **Project/Site**
Type of VMT affected: **Employee commute trips**
Max VMT reduction: **44.0%**

Return to Main
Results Summary

Description: A telework program enables employees to work from home or a remote location on a periodic basis. Depending on the nature of the work, schedules can range from full-time, specific days of the week, or as needed. The VMT impacts of telework are similar to a flexible work schedule program, which enables employees to work long hours in exchange for one day off every week or two.

% of employees who participate	18%	user input
Days/week average employee telecommutes	1	user input
% change in commute VMT for 1% of employees telecommuting @ 1 days/week	-0.15%	coefficient, source (1, 2)
Change in VMT	**-2.6%**	☐ Exclude from Results

Formula: % Change in VMT = % of employees who participate * % change in commute VMT for 1% of employees telecommuting @ 1 days/week

Sources:

(1). Cambridge Systematics. 2009. "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions." Technical Appendices. Prepared for the Urban Land Institute. www.reconnectingamerica.org/assets/Uploads/2009movingcoolerexecsumandappend.pdf

(2). California Air Pollution Control Officers Association. 2010. "Quantifying Greenhouse Gas Mitigation Measures." www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

2A. Transit Oriented Development

Level of application: **Project/Site**
Type of VMT affected: **Project-generated trips**
Max VMT reduction: **14.4%**

Return to Main
Results Summary

Description: Transit Oriented Development (TOD) refers to projects built in compact, walkable areas that have easy access to public transit, ideally in a location with a mix of uses, including housing, retail, offices, and community facilities. TODs are generally described as places within a 10 minute walk of a high-frequency rail transit station (e.g. SPRINTER, COASTER, Trolley). They should, at a minimum, incorporate bike and pedestrian access to transit, thereby encouraging transit use and reducing vehicle travel.

Is the project within 0.5 mile of a rail transit station (e.g., SPRINTER, COASTER, Trolley)?	yes	user input, source (1)
Default Oceanside transit mode share (all trips)	1.3%	coefficient, source (2), overridden
User override of existing transit mode share	0.0%	user input, optional
Transit mode share used for calculation	1.3%	calculated
Ratio of transit mode share for TOD area compared to transit mode share for surrounding Oceanside	4.9	constant, source (3)
Transit mode share with strategy	6.6%	calculated
Mode shift factor	0.7	constant, source (2)
Change in VMT (as compared to same project in non-TOD location)	**-3.7%**	☐ Exclude from Results

Formula: % Change in VMT = difference in transit mode share with strategy * mode shift factor
Transit mode share is capped at 27%, source (3).

Sources:

(1). Tal, G., et al. 2013. "Technical Background Document on the Impacts of Transit Access (Distance to Transit) Based on a Review of the Empirical Literature." www.arb.ca.gov/cc/sb375/policies/transitservice/transit_brief.pdf
(2). SANDAG. 2016. Activity Based Model. (v14.0.1, scenario ID 232)
(3). Lund, H., et al. 2004. "Travel Characteristics of Transit-Oriented Development in California." www.bart.gov/sites/default/files/docs/Travel_of_TOD.pdf

2B. Mixed Use Development

Level of application: **Project/Site**
Type of VMT affected: **Project-generated trips**
Max VMT reduction: **30.0%**

Return to Main
Results Summary

Description: Mixed use projects incorporate a range of complementary land uses that provide a balanced development approach relative to the surrounding neighborhood and encourage transportation alternatives. This could include co-location residential development, office space, retail shops, and others. Land use mix is measured using an entropy index. An index of 0 indicates a single land use while an index of 1 indicates equal distribution of all land uses. For ease of use, the strategy is calculated using only two land use types - residential (number of residents) and commercial (number of jobs).

Default Oceanside land use index	0.74	calculated using current data, source (1)
User override of existing land use index		user input, optional
Existing land use index used for calculation	0.74	calculated from user inputs
Residents added with project	1466	user input
Jobs added with project	448	user input
Land use index of project site with project	0.79	calculated
% change in land use index with strategy	6%	calculated
Elasticity	-0.09	constant, source (2)
Change in VMT (as compared to single-use project)	-0.6%	☐ Exclude from Results

Formula: % Change in VMT = % change in land use index * elasticity
land use index = -A/(ln(2))
A=(b1/a)*ln(b1/a) + (b2/a)*ln(b2/a)
a= residents + jobs
b1 =residents
b2 = jobs
% change in land use index with strategy is capped at 500%, source (3).
Change in VMT is capped at -30%, source (3).

Sources:

(1). SANDAG. 2016. Land Use Inventory (SPACECORE).
(2). Ewing, R., and Cervero, R. 2010. "Travel and the Built Environment - A Meta-Analysis." Journal of the American Planning Association.
(3). California Air Pollution Control Officers Association. 2010. "Quantifying Greenhouse Gas Mitigation Measures." www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Oceanside Transit Center Specific Plan
Transportation Demand Management (TDM) Plan

This Transportation Demand Management (TDM) plan presents strategies and measures that incentivize changes in travel behavior. The goal of the TDM plan is to reduce single-occupancy vehicle (SOV) trips by encouraging alternative travel modes such as walking, biking, ridesharing, transit usage, and telecommuting.

The City of Oceanside's Climate Action Plan (CAP) lays out measures to reduce the City's greenhouse gas (GHG) emissions in a manner consistent with state GHG emission reduction targets. City initiatives, voluntary actions by residents and employers, and requirements of new development comprise the City's CAP.

CAP Measure TL5 and the City's Zoning Ordinance 3050 requires a TDM plan for new non-residential development and additions to existing non-residential development that generate more than 50 daily employee trips. The required TDM plan is to be prepared and implemented such that the development can achieve an employee alternative commute share of at least 20%. Alternative commute modes include ridesharing, public transit, active transportation, telecommuting, and zero-emission vehicles.

The Oceanside Transit Center (OTC) Specific Plan is comprised of a mix of uses that includes public transit facilities, employment generators, residential development, and commercial retail. While the City's zoning ordinance requires a TDM plan only for non-residential development, this TDM plan has been prepared to also include the Plan's residential uses.

The employment generating portion of the development consists of an office for the North County Transit District (NCTD) headquarters, hotel, and small retail/food/beverage uses. The NCTD office and the hotel would each generate more than 50 daily employee trips. As such, a TDM plan with an employee commute reduction target of 20% is required for these uses. The individual retail/food/beverage businesses are anticipated to have less than 50 daily employee trips each, and therefore, are not technically required to follow a TDM plan. Nonetheless, the entity responsible for the retail building management will provide one for the collective benefit of retail employees.

Per the Zoning Ordinance, a TDM plan is not required for the residential portion of the development; however, additional TDM measures will be provided by the residential building management for the benefit of OTC residents. The residential portion of the project has also been designed to encourage transit usage, walking, and biking, thereby reducing SOV trips made by residents. Implementation of the OTC Specific Plan will provide improvements to the existing bicycle facilities and pedestrian network, implementation of traffic calming measures, improvements to transit station accessibility, comfort and safety, a designated area for microtransit, a comprehensive wayfinding program, and parking management program, all of which would minimize residents' reliance on SOVs.

This TDM plan includes the following:

> **Part A:** Provides a description of the project components, such as land use, location, employment, and parking.
>
> **Part B:** Provides a description of the existing setting around the project site and characteristics that affect commute travel.
>
> **Part C:** Identifies project components that research has shown to reduce SOV trips. The measures described in this section would reduce SOV trips made by residents, NCTD employees, hotel employees, retail employees, and visitors.

Part D: Provides a Commute Trip Reduction (CTR) program for the NCTD employees and the hotel employees. The CTR program is expected to achieve the minimum alternative employee commute share of 20% based on an analysis by Stantec (April 2025)[1].

Part E: Provides a listing of TDM measures for the Project's residential and retail commercial uses. These TDM measures are not required by ordinance but will be provided by the residential and retail building management for the benefit of residents and retail employees.

[1] Oceanside Transit Center Specific Plan – Preliminary Draft Transportation Demand Management Plan Technical Analysis, Stantec, April 2025.

Oceanside Transit Center Specific Plan
Transportation Demand Management (TDM) Plan

Part A: Project Description

Project Name: Oceanside Transit Center (OTC) Specific Plan

Project Location: 235 S. Tremont Street Oceanside, CA 92054. The project site is comprised of the 10.15-acre OTC property owned by North County Transit District (NCTD). The site is generally comprised of the area bounded by Tremont Street to the east, Seagaze Drive to the north, railroad tracks to the west, and Missouri Avenue to the south.

Project Information: The project proposes the demolition of existing structures and construction of a mixed-use transit-oriented community.

Total Square Footage: 849,679 gross square feet and 756,371 gross square feet for parking.

Total Square Footage of Non-Residential Uses:

- 64,085 square-foot office building for the NCTD headquarters,
- 160,656 square-foot boutique hotel (170 rooms) with amenities,
- 29,196 square feet of retail/food/beverage uses,
- 3,124 square-foot intermodal customer service center,
- 1,033 square-foot bus office, and
- 12 commuter bus stalls and bus layover space.

Total Residential Units: 547 multi-family residential units with associated indoor and outdoor amenities.

Estimated number of employees: 448 (approximately 214 employees for the NCTD office, 178 employees for the Hotel, and 58 employees for the Retail/Restaurant).

Estimated total number of parking spaces: 1,868 parking stalls (total public and residential uses).

Estimated total number of carpool/vanpool parking spaces: 19

Estimated total number of bike parking spaces: 274 (total public and residential uses).

- 102 residential spaces,
- 13 hotel spaces,
- 40 public structure spaces, and
- 119 exterior public spaces

End of trip facilities: Showers and lockers.

Estimated total number of electric vehicle (EV) parking spaces: 576 EV parking stalls (total public and residential uses).

Estimated total number of EV charging stations: 139 EV charging stations (total public and residential. uses).

Identify any Current TDM programs: All NCTD employees and their immediate family members are encouraged to utilize regional transit services. Transit services on all NCTD and San Diego Metropolitan Transit System (MTS) modes are free to all NCTD employees and their immediate family members through an NCTD issued PRONTO card. NCTD has also implemented a pilot remote work program that enables workers to work from home up to one day per week if their job requirements allow.

Future TDM programs: Parking Management, Commute Trip Reduction Program for the NCTD office, Commute Trip Reduction Program for the hotel, free PRONTO transit passes for residents and employees.

Part B: Site Conditions that Affect Commute Travel

Is the project located within a Smart Growth Opportunity Area or within one-quarter mile of a priority TOD Corridor? Yes, SANDAG Smart Growth Opportunity Area "Oceanside-2" (Mixed Use Transit Corridor). Smart growth is characterized by compact, higher-density development in urbanized areas that is walkable, bike-friendly, near public transit, and promotes good community design. Smart Growth Opportunity Areas have been identified by SANDAG and are locations within the region that can support smart growth and transportation investments. The OTC Specific Plan is consistent with smart growth as it enhances accessibility to a number of transit options (listed below) and leverages underutilized property to create a vibrant community hub with the development of residential, office, and commercial uses proximate to downtown Oceanside shops, services and recreation opportunities.

Transit options located on-site and within a half-mile of the site:

Oceanside Transit Center: Provides access to NCTD Breeze, NCTD COASTER, NCTD SPRINTER, Amtrak, Greyhound, and Metrolink.

NCTD Breeze (bus): Routes 101, 302, 303, 313, 318, 392, and 395 stop at the project site.

Greyhound: Greyhound is an intercity bus common carrier that provides transit from the project site to across the United States, Canada, and Mexico.

NCTD COASTER (commuter rail): Operates from the project site to the Santa Fe depot in Downtown San Diego with several stops along coastal San Diego County.

NCTD SPRINTER (hybrid rail): Operates from the project site to Escondido with stops generally along the SR 78 corridor. Headways are generally 30 minutes.

Other rail service: Amtrak and Metrolink provide rail service at the project site and connect the site to other counties such as Orange, Los Angeles, Ventura, San Bernardino, Riverside, Santa Barbara, and San Luis Obispo.

The City of Oceanside operates the GO'side shuttle program, an app-based on-demand microtransit system using low speed Neighborhood Electric Vehicles (NEV). GO'side services the area around the Oceanside Transit Center and provides first and last mile connectivity as well as local circulation for Oceanside residents and tourists predominately west of Interstate 5.

Employment centers located within a half-mile of Project site:

The project site is in Downtown Oceanside where there are several employment opportunities within a half-mile of the project site such as Oceanside City Hall, retail shops, restaurants, and hotels.

Amenities located within a half-mile of Project site:

Community amenities within a half-mile of the project include: Oceanside Public Library, Oceanside Museum of Art, Oceanside High School, Oceanside Municipal Fishing Pier, Oceanside City Beach, Ocean Place Regal Cinemas, Junior Seau Beach Community Center & Amphitheater, Sunshine Brooks Theater, Pacific Street Linear Park, Strand Beach Park, and Tyson Street Park.

Shared-mobility amenities (i.e., bikeshare, rideshare, etc.) within a half-mile of Project site:

Oceanside City Hall Bike Station (parking facility and charging station for electric bicycles), Oceanside Transit Center Bike Station (parking facility with bicycle repair station).

Oceanside does not currently have a bikeshare program, however several bicycle rental businesses exist within a half-mile of the project site.

Bike paths or lanes located within half-mile of Project site:

A Class III on-street bicycle route exists along the perimeter of the project site on Tremont Street. This facility extends from Neptune Way to Oceanside Boulevard.

Class III on-street bicycle routes also exist along Cleveland Street, Pacific Street, Mission Avenue, Civic Center Drive, and Seagaze Drive. In addition, a Class II on-street bicycle lane is striped on portions of Seagaze Drive.

Bike or pedestrian trails located within half-mile of Project site:

The northern terminus of the Coastal Rail Trail, a Class I off-street bicycle path that extends south until it reaches Oceanside Boulevard, can be accessed from the project site via a pedestrian tunnel below the railroad tracks. At buildout, the Coastal Rail Trail is anticipated to connect approximately 44 miles of off-street trails from Oceanside to the Santa Fe Depot in Downtown San Diego.

Part C: TDM Measures – Project Components

This TDM Plan identifies components of the project that would encourage transit usage, walking, and biking, thereby reducing SOV trips made by residents, NCTD employees, hotel employees, retail employees, and visitors.

The project will construct a transit-oriented development (TOD) that includes residential, commercial, and office uses integrated into an improved transit station. Residents, employees, and visitors would have easy and direct access to high-quality transit services that would encourage transit usage and active modes of transportation. The transit station provides access to NCTD Breeze, NCTD COASTER, NCTD SPRINTER, Amtrak, and Metrolink. On-site pedestrian infrastructure and traffic calming measures further support active transportation. The following project features support alternative modes of transportation within the TOD:

1. The project will make improvements to adjacent bicycle facilities. With implementation of the project, Cleveland Street between Seagaze Drive and Topeka Street, and Topeka Street between Cleveland Street and Tremont Street, are each converted to two-lane public streets with traffic calming elements, which is appropriate for use as a Class III bike route as designated in the City's Bicycle Master Plan. As such, the project will be implementing bicycle facilities consistent with the current Bicycle Master Plan. To support the bicycle infrastructure, the Project will provide private and public bike storage and parking and collaborate with the City's active transportation and micromobility coordinator and the volunteer Bike and Ped Committee on secure bike storage facilities, including SANDAG's bike locker program.

2. The project will provide pedestrian network improvements. Pedestrians can access the project from Seagaze Drive, Tremont Street, Michigan Avenue, and Missouri Avenue and utilize a robust on-site pedestrian network. There will be enhanced pedestrian crossings at four key intersections surrounding the site: Tremont Street at Topeka Street, Seagaze Drive at Cleveland Street, Tremont Street at Michigan Avenue, and Cleveland Street at Missouri Avenue. In addition, the OTC is accessible from west of the railroad tracks by way of an existing pedestrian undercrossing. The project would provide crosswalks along the project's access points and on-site intersections. A mid-block raised crosswalk will be provided on Cleveland Street near the Station Plaza where heavy pedestrian traffic is anticipated. The on-site sidewalks will connect to the surrounding off-site sidewalks. The project is designed to encourage walkability through the activation of Cleveland Street and Tremont Street. On Tremont Street, building components like stoops and balconies break up the facades and create visual interest, and landscaped parkways improve the pedestrian experience.

3. The project will implement traffic calming measures. Traffic calming measures include curb bulb-outs, low speed roadways for vehicles, signage, roadway markings designating shared use with bicycles, and mid-block raised pedestrian crossings. These traffic calming measures will lower vehicle speeds to better accommodate all modes of transportation.

4. The project will improve transit access, safety, and comfort. The project will implement improvements in and around the transit center consistent with SANDAG's recommendations for Mobility Hubs. Improvements include enhanced transit waiting areas, dedicated pick-up and drop-off zones, wider sidewalks, traffic calming elements, enhanced pedestrian crosswalks within the site, as well as improved transit stops, bus stalls, and bus layover space. Transit amenities will include a centralized customer service center, improvements to shelters, benches, street lighting, an enhanced station plaza experience, and relocation of bus terminals to improve pedestrian connections between different modes. In addition, residents will be provided local resources such as free PRONTO regional transit fare payment cards upon

move-in for use on NCTD and MTS services, trail maps, bike safety seminars, mobility opportunities, and connections to local groups such as the volunteer Bike and Ped Committee.

5. The project will include a designated area for a bike share station. A designated area for microtransit (bike share and scooter share) has been identified within the project site but implementation is contingent on the City of Oceanside finalizing an agreement with a service provider.

6. Comprehensive wayfinding and signage. A wayfinding and signage program will foster safe and efficient multi-modal transportation, complement the improvements to the bicycle facilities and pedestrian network, and improve circulation and mobility around the site and enhance the user experience.

7. Parking Management. The Project is designed to adapt to evolving travel patterns with the goal of building a parking program that accommodates the needs of the market at the time the structure is built and into the future, as well as the needs of the different user groups. For the residential portion of the Project, a modified unbundling program where each unit will receive one space, with additional parking spaces available for a fee will be implemented. For the hotel, a paid parking program will be developed for hotel guests that will capitalize on the accessibility of public transit as well as the proximity to Downtown Oceanside. For the NCTD office, employee parking would be managed by a parking management program that would align with the Project's TDM goals and the agencies Sustainability and Climate Action Plan (SCAP) goals.

Estimated trip reductions achieved by Project components: The California Air Pollution Control Officers Association (CAPCOA) GHG Handbook provides tools and methods for calculating greenhouse gas and vehicle trip reductions based primarily on project level actions. Transit-oriented development is shown to reduce project generated vehicle miles traveled (VMT) by up to 31% in relation to a similar project located in a non-TOD location (source: CAPCOA) GHG Handbook Measure T-3, Provide Transit-Oriented Development[2]).

[2] Ibid.

Part D1: TDM Measures for the NCTD Office – Commute Trip Reduction Program

The NCTD office would generate more than 50 daily employee trips. Therefore, a TDM plan with an employee commute reduction target of 20% is required.

By submitting this draft TDM plan, the applicant acknowledges the following Zoning Ordinance requirements:

- A TDM plan shall be implemented concurrent with first project occupancies.
- A minimum of 20% alternative-mode employee commute mode share[3] shall be documented within 3 years of project completion, with ongoing monitoring and reporting based on goal attainment. (i.e., issuance of final building permits or certificates of occupancy). Should the goals not be met in 3 years, the TDM plan shall be revised within 6 months and report commute mode share information to the City on an annual basis.
- If the minimum 20% alternative employee commute mode share is achieved within 3 years, report employee commute mode share information to the City every 3 years.

Employer Commute Trip Reduction (CTR) Programs for the NCTD Office would include the following (Items A through E are a requirement of Zoning Ordinance 3050):

A. The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.

B. The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.

C. The building tenant/occupant will provide customized travel plans for employees, upon request.

D. The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.

E. The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.

F. The building tenant/occupant will implement a free transit program. For NCTD employees, transit services on all NCTD and MTS modes are free through an NCTD issued PRONTO card.

G. The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking, lockers, and showers) for employee use. There will be approximately 40 bicycle parking stalls provided within the public parking garage and an additional approximately 119 exterior public bicycle parking spaces throughout the project site. End of trip amenities such as lockers and showers will be provided for the office employees.

H. The building tenant/occupant will implement a Remote Work Program that enables employees to work from home up to one day per week if job requirements allow.

[3] Alternative commute modes include ridesharing, public transit, active transportation, telecommuting, and zero-emission vehicles.

I. The building tenant/occupant will implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting. The project will designate passenger loading/unloading and waiting areas and may develop a program to coordinate rides.

Estimated employee commute trip reductions achieved by the Employer CTR: 28.0% VMT reduction (source: trip reduction calculations based on SANDAG VMT Reduction Calculator[4]).

[4] Oceanside Transit Center Specific Plan – Preliminary Draft Transportation Demand Management Plan Technical Analysis, Stantec, April 2025.

Part D2: TDM Measures for the Hotel – Commute Trip Reduction Program

The hotel would generate more than 50 daily employee trips. Therefore, a TDM plan with an employee commute reduction target of 20% is required.

By submitting this draft TDM plan, the applicant acknowledges the following Zoning Ordinance requirements:

- A TDM plan shall be implemented concurrent with first project occupancies.
- A minimum of 20% alternative employee commute mode share[5] shall be documented within 3 years of project completion, with ongoing monitoring and reporting based on goal attainment. (i.e., issuance of final building permits or certificates of occupancy). Should the goals not be met in 3 years, the TDP plan shall be revised within 6 months and report commute mode share information to the City on an annual basis.
- If the minimum 20% alternative employee commute mode share is achieved within 3 years, report employee commute mode share information to the City every 3 years.

Employer Commute Trip Reduction (CTR) Programs for the Hotel would include the following (Items A through E are a requirement of Zoning Ordinance 3050):

A. The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.

B. The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.

C. The building tenant/occupant will provide customized travel plans for employees, upon request.

D. The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.

E. The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.

F. The building tenant/occupant will implement a free transit program for hotel employees through management provided PRONTO cards for new employees.

G. The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking, lockers, and showers) for employee use. End of trip amenities such as bicycle parking, lockers, and showers will be provided to the hotel employees.

H. The building tenant/occupant will implement a rideshare program for employees.

I. The building tenant/occupant will implement an employer-sponsored vanpool program for employees.

Estimated employee commute trip reductions achieved by the Employer CTR: 26% VMT reduction (source: trip reduction calculations based on CAPCOA GHG Handbook Measure T-6. Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)[6]).

---

[5] Alternative commute modes include ridesharing, public transit, active transportation, telecommuting, and zero-emission vehicles.

[6] Oceanside Transit Center Specific Plan – Preliminary Draft Transportation Demand Management Plan Technical Analysis, Stantec, April 2025.

Part E: TDM Measures for the OTC Residential and Commercial Retail Uses

The following TDM measures are not required by ordinance but will be provided by the residential and retail building management for the benefit of OTC residents and retail employees. A TDM plan shall be implemented concurrent with first project occupancies.

Trip Reduction Measures for the OTC Residential and Commercial Retail Uses:

A. The residential and retail building management will each conduct trip reduction marketing and outreach strategies that educate residents and employees about sustainable travel choices and promote available programs.

B. The residential and retail building management will each provide customized travel plans for residents and employees, upon request.

C. The residential and retail building management will each implement and maintain a free transit program through management provided PRONTO cards for new residents and employees.

D. The residential and retail building management will each provide end of trip bicycle facilities (i.e., parking and lockers) for resident and employee use.

E. The residential and retail building management will each implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting.

Oceanside Transit Center Specific Plan
Transportation Demand Management (TDM) Plan

This Transportation Demand Management (TDM) plan presents strategies and measures that incentivize changes in travel behavior. The goal of the TDM plan is to reduce single-occupancy vehicle (SOV) trips by encouraging alternative travel modes such as walking, biking, ridesharing, transit usage, and telecommuting.

The City of Oceanside's Climate Action Plan (CAP) lays out measures to reduce the City's greenhouse gas (GHG) emissions in a manner consistent with state GHG emission reduction targets. City initiatives, voluntary actions by residents and employers, and requirements of new development comprise the City's CAP.

CAP Measure TL5 and the City's Zoning Ordinance 3050 requires a TDM plan for new non-residential development and additions to existing non-residential development that generate more than 50 daily employee trips. The required TDM plan is to be prepared and implemented such that the development can achieve an employee alternative commute share of at least 20%. Alternative commute modes include ridesharing, public transit, active transportation, telecommuting, and zero-emission vehicles.

The Oceanside Transit Center (OTC) Specific Plan is comprised of a mix of uses that includes public transit facilities, employment generators, residential development, and commercial retail. While the City's zoning ordinance requires a TDM plan only for non-residential development, this TDM plan has been prepared to also include the Plan's residential uses.

The employment generating portion of the development consists of an office for the North County Transit District (NCTD) headquarters, hotel, and small retail/food/beverage uses. The NCTD office and the hotel would each generate more than 50 daily employee trips. As such, a TDM plan with an employee commute reduction target of 20% is required for these uses. The individual retail/food/beverage businesses are anticipated to have less than 50 daily employee trips each, and therefore, are not technically required to follow a TDM plan. Nonetheless, the entity responsible for the retail building management will provide one for the collective benefit of retail employees.

Per the Zoning Ordinance, a TDM plan is not required for the residential portion of the development; however, additional TDM measures will be provided by the residential building management for the benefit of OTC residents. The residential portion of the project has also been designed to encourage transit usage, walking, and biking, thereby reducing SOV trips made by residents. Implementation of the OTC Specific Plan will provide improvements to the existing bicycle facilities and pedestrian network, implementation of traffic calming measures, improvements to transit station accessibility, comfort and safety, a designated area for microtransit, a comprehensive wayfinding program, and parking management program, all of which would minimize residents' reliance on SOVs.

This TDM plan includes the following:

> **Part A:** Provides a description of the project components, such as land use, location, employment, and parking.
>
> **Part B:** Provides a description of the existing setting around the project site and characteristics that affect commute travel.
>
> **Part C:** Identifies project components that research has shown to reduce SOV trips. The measures described in this section would reduce SOV trips made by residents, NCTD employees, hotel employees, retail employees, and visitors.

Part D: Provides a Commute Trip Reduction (CTR) program for the NCTD employees and the hotel employees. The CTR program is expected to achieve the minimum alternative employee commute share of 20% based on an analysis by Stantec (April 2025)[1].

Part E: Provides a listing of TDM measures for the Project's residential and retail commercial uses. These TDM measures are not required by ordinance but will be provided by the residential and retail building management for the benefit of residents and retail employees.

[1] Oceanside Transit Center Specific Plan – Preliminary Draft Transportation Demand Management Plan Technical Analysis, Stantec, April 2025.

Oceanside Transit Center Specific Plan
Transportation Demand Management (TDM) Plan

Part A: Project Description

Project Name: Oceanside Transit Center (OTC) Specific Plan

Project Location: 235 S. Tremont Street Oceanside, CA 92054. The project site is comprised of the 10.15-acre OTC property owned by North County Transit District (NCTD). The site is generally comprised of the area bounded by Tremont Street to the east, Seagaze Drive to the north, railroad tracks to the west, and Missouri Avenue to the south.

Project Information: The project proposes the demolition of existing structures and construction of a mixed-use transit-oriented community.

Total Square Footage: 849,679 gross square feet and 756,371 gross square feet for parking.

Total Square Footage of Non-Residential Uses:

- 64,085 square-foot office building for the NCTD headquarters,
- 160,656 square-foot boutique hotel (170 rooms) with amenities,
- 29,196 square feet of retail/food/beverage uses,
- 3,124 square-foot intermodal customer service center,
- 1,033 square-foot bus office, and
- 12 commuter bus stalls and bus layover space.

Total Residential Units: 547 multi-family residential units with associated indoor and outdoor amenities.

Estimated number of employees: 448 (approximately 214 employees for the NCTD office, 178 employees for the Hotel, and 58 employees for the Retail/Restaurant).

Estimated total number of parking spaces: 1,868 parking stalls (total public and residential uses).

Estimated total number of carpool/vanpool parking spaces: 19

Estimated total number of bike parking spaces: 274 (total public and residential uses).

- 102 residential spaces,
- 13 hotel spaces,
- 40 public structure spaces, and
- 119 exterior public spaces

End of trip facilities: Showers and lockers.

Estimated total number of electric vehicle (EV) parking spaces: 576 EV parking stalls (total public and residential uses).

Estimated total number of EV charging stations: 139 EV charging stations (total public and residential. uses).

Identify any Current TDM programs: All NCTD employees and their immediate family members are encouraged to utilize regional transit services. Transit services on all NCTD and San Diego Metropolitan Transit System (MTS) modes are free to all NCTD employees and their immediate family members through an NCTD issued PRONTO card. NCTD has also implemented a pilot remote work program that enables workers to work from home up to one day per week if their job requirements allow.

Future TDM programs: Parking Management, Commute Trip Reduction Program for the NCTD office, Commute Trip Reduction Program for the hotel, free PRONTO transit passes for residents and employees.

Part B: Site Conditions that Affect Commute Travel

Is the project located within a Smart Growth Opportunity Area or within one-quarter mile of a priority TOD Corridor? Yes, SANDAG Smart Growth Opportunity Area "Oceanside-2" (Mixed Use Transit Corridor). Smart growth is characterized by compact, higher-density development in urbanized areas that is walkable, bike-friendly, near public transit, and promotes good community design. Smart Growth Opportunity Areas have been identified by SANDAG and are locations within the region that can support smart growth and transportation investments. The OTC Specific Plan is consistent with smart growth as it enhances accessibility to a number of transit options (listed below) and leverages underutilized property to create a vibrant community hub with the development of residential, office, and commercial uses proximate to downtown Oceanside shops, services and recreation opportunities.

Transit options located on-site and within a half-mile of the site:

Oceanside Transit Center: Provides access to NCTD Breeze, NCTD COASTER, NCTD SPRINTER, Amtrak, Greyhound, and Metrolink.

NCTD Breeze (bus): Routes 101, 302, 303, 313, 318, 392, and 395 stop at the project site.

Greyhound: Greyhound is an intercity bus common carrier that provides transit from the project site to across the United States, Canada, and Mexico.

NCTD COASTER (commuter rail): Operates from the project site to the Santa Fe depot in Downtown San Diego with several stops along coastal San Diego County.

NCTD SPRINTER (hybrid rail): Operates from the project site to Escondido with stops generally along the SR 78 corridor. Headways are generally 30 minutes.

Other rail service: Amtrak and Metrolink provide rail service at the project site and connect the site to other counties such as Orange, Los Angeles, Ventura, San Bernardino, Riverside, Santa Barbara, and San Luis Obispo.

The City of Oceanside operates the GO'side shuttle program, an app-based on-demand microtransit system using low speed Neighborhood Electric Vehicles (NEV). GO'side services the area around the Oceanside Transit Center and provides first and last mile connectivity as well as local circulation for Oceanside residents and tourists predominately west of Interstate 5.

Employment centers located within a half-mile of Project site:

The project site is in Downtown Oceanside where there are several employment opportunities within a half-mile of the project site such as Oceanside City Hall, retail shops, restaurants, and hotels.

Amenities located within a half-mile of Project site:

Community amenities within a half-mile of the project include: Oceanside Public Library, Oceanside Museum of Art, Oceanside High School, Oceanside Municipal Fishing Pier, Oceanside City Beach, Ocean Place Regal Cinemas, Junior Seau Beach Community Center & Amphitheater, Sunshine Brooks Theater, Pacific Street Linear Park, Strand Beach Park, and Tyson Street Park.

Shared-mobility amenities (i.e., bikeshare, rideshare, etc.) within a half-mile of Project site:

Oceanside City Hall Bike Station (parking facility and charging station for electric bicycles), Oceanside Transit Center Bike Station (parking facility with bicycle repair station).

Oceanside does not currently have a bikeshare program, however several bicycle rental businesses exist within a half-mile of the project site.

Bike paths or lanes located within half-mile of Project site:

A Class III on-street bicycle route exists along the perimeter of the project site on Tremont Street. This facility extends from Neptune Way to Oceanside Boulevard.

Class III on-street bicycle routes also exist along Cleveland Street, Pacific Street, Mission Avenue, Civic Center Drive, and Seagaze Drive. In addition, a Class II on-street bicycle lane is striped on portions of Seagaze Drive.

Bike or pedestrian trails located within half-mile of Project site:

The northern terminus of the Coastal Rail Trail, a Class I off-street bicycle path that extends south until it reaches Oceanside Boulevard, can be accessed from the project site via a pedestrian tunnel below the railroad tracks. At buildout, the Coastal Rail Trail is anticipated to connect approximately 44 miles of off-street trails from Oceanside to the Santa Fe Depot in Downtown San Diego.

Part C: TDM Measures – Project Components

This TDM Plan identifies components of the project that would encourage transit usage, walking, and biking, thereby reducing SOV trips made by residents, NCTD employees, hotel employees, retail employees, and visitors.

The project will construct a transit-oriented development (TOD) that includes residential, commercial, and office uses integrated into an improved transit station. Residents, employees, and visitors would have easy and direct access to high-quality transit services that would encourage transit usage and active modes of transportation. The transit station provides access to NCTD Breeze, NCTD COASTER, NCTD SPRINTER, Amtrak, and Metrolink. On-site pedestrian infrastructure and traffic calming measures further support active transportation. The following project features support alternative modes of transportation within the TOD:

1. The project will make improvements to adjacent bicycle facilities. With implementation of the project, Cleveland Street between Seagaze Drive and Topeka Street, and Topeka Street between Cleveland Street and Tremont Street, are each converted to two-lane public streets with traffic calming elements, which is appropriate for use as a Class III bike route as designated in the City's Bicycle Master Plan. As such, the project will be implementing bicycle facilities consistent with the current Bicycle Master Plan. To support the bicycle infrastructure, the Project will provide private and public bike storage and parking and collaborate with the City's active transportation and micromobility coordinator and the volunteer Bike and Ped Committee on secure bike storage facilities, including SANDAG's bike locker program.

2. The project will provide pedestrian network improvements. Pedestrians can access the project from Seagaze Drive, Tremont Street, Michigan Avenue, and Missouri Avenue and utilize a robust on-site pedestrian network. There will be enhanced pedestrian crossings at four key intersections surrounding the site: Tremont Street at Topeka Street, Seagaze Drive at Cleveland Street, Tremont Street at Michigan Avenue, and Cleveland Street at Missouri Avenue. In addition, the OTC is accessible from west of the railroad tracks by way of an existing pedestrian undercrossing. The project would provide crosswalks along the project's access points and on-site intersections. A mid-block raised crosswalk will be provided on Cleveland Street near the Station Plaza where heavy pedestrian traffic is anticipated. The on-site sidewalks will connect to the surrounding off-site sidewalks. The project is designed to encourage walkability through the activation of Cleveland Street and Tremont Street. On Tremont Street, building components like stoops and balconies break up the facades and create visual interest, and landscaped parkways improve the pedestrian experience.

3. The project will implement traffic calming measures. Traffic calming measures include curb bulb-outs, low speed roadways for vehicles, signage, roadway markings designating shared use with bicycles, and mid-block raised pedestrian crossings. These traffic calming measures will lower vehicle speeds to better accommodate all modes of transportation.

4. The project will improve transit access, safety, and comfort. The project will implement improvements in and around the transit center consistent with SANDAG's recommendations for Mobility Hubs. Improvements include enhanced transit waiting areas, dedicated pick-up and drop-off zones, wider sidewalks, traffic calming elements, enhanced pedestrian crosswalks within the site, as well as improved transit stops, bus stalls, and bus layover space. Transit amenities will include a centralized customer service center, improvements to shelters, benches, street lighting, an enhanced station plaza experience, and relocation of bus terminals to improve pedestrian connections between different modes. In addition, residents will be provided local resources such as free PRONTO regional transit fare payment cards upon

move-in for use on NCTD and MTS services, trail maps, bike safety seminars, mobility opportunities, and connections to local groups such as the volunteer Bike and Ped Committee.

5. The project will include a designated area for a bike share station. A designated area for microtransit (bike share and scooter share) has been identified within the project site but implementation is contingent on the City of Oceanside finalizing an agreement with a service provider.

6. Comprehensive wayfinding and signage. A wayfinding and signage program will foster safe and efficient multi-modal transportation, complement the improvements to the bicycle facilities and pedestrian network, and improve circulation and mobility around the site and enhance the user experience.

7. Parking Management. The Project is designed to adapt to evolving travel patterns with the goal of building a parking program that accommodates the needs of the market at the time the structure is built and into the future, as well as the needs of the different user groups. For the residential portion of the Project, a modified unbundling program where each unit will receive one space, with additional parking spaces available for a fee will be implemented. For the hotel, a paid parking program will be developed for hotel guests that will capitalize on the accessibility of public transit as well as the proximity to Downtown Oceanside. For the NCTD office, employee parking would be managed by a parking management program that would align with the Project's TDM goals and the agencies Sustainability and Climate Action Plan (SCAP) goals.

Estimated trip reductions achieved by Project components: The California Air Pollution Control Officers Association (CAPCOA) GHG Handbook provides tools and methods for calculating greenhouse gas and vehicle trip reductions based primarily on project level actions. Transit-oriented development is shown to reduce project generated vehicle miles traveled (VMT) by up to 31% in relation to a similar project located in a non-TOD location (source: CAPCOA) GHG Handbook Measure T-3, Provide Transit-Oriented Development[2]).

[2] Ibid.

Part D1: TDM Measures for the NCTD Office – Commute Trip Reduction Program

The NCTD office would generate more than 50 daily employee trips. Therefore, a TDM plan with an employee commute reduction target of 20% is required.

By submitting this draft TDM plan, the applicant acknowledges the following Zoning Ordinance requirements:

- A TDM plan shall be implemented concurrent with first project occupancies.
- A minimum of 20% alternative-mode employee commute mode share[3] shall be documented within 3 years of project completion, with ongoing monitoring and reporting based on goal attainment. (i.e., issuance of final building permits or certificates of occupancy). Should the goals not be met in 3 years, the TDM plan shall be revised within 6 months and report commute mode share information to the City on an annual basis.
- If the minimum 20% alternative employee commute mode share is achieved within 3 years, report employee commute mode share information to the City every 3 years.

Employer Commute Trip Reduction (CTR) Programs for the NCTD Office would include the following (Items A through E are a requirement of Zoning Ordinance 3050):

A. The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.

B. The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.

C. The building tenant/occupant will provide customized travel plans for employees, upon request.

D. The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.

E. The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.

F. The building tenant/occupant will implement a free transit program. For NCTD employees, transit services on all NCTD and MTS modes are free through an NCTD issued PRONTO card.

G. The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking, lockers, and showers) for employee use. There will be approximately 40 bicycle parking stalls provided within the public parking garage and an additional approximately 119 exterior public bicycle parking spaces throughout the project site. End of trip amenities such as lockers and showers will be provided for the office employees.

H. The building tenant/occupant will implement a Remote Work Program that enables employees to work from home up to one day per week if job requirements allow.

[3] Alternative commute modes include ridesharing, public transit, active transportation, telecommuting, and zero-emission vehicles.

I. The building tenant/occupant will implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting. The project will designate passenger loading/unloading and waiting areas and may develop a program to coordinate rides.

Estimated employee commute trip reductions achieved by the Employer CTR: 28.0% VMT reduction (source: trip reduction calculations based on SANDAG VMT Reduction Calculator[4]).

[4] Oceanside Transit Center Specific Plan – Preliminary Draft Transportation Demand Management Plan Technical Analysis, Stantec, April 2025.

Part D2: TDM Measures for the Hotel – Commute Trip Reduction Program

The hotel would generate more than 50 daily employee trips. Therefore, a TDM plan with an employee commute reduction target of 20% is required.

By submitting this draft TDM plan, the applicant acknowledges the following Zoning Ordinance requirements:

- A TDM plan shall be implemented concurrent with first project occupancies.
- A minimum of 20% alternative employee commute mode share[5] shall be documented within 3 years of project completion, with ongoing monitoring and reporting based on goal attainment. (i.e., issuance of final building permits or certificates of occupancy). Should the goals not be met in 3 years, the TDP plan shall be revised within 6 months and report commute mode share information to the City on an annual basis.
- If the minimum 20% alternative employee commute mode share is achieved within 3 years, report employee commute mode share information to the City every 3 years.

Employer Commute Trip Reduction (CTR) Programs for the Hotel would include the following (Items A through E are a requirement of Zoning Ordinance 3050):

A. The building tenant/occupant will designate a Transportation Coordinator responsible for ensuring compliance with TDM plan requirements.

B. The building tenant/occupant will conduct commute trip reduction marketing and outreach strategies that educate employees about sustainable travel choices and promote available programs.

C. The building tenant/occupant will provide customized travel plans for employees, upon request.

D. The building tenant/occupant will implement a monitoring and reporting program, including provisions for addressing changes in tenancy.

E. The building tenant/occupant will conduct monitoring of the employee commute mode share through employee surveys within 6 months of reaching 75 percent occupancy or within 12 months of initial occupancy, whichever occurs first.

F. The building tenant/occupant will implement a free transit program for hotel employees through management provided PRONTO cards for new employees.

G. The building tenant/occupant will provide end of trip bicycle facilities (i.e., parking, lockers, and showers) for employee use. End of trip amenities such as bicycle parking, lockers, and showers will be provided to the hotel employees.

H. The building tenant/occupant will implement a rideshare program for employees.

I. The building tenant/occupant will implement an employer-sponsored vanpool program for employees.

Estimated employee commute trip reductions achieved by the Employer CTR: 26% VMT reduction (source: trip reduction calculations based on CAPCOA GHG Handbook Measure T-6. Implement Commute Trip Reduction Program (Mandatory Implementation and Monitoring)[6]).

---

[5] Alternative commute modes include ridesharing, public transit, active transportation, telecommuting, and zero-emission vehicles.

[6] Oceanside Transit Center Specific Plan – Preliminary Draft Transportation Demand Management Plan Technical Analysis, Stantec, April 2025.

Part E: TDM Measures for the OTC Residential and Commercial Retail Uses

The following TDM measures are not required by ordinance but will be provided by the residential and retail building management for the benefit of OTC residents and retail employees. A TDM plan shall be implemented concurrent with first project occupancies.

Trip Reduction Measures for the OTC Residential and Commercial Retail Uses:

A. The residential and retail building management will each conduct trip reduction marketing and outreach strategies that educate residents and employees about sustainable travel choices and promote available programs.

B. The residential and retail building management will each provide customized travel plans for residents and employees, upon request.

C. The residential and retail building management will each implement and maintain a free transit program through management provided PRONTO cards for new residents and employees.

D. The residential and retail building management will each provide end of trip bicycle facilities (i.e., parking and lockers) for resident and employee use.

E. The residential and retail building management will each implement policies and programs to further incentivize rideshare, active transportation, and carpooling to minimize SOV commuting.

City of Oceanside Bicycle and Pedestrian Committee
BikeWalk Oceanside
Phone: 619-200-6133 • E-Mail: tlichterman@cox.net

October 24, 2022

Mr. Michael McCann
Regional Director of Acquisitions and Development
Toll Brothers Apartment Living
C/O North County Transit District
810 Mission Avenue
Oceanside, CA 92056

RE: Oceanside Transit Center Redevelopment Plan

Dear Mr. McCann,

The Oceanside Bicycle and Pedestrian Committee is a citizen's advisory committee whose role is to advise the City on programs, projects, and policies which improve bicycling and walking in the community. The Committee's membership includes over 75 Oceanside residents who are concerned about bicycling and walking infrastructure and opportunities. Our goals are to promote bicycling and walking in the community for health, recreation, and transportation, to promote bicycle and pedestrian safety, and to improve bicycling and pedestrian facilities.

On September 15, three members of the Oceanside Bicycle and Pedestrian Committee attended the OTC Redevelopment Plan "Open House" at the City. We have a number of comments and concerns about the proposed redevelopment plan from the transportation, transit, and active transportation perspectives which we wish to share with NCTD at this time. Our comments are based on the overall site plan graphic which was posted at the Open House and is attached for reference. We realize that this layout may still be somewhat conceptual at this time.

Transit Related:

1. The current OTC is strategically the most important transit facility in the entire NCTD system, if not the entire county, with 3 intercity/commuter rail lines, the SPRINTER Light Rail Line, seven NCTD bus routes, FLEX service, and intercity bus service. The Committee understands and appreciates that NCTD wishes to modernize the facility and pursue revenue generation opportunities, and believes that both transit- and mixed-use development goals can be met on the site. However, it is the Committee's belief that the transit functions should be highly visible, with a "grand transit entrance" or plaza on one of the key street frontages, designed with the transit and active transportation user in mind. Such a transit plaza could serve as the entrance to all the transit services available, provide real time traveler information, and include access to bike storage, rental bikes and other services. The San Diego Association of Governments (SANDAG) refers to such centers as "Mobility Hubs" and has developed an extensive list of the types of services such facilities can offer (see for example: https://www.sdforward.com/fwddoc/mobipdfs/mobilityhubcatalog-features.pdf).

With the proposed Plan layout, it seems like the transit facility is practically hidden from view of the rest of the community to the north, east and south, behind large residential buildings and parking structures. The transit and transportation functions appear to be a far lower priority in the proposed Plan than residential uses, despite the major importance of this transportation facility to north county.

2. The current OTC was opened approximately 1983 and will have served the community for at least 40 years by the time the redevelopment occurs. The current OTC has 17 bus stalls for NCTD buses and 5 bus stalls for intercity bus services. In addition to the regular routes, some of these stalls are used by backup or layover buses. The proposed plan shows only ten NCTD bus stalls and two Greyhound stalls. Where will the other stalls be located? Is NCTD envisioning a significant reduction in bus services with this plan? If this facility will potentially serve the community for another 40 to 50 years, shouldn't growth in service, not reduction, be planned for?

3. Bus-to-rail integration is a major concern with the current transit facility. It is roughly a 3-minute walk from the bus island to the SPRINTER platforms currently, and an even longer walk to the COASTER Platform #3 which most COASTERs use. Bus-to-rail integration needs to be carefully thought out to ensure it is as convenient as possible. It is not clear from the overall site plan how this integration will work.

Active Transportation:

4. Access to the facility for transit users arriving by bike or on foot is not very user-friendly. It appears biking and walking transit users must enter between large residential building blocks on roadways used by motor vehicles, rather than entering through an inviting "grand transit plaza" as suggested above. There should be safe, separate bike lanes or paths into the facility to lead the user from points north, east, and south of the facility, to the transit services area. Use of active transportation modes to access the facility will become more and more important as we address climate change, and the facility should encourage this and be as easy as possible to access on foot or by bicycle.

5. Bicycle parking and storage needs to be carefully planned to encourage use of alternative modes. Specifically, such bicycle storage must be in clear view of NCTD Customer Service or Security offices and staff, to provide a greater sense of security for those leaving bikes at the facility. Bike parking must also accommodate three different user groups:
    a. Daily commuters, who will leave their bikes for extended periods, multiple days per week. This parking should be in the form of a secured "Bike Shed" similar to the one recently added at Oceanside City Hall, with secure access provisions.
    b. Casual bike users, who may come to the OTC to visit Customer Service or other services in the center. For these users, secure bike racks in clear view of Customer Service office staff should be planned for.
    c. Bikeshare bikes – Eventually, a docked bike share program similar to Encinitas' Bcycle e-bike share will come to Oceanside. The site plan should identify multiple locations on the facility grounds for these bikeshare dock installations, again, in open view of other activities on the property to promote security.

Car Parking:

6. This facility will have one of the largest car parking facilities in the City of Oceanside. The proposed site plan does not indicate how the identified parking resources will be managed. The OTC redevelopment should include a comprehensive car parking system that will tie the various uses together. A good car parking system will be automated, value-priced, and have congestion pricing algorithms as needed. It will also be shared among all site users and it will provide earnings to those currently losing money (i.e., those who don't solo drive) because car parking is being provided.

   Car parking is very expensive to provide. We should not ignore the cost and how it discriminates against those that might like to drive less than average. On the other hand, there must be an "add-in" payment, as needed, so that workers that must drive everyday will not lose money. We must accommodate disabled drivers and protect privacy.

   The proposed parking system would increase economic fairness and modal choice while it would reduce driving. It would maximize transit ridership instead of maximizing driving to and from the Transit Center. This shift in mode choice is critical to help meet regional and state-wide climate stabilization targets and reduce greenhouse gas emissions.

   The car parking system we are proposing is identified in the Oceanside Climate Action Plan (CAP) Transportation Demand Management Ordinance. However, it is only suggested, not yet required. Future updates to Oceanside's CAP may require such a system at large projects such as this one.

On-Going Community Input:

7. A project of this magnitude and potential impact on the community deserves an on-going community outreach and participation process. We strongly urge NCTD and its partners to establish a community stakeholder and advisory commission to guide the development plans. This commission should include representation from all affected community members, including transit users, modal service providers, local residents, merchants, and City management, and their input and advice should be carefully considered in order to achieve the best outcome for all parties. The Oceanside Bicycle and Pedestrian Committee would be honored to be a part of that outreach process.

Thank you for your consideration.

Sincerely,

Tom Lichterman

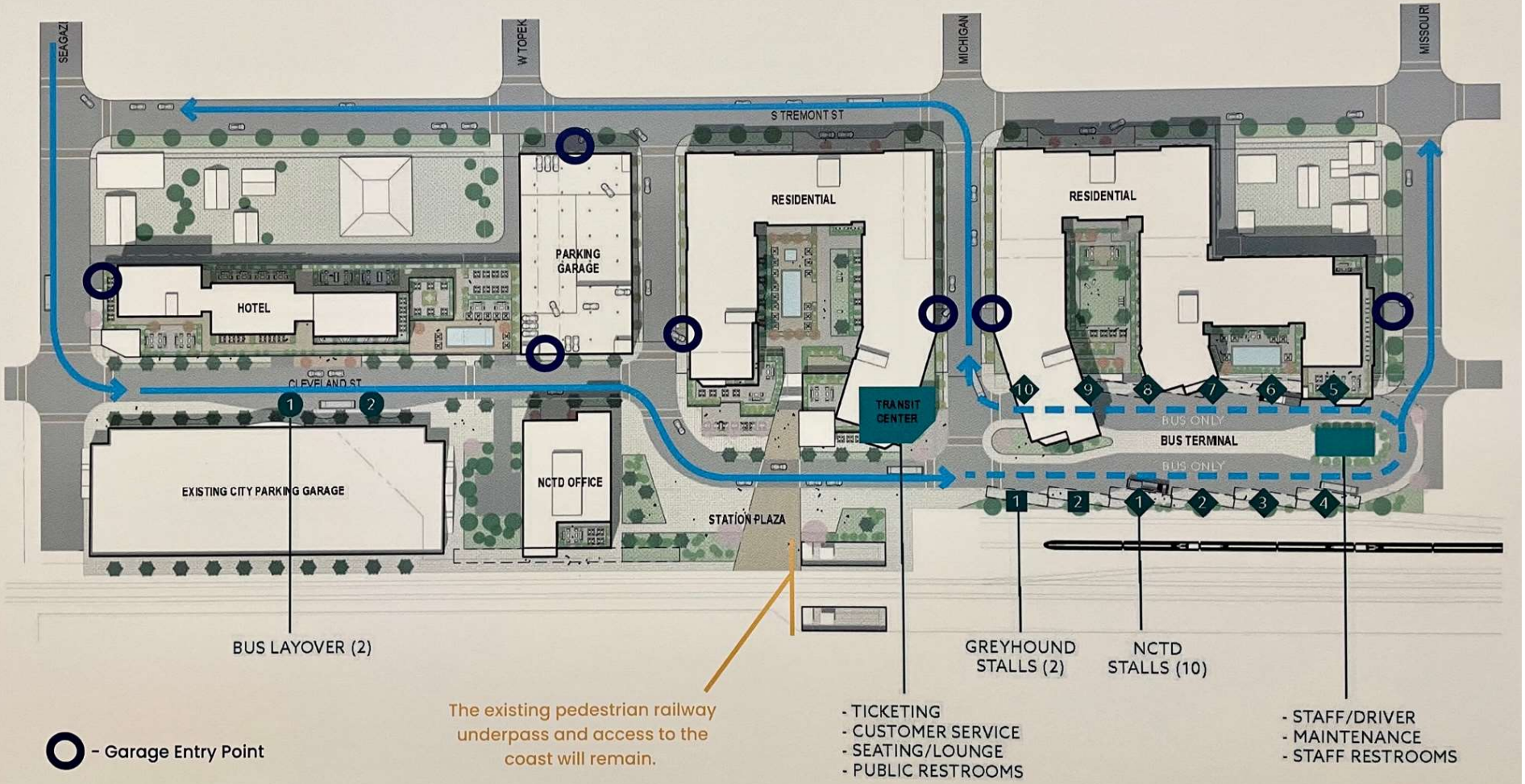
Tom Lichterman
Chairman, Oceanside Bicycle and Pedestrian Committee

cc: Oceanside Bicycle and Pedestrian Committee Members
Oceanside Mayor and City Council
Matt Tucker, NCTD
Lillian Doherty, NCTD
Katie Persons, NCTD
Jose Cervantes, NCTD
Marisa Mangan, SANDAG

ATTACHMENT

oved Circulation

design of the bus terminals will improve circulation through the site. Passengers will have easy p
s from the new Transit Center, which is just north of the shaded waiting area.



City of Oceanside Bicycle and Pedestrian Committee
BikeWalk Oceanside
Phone: 619-200-6133 • E-Mail: tlichterman@cox.net

February 1, 2023

Rob Dmohowski,
Principal Planner
City of Oceanside
300 N. Coast Highway
Oceanside, CA 92054

RE: Oceanside Transit Center Redevelopment Project – CEQA Scoping Meeting Comments

Dear Mr. Dmohowski,

The Oceanside Bicycle and Pedestrian Committee is a citizen's advisory committee whose role is to advise the City on programs, projects, and policies which improve bicycling and walking in the community. The Committee's membership includes over 75 Oceanside residents who are concerned about bicycling and walking infrastructure and opportunities. Our goals are to promote bicycling and walking in the community for health, recreation, and transportation, to promote bicycle and pedestrian safety, and to improve bicycling and pedestrian facilities.

The Committee previously submitted a detailed comment letter dated October 24, 2022, to NCTD, The Toll Brothers, and the City on the Oceanside Transit Center (OTC) Redevelopment Project. The concerns expressed in that letter remain the principal concerns of our Committee, and we respectfully re-submit that letter (attached) as comments in the Scoping Meeting. Our concern-areas in that letter were in the following categories:

1. Transit Related
2. Active Transportation
3. Car Parking
4. On-going Community Input

Having not yet received a formal response on many of these concern areas from the Applicant, the purpose of this follow-up letter is to provide additional input relative to the CEQA Scoping Process, as well as our thoughts on potential approaches the Applicant could use to address our previously-stated concerns.

An overriding interest of our Committee, aside from the four concern categories above, is that the OTC project should contribute to climate-stabilization goals, which should be an important CEQA focus. The current proposal, based on what we have seen to date, fails to do this in some key respects, as discussed further below.

1. Transit-Related Concerns

We previously pointed out the regional significance of the existing Oceanside Transit Center, being the most important transit center in the NCTD system, with 3 intercity/commuter rail lines, the SPRINTER Light Rail Line, seven NCTD bus routes, FLEX service, and intercity bus service. Our overriding concern in this area is that the proposed redevelopment hides the existence of the OTC from the existing neighborhood and Coast Highway, blocking its view to these areas behind large apartment building blocks.This contrasts with the existing facility,

which is clearly a transit center when viewed from all three of the adjacent street frontages. We believe that by hiding the transit center from the public, the public will be less aware of transit and transportation alternatives, thus generating more motor-vehicle greenhouse gas emissions than a design more open and visible to the community would.

The proposed redevelopment also provides no more transit bus capacity than the existing facility, despite likely growth in the area over the life of the OTC, which could extend out 40 to 60 years. We believe there are alternative ways to develop the site to provide greater transit capacity.

Potential Approaches to Address these Concerns:
Reconfigure the building blocks so as to create a view corridor to the transit center from at least Tremont and Michigan Street. We believe Michigan will be one of the most important approaches to access both the on-site development and the transit center. The Michigan corridor should be widened, by narrowing the apartment building blocks and creating a pleasant view to towards the west and the transit center.

Signage should also be generously used to make it clear to the public that there is an important public transit and rail center here. Consider the creation of an archway structure over Michigan between the two apartment building blocks with large signage such as "To Transit Center", "Grand Central Oceanside", or words to that effect. Ensure a strong tie-in to the roundabout planned by the City at Coast Highway and Michigan. For example, Michigan, from the Coast Highway roundabout to Cleveland, could be a uniformly designed and landscaped "complete street," with traffic slowed enough to make all active transportation modes pleasant to use. Consider an art project at the roundabout with a subject related to the OTC and/or our climate crisis. Consider approaches from Topeka, Tremont, and the new access road that is west of Tremont, between the new parking garage and the north face of the apartment building, all having the same features as the Michigan entrance street. Consider these features for Cleveland.

Analyze the internal frontage on Cleveland Street to see if additional bus layover bays can be constructed, to allow for system expansion as well as to handle emergency or overflow needs, such as the current bus bridge operating between Irvine and Oceanside due to the track problems in San Clemente.

2. Active Transportation Concerns

We previously commented that access to the proposed transit facility for transit users arriving by bike or on foot is not very user-friendly. It appears biking and walking transit users must enter between large residential building blocks on narrow roadways used by motor vehicles, rather than entering through an inviting "grand transit plaza" access. There are no separate bike lanes or paths into the facility. Use of active transportation modes to access the facility will become more and more important as we address climate change, and the facility should encourage this and be as easy as possible to access on foot or by bicycle. Finally, bicycle parking and storage for varied user groups (Daily Commuters, Casual Bike Users, Bikeshare Bikes) has not been indicated on the draft plan.

The Sierra Club has a policy statement that is very applicable to this project and reflects our Committee's viewpoint:

Rail systems are most effective in stimulating compact development patterns, increasing public transit patronage and reducing motor vehicle use. Station access should be provided by foot, bicycle and public transit, with minimal, but full-priced, public parking. Accommodation of pedestrians, bicycles and public transit should be given priority over private automobiles.

Potential Approaches to Address these Concerns:
Reduce the width of the northern apartment building block in order to widen Michigan and create a better view corridor to the transit center. Use some of this extra right-of-way width to install separated bike lanes on Michigan, leading directly to the transit center area. Identify and establish bike parking and storage areas in clear view of the NCTD Customer Service Center, for security, including both a high-security bike lock-up facility and short-term use bike racks. The boutique hotel also proposed for the site should supply complimentary bikes for their guests' use, along with information on local biking destinations, to help mitigate local traffic and emissions. Guests from around the world can come to this hotel using only a plane-train combination. With downtown, the beach, the San Luis Rey River Bike Trail, and the numerous rail-bike trip options, many guests won't need to drive during their visit.

3. Car Parking Concerns

We previously stated that this facility will have one of the largest car parking facilities in the City of Oceanside. The proposed site plan does not indicate how the identified parking resources will be managed. By continuing the existing facility's policy of "free parking", the proposed facility will continue to encourage single-occupant auto travel to the OTC, thereby generating more climate-destabilizing greenhouse gases than a properly-managed and priced parking facility. The existing policy will also encourage employees to drive to the office building, boutique hotel patrons to use a car on their visit, and apartment residents to own more cars than they would otherwise.

Potential Approaches to Address these Concerns:
The OTC redevelopment should include a comprehensive car parking system that will tie the various uses together. A good car parking system will be automated, value-priced, and have congestion pricing algorithms as needed. It will also be shared among all site users and it will provide earnings to those currently losing money (i.e., those who don't solo-drive) because "free" car parking is being provided. The car parking system should be created by a third-party vendor, selected using a Requirements Document and an RFP process. The vendor should also be good at solar canopies, charging stations, and buying and selling electricity. The proposed parking system would increase economic fairness and modal choice while it would reduce driving and VMT. It would maximize transit ridership instead of maximizing driving to and from the OTC. This shift in mode choice is critical to help meet regional and state-wide climate stabilization targets by reducing greenhouse gas emissions.

4. On-Going Community Input:

We previously pointed out the need for a community outreach and participation process for a project of this magnitude and potential impact on the community. Oceanside's District 1, all of Oceanside, and SANDAG all have a huge stake in the final form of the OTC. So far, there has been only one public meeting, held back in September, 2022, and it seems that the design has progressed very far with very little community input being taken into consideration. We learned, for example, that the Applicant was not aware of the Mobility Hub Elements that SANDAG had

recommended for this facility in a 2017 report. To our knowledge, there is no on-going community stakeholder group or meeting process, other than a plan to hold two "thematic" meetings managed by the Applicant.

Potential Approaches to Address these Concerns:
Establish a community stakeholder and advisory commission to guide development plans, including representation from all affected community members, including transit users, modal service providers, local residents, merchants, and City management. Establish a process for ensuring their input is carefully considered in design revisions in order to achieve the best outcome for all parties. Ensure that the Mobility Hub Elements previously identified by SANDAG for this facility are incorporated into the design.

It should be remembered that the existing facility is 40 years old, and that whatever is ultimately constructed will no doubt be in the community for at least another 40 years. Let's ensure it is the best facility possible.

Thank you for your consideration.

Sincerely,



Tom Lichterman
Chairman, Oceanside Bicycle and Pedestrian Committee

cc: Oceanside Bicycle and Pedestrian Committee Members
Oceanside Mayor and City Council
Matt Tucker, NCTD
Lillian Doherty, NCTD
Katie Persons, NCTD
Jose Cervantes, NCTD
Marisa Mangan, SANDAG

ATTACHMENT – October 24, 2022 Comment Letter

June 12, 2023

Mr. Rob Dmohowski, AICP
Principal Planner, City of Oceanside
300 N. Coast Hwy
Oceanside, CA 92054
rdmohowski@oceansideca.org

Re: Proposed Oceanside Transit Center Mixed Use Project

Dear Mr. Dmohowski -

I am following up on the previous letters I have written to you, so please also include this one in the reviews by the Planning Commission, City Council and Coastal Commission.

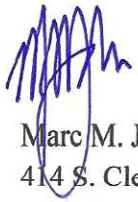
Thank you for our discussion on May 10, 2023 during which you informed me that the Environmental Impact Report will not be available until late Summer at the earliest. I certainly hope the necessary research is currently being done so that the EIR will address the questions set forth in my April 19, 2023 letter.

In that letter I mentioned that these questions have become more critically important now that it has been revealed that the actual intent of the developer and the NCTD is to use Missouri not just for emergency vehicle access but as a primary bus thoroughfare. Recent events have made this an even more troubling revelation. As described by my neighbor, Kevin Ham, in his letter to the City of Oceanside, unhoused persons recently have been pushed out of parts of the downtown and the OTC, which has caused many of them to come to the Cleveland St-south-of-Missouri neighborhood. Several of them have trespassed and committed other crimes such as theft in our townhouse development. There have been instances of aggressive and frightening behavior. This situation is dangerous and intolerable. We also understand that NCTD is undertaking a new study to explore the use of Missouri as an exit route for their buses. I hope you hold them to the highest standards and make sure the report is more than a rubber stamp of their newly stated desires. Please make sure that this report, when provided to the city for consideration, explores the impacts to nearby residents and businesses, not just those for NCTD and/or their ridership.

It is clear that should the OTC redevelopment as currently configured be allowed to be built, it will make a bad problem much worse by repositioning the bus parking stalls to a location next to our neighborhood. The City of Oceanside would be complicit in ruining a nice neighborhood and causing many of its residents to suffer damages if the current plans were allowed to proceed.

Up until now, we have patiently waited for the City to see the poor city planning and glaring fault which lies in repositioning the bus parking stalls to a location next to the greatest number of existing residents. Kevin and I are willing to meet with you to have a candid talk about options. But if cannot make tangible progress soon, reluctantly but out of necessity we will be considering other options.

Very truly yours,



Marc M. Jacobs
414 S. Cleveland St., Unit 105
mjacobs8285@gmail.com

April 19, 2023

Mr. Rob Dmohowski, AICP
Principal Planner, City of Oceanside
300 N. Coast Hwy
Oceanside, CA 92054
rdmohowski@oceansideca.org

Re: Proposed Oceanside Transit Center Mixed Use Project

Dear Mr. Dmohowski -

I am following up on the previous letters I have written to you, most notably the one dated February 13, 2023. With regard to the item listed at (1), have you or someone else been able to work on a description of the meaningful discussion of project alternatives which occurred that attempted to avoid the problem of adverse environmental impacts on the South Cleveland neighborhood, as required by CEQA?

With regard to items (2) and (3) relating to the required Environmental Impact Report, have the discussions concerning its drafting included (x) recognition of the potential diminution in air quality near the currently proposed location of the bus parking stalls and turnaround, which would require testing of the current air quality in the South Cleveland neighborhood to establish an environmental baseline, and evaluation of the impact of said currently proposed location, (y) an evaluation of the attendant noise pollution in the South Cleveland neighborhood, and (z) possible methods of mitigation? These questions have become more critically important now that it has been revealed that the actual intent is to use Missouri not just for emergency vehicle access but as a primary bus thoroughfare. This is a VERY troubling revelation.

Do you yet have a better idea of when the draft EIR will be available for you to send to me?

Please let me know the answers to my questions above at your earliest convenience, thanks.

Please have this letter also included in the reviews by the Planning Commission, City Council and Coastal Commission. Thank you.

Very truly yours,



Marc M. Jacobs
414 S. Cleveland St., Unit 105
mjacobs8285@gmail.com

April 6, 2023

North County Transit District Board Members

810 Mission Avenue

Oceanside, CA 92054

Dear Chair Edson and Board Members:

On behalf of the Sierra Club, I am submitting comments for the proposed redevelopment at the Oceanside Transit Center, and its potential environmental impacts.

This redevelopment project demonstrates several aspects of the type of development that the Sierra Club supports. Positive aspects of this project include: its location near the city center, access to public transit, and mixed-use development (inclusive housing, commercial, retail, amenities). These are all aspects of smart growth, which helps communities thrive.

This major North County transit hub redevelopment project should be a model for incorporating a comprehensive Transportation Demand Management (TDM) plan in order to meaningfully reduce the significant climate impacts of the project. We are concerned that the opportunity to incorporate TDM has not been given the importance and priority that it merits. We urge the Board to include the following:

TDM

A comprehensive, robust TDM plan to capitalize on the proximity to the transit hub to reduce VMTs for the different land uses that will be developed and provided. Robust TDM plans should be required for all planned uses: hotel, housing, office space, retail and amenities. The TDM plans should require a significant reduction in car trips for all uses, plus reporting and monitoring.

Parking Demand Management (PDM)

PDM should be a crucial element of a TDM plan for the OTC redevelopment. As other groups have pointed out in their comments on the project, the proposal touts the addition of approximately 1780 parking spaces, plus the existing parking structure at Seagaze. We understand the need to accommodate the new housing units, a hotel, office buildings, stores, etc. However, we know that PDM strategies designed to reduce parking demand, and promote a shift from single occupant vehicle (SOV) trips to transit, pedestrian, and bicycling trips would reduce VMT and environmental harm. A combination of parking pricing and supply-side strategies should be reviewed for implementation. Parking pricing involves charging a fee for parking, whereas parking supply strategies involve restricting the supply of available parking.

Downtown Oceanside Shuttle Service

SANDAG, the City of Oceanside and Visit Oceanside are partnering to relaunch a downtown on-demand shuttle service for residents and tourists to travel between downtown destinations and the harbor. The

relaunch of the shuttle service is only funded as a 2 year pilot program. NCTD should support the continuation of the shuttle in its OTC redevelopment plan. It could be an important tool to mitigate the need for the large expansion of parking at OTC and reduce the VMTs generated by the project.

A well-planned and managed shuttle service would be a great opportunity for NCTD to establish a permanent solution to the first-last-mile challenge of transporting commuters to and from the OTC transit hub to their final destination. NCTD's support could also serve as a catalyst for other downtown employers to support the shuttle and ensure its continuation.

NCTD TDM Plan

NCTD should be setting an example for our region with its own TDM Plan for NCTD employees. It should include ambitious incentives for alternative modes of transportation and leadership to reduce single-occupant auto driving. This includes employee incentives to use transit or alternative modes and instituting PDM plans that incentivize alternative modes such as Dividend Account Parking or other comparable programs. NCTD should also have a work-from-home policy for all employees whose work can be accomplished from a remote location. If NCTD already has instituted any of these policies we request information about them.

In closing, the Sierra Club urges you to take advantage of all of the opportunities presented by the OTC redevelopment to provide the leadership that we need in this region to reduce the climate impacts of a development of this size and scope at North County's premier transit hub.

Thank you for the opportunity to comment.

Sincerely,

Barbara Collins

Executive Committee Member, Sierra Club North County Coastal Group

Robert Dmohowski

To: Sara Schwartz
Subject: RE: OTC Project - OCNA Objections

From: Sara Schwartz <Sara.Schwartz@seabreezemgmt.com>
Sent: Wednesday, October 25, 2023 10:03 AM
To: Robert Dmohowski <RDmohowski@oceansideca.org>
Cc: City Council <Council@oceansideca.org>; Planning-Planning Commission <PlanningCommission@oceansideca.org>; Planning Web <Planning_Web@oceansideca.org>
Subject: OTC Project - OCNA Objections

Warning: External Source

Good Morning,

I am the Community Manager for Oceanside Terraces Owners Association located at 301 Mission Ave in Oceanside. Please see the attached letter on behalf of the Board of Directors.

SEABREEZE
MANAGEMENT COMPANY

Sara Schwartz
Senior Community Manager
p. 858-769-1453 | **f.** (858) 863-2199
9350 Waxie Way, Suite 560
San Diego, CA 92123
seabreezemgmt.com

CAUTION: This email originated from outside the organization. If unfamiliar with the sender, do not open attachments or click on links. Please forward this email to helpdesk if you believe this email is potentially unsafe or seems suspicious.

Robert Dmohowski
Principal Planner
City of Oceanside, Planning Division
300 North Coast Hwy
Oceanside, CA 92054

RE: Oceanside Transit Center Project Bus Ingress/Egress (GPA22-00002)

Dear Mr. Dmohowski:

It has come to the attention of the Oceanside Terraces Owners Association Board of Directors (Board) that certain comments were made concerning bus ingress and egress for the proposed Oceanside Transit Center (OTC) Redevelopment. Specifically, individuals speaking on behalf of the Oceanside Coastal Neighborhood Association (OCNA) expressed their opposition to the redirection of bus travel along Michigan and Missouri Avenues. The Board does not support this position and strongly supports the proposed relocation of the bus bays to the southwest corner of the property and the redirection of southbound buses to Michigan Avenue and Missouri Avenue.

Oceanside Terraces is a pioneering mixed-use development consisting of 38 residential units, seven commercial retail units and 13 commercial office units. We are located directly across Seagaze Drive from the OTC. OCNA shows our community within their boundaries; however, the Board would like to make it clear that we were not consulted regarding this issue and the OCNA does not speak for our community.

The proposed relocation the bus bays will create a more efficient travel experience for riders with more convenient connections between the bus and rail systems. The proposed redirection southbound buses to Michigan Avenue and Missouri Avenue will also reduce traffic and turning movements on Seagaze Drive. This is important because the proposed redevelopment of the Ocean Place (Regal Theater) property will have all its ingress/egress on Seagaze Drive. This project (RT23-00001) will consist of 322 dwelling units and 19,291 square feet of retail/restaurant

space. As you know, the Ocean Place/Regal property currently has no on-site parking; therefore, all the traffic generated by this super block will be directed to Seagaze Drive for the first time.

Please include these comments in the public record.

Sincerely,

Cc: City of Oceanside City Council
City of Oceanside Planning Commission
City of Oceanside Downtown Advisory Committee

Robert Dmohowski

From: Rick Nicotera <rick.nicotera@gmail.com>
Sent: Wednesday, January 15, 2025 1:31 PM
To: Robert Dmohowski
Subject: Transit Center (District 1)

Warning: External Source

Hello,

Thanks for reading my note. I'm increasingly concerned to see the transit center development planned in such an unbalanced manner. This one is beyond a scale that is anything close to safe and acceptable in this area. The narrow sidewalk design is also ridiculous, especially with the gigantic archways obstructing the walkway. Pedestrians spill into the street from narrow sidewalks as cars line up at the stops. Space for many more cars downtown is gone, sorry.

Please advocate for more benefits to the local community in planning for the transit center. The plans are too much, over the top, and beyond reason. Automobile and pedestrian traffic cannot be maintained in a safe manner with such concentrated over-development - to say nothing of those who's lives are affected so negatively.

Developers and businesses have their own representatives. What's undetectable is any notable Oceanside representation of its interests or stakes. The issue has become pronounced since our reps adopted the tagline, "It's the state and housing mandates - we can't do anything about it." This is not representation. There is much more the city needs to bring to the bargaining table. First, there are plenty of improvements that other coastal cities are requiring, and second, **over-development is being unfairly and unsafely focused into District 1**. This may be because of District 1's (City Council's) high density caps compared to other districts But how can such discrimination still be justified? The transit center development is an embarrassment as planned.

Thank you very much,

Rick Nicotera
606 S Freeman St
760-458-3468

Robert Dmohowski

From: Spencer <endoflex.industries@gmail.com>
Sent: Friday, February 28, 2025 3:32 PM
To: Planning-Planning Commission
Subject: Transit Center Mixed-Use Project

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

I am writing to express my support for the Oceanside Transit Center Mixed-Use Project (GPA22-00002) in downtown Oceanside. First, let me introduce myself. My name is Spencer Domingue-Sanford, and I am a 9th-grade student at Oceanside High School. I have lived in Oceanside my entire life, and I genuinely want to see our city continue to grow and thrive. I believe that this project represents an excellent approach to achieving that goal. While I may not approve of some projects in Oceanside, I feel that this particular project exemplifies the type of development we should pursue as a community. The chosen location is ideal for the project's objectives, which include the construction of apartments, hotels, and commercial space. Importantly, it improves the local transit station without requiring the relocation or demolition of existing buildings and businesses. This benefits everyone, not just tourists.

As someone passionate about urbanism, I appreciate transit-oriented development, and I believe this project embodies that vision. Building on top of a major transit center would be a significant step forward in making our city more walkable and enjoyable for all, including locals and visitors. Thank you for considering my perspective on this important and well-intentioned project.

eTRAKiT: https://crw.cityofoceanside.com/etrakit3/Search/project.aspx?activityNo=GPA22-00002

Robert Dmohowski

From: Jean Booth <jebramky@hotmail.com>
Sent: Wednesday, June 11, 2025 10:12 AM
To: Planning-Planning Commission; Jean Booth
Subject: OTC Redevelopment Project

Follow Up Flag: Follow up
Flag Status: Completed

Warning: External Source

Dear Planning Commissioners,

I live very close to the transit center and am in favor of building homes and making this a community-friendly space that emphasizes less car dependency and more public transport use.

I believe that a major step in contributing to those goals is to ensure that some of the retail space of the Toll Brothers development be leased out to a grocery store. With almost 550 new home units as well as current nearby residents, the addition of a grocery store would reduce many individual car trips. It would also benefit the commuters and tourists that Oceanside counts on for revenue.

How can we make this happen? Does the city have any sway with the developer in requiring a grocery store within the project?

Please let me know if there is anyone else I can contact with this concern.

Thank you for your work for our city,

Jean Booth
jebramky@hotmail.com

Oceanside
CHAMBER of COMMERCE
ADVANCING OCEANSIDE

Our Mission: To Provide Advocacy and Resources
That Help Businesses and Our Community Thrive
928 N. Coast Hwy. Oceanside, CA 92054
P: (760) 722-1534 | E: info@oceansidechamber.com
www.oceansidechamber.com

June 11, 2025

To: Oceanside Planning Commissioners
From: Oceanside Chamber of Commerce
Re: Support for Oceanside Transit Center Project

Dear Oceanside Planning Commissioners:

On behalf of the Oceanside Chamber of Commerce, I'm writing to express our strong support for the redevelopment of the Oceanside Transit Center and to urge the Planning Commission to approve this vital project.

Oceanside has seen impressive job growth in recent years, but access to affordable and convenient housing continues to be a major challenge for our workforce. Too many essential workers are commuting long distances simply because local options are out of reach or not well connected by transit.

A modernized transit center would change that. It would serve as a central hub that better connects our residents to regional job centers, reducing commute times and transportation costs. That kind of infrastructure makes it easier for workers to live near where they work, and it supports the development of housing that's truly accessible to our local workforce. Reliable transit is also key to easing traffic congestion and improving quality of life across the board. It's a win for workers, families, and businesses alike.

The Transit Center also plays a crucial role in supporting our downtown. It's the front door to our business district—an area that continues to be a key part of our local economy. By improving transit access, we can bring more foot traffic into downtown, supporting the small businesses, restaurants, and shops that give Oceanside its unique character. A more connected and welcoming gateway means more opportunities for economic activity and community engagement.

This project reflects the kind of smart growth we need—growth that supports both our business community and the people who live and work here. The Chamber sees this redevelopment as a smart, forward-thinking investment in a stronger, more sustainable future for Oceanside.

We respectfully urge you to approve this project and keep it moving forward.

Sincerely,



Scott Ashton, CEO
Oceanside Chamber of Commerce
scott@oceansidechamber.com
760-722-1534, ext. 107

Robert Dmohowski

From: ED Bienkowski <mbandeb2@msn.com>
Sent: Monday, June 16, 2025 8:34 AM
To: Planning Web
Subject: Transit Project GPA22-00002

Warning: External Source

Hello, if we must move forward with this ill-conceived project (not enough parking, poorly thought out bus routing and plenty of vacant storefronts in Oceanside without the need to open more) then there is one thing that might make this more palatable and what is missing from our community, a grocery store.

Ed Bienkowski

June 16, 2025

Oceanside Transit Center Final EIR Consideration – June 23, 2025, Meeting. SCH No: 2023010231

Dear Oceanside Planning Commission.

As a supporter of economic development, transportation alternatives, necessary infrastructure, more and affordable housing, the Oceanside Transit Center redevelopment project checks many of the boxes I support. However, when it comes to constructing parts of the proposed project in direct contradiction to what has been promised, I personally take issue.

As someone who has worked for over many decades in transportation and economic development, one of my personal cornerstones was to bring trust and honest conversations to governmental policies and actions. My experience and connections in transportation and economic development are many, and prior to buying my home, I called the City of Oceanside Management team, NCTD staff, and SANDAG, and asked about the future plans for the Oceanside Transit Center (OTC) and specifically asked about any potential plans to move the bus bays and station. Each agency advised there was no plans to move the bus bays or station. You can imagine my surprise when I saw plans that contained this proposed relocation after these assurances and purchasing my home. Further, at the March 16, 2023, Toll Brothers meeting, it was only then revealed, at the end of the meeting, due to my question about the frequency of use of the bus exit at Missouri and South Cleveland Street, that the exit would be used for ALL south bound bus traffic. Prior to this unexpected comment, the public was advised that this exit was placed there at the direction of the City of Oceanside and would only be used occasionally.

My experience in economic development and transportation has allowed me to work on many award-winning projects that have both lifted many out of low wage jobs and provided necessary transportation support to those who need it most. By way of background, I personally created SANDAG's Vanpool program, Guaranteed Ride Home program, and their Telework program manual. Further I was part of the transfer of the trip reduction program from Caltrans to SANDAG (serving as the first full-term chair), I created San Diego's first private sector vanpool, was key to San Diego Bike to Work efforts and resurrected the Commuter Ferry service to NAS Coronado. I also created NAS North Island's Vanpool program; the region's first Telework center and was part of the team that started the first Transportation Demand Management (TDM) and Transportation System Management (TSM) programs in North San Diego County (to name a few projects I have led). These efforts have led to local, state, federal and international awards and recognition, but most importantly to positively changed lives.

The reason I raise my experience is to make it clear that I know just a little about the proposed Oceanside Transit Center (OTC) development and the corresponding benefits and impacts, and I knew and know those involved in San Diego and Oceanside transportation planning and Economic Development. So, when someone as experienced as I asks for information about a proposed development, they generally get an accurate answer. I know from conversations with others, that they too received similar information and in keeping with my career-long goal of bringing clarity, honesty and trust to government actions, I cannot stand by and watch such a travesty take place. One of the reasons there is a lack of trust in government, is misinformation and not following through on words and actions. The proposed movement of the bus bays and now the late public notification that Missouri will now be used as a full-time bus exit will further degrade the lack of trust in government and is a disappointing action.

Regarding the FEIR, and the OTC development, I am concerned with several issues, which include;

Movement of Bus Bays

The bus bay relocation report by Linscott, Law, and Greenspan (LL&G) clearly indicates they are not making any recommendations. Who chose the proposed current configuration and why? (Page 26).

The LL&G report also indicates that there are other improvements that can be made to improve walking time, but they were not included in the report, the DEIR, or the FEIR. Why not?

The LL&G report states. “Although all three proposed options for the bus bay relocation will be reducing walking distances to the Coaster platform, additional improvements could be incorporated to enhance commuter walking distances specifically at the south end of the bus platforms.” (Page 26) Why were none of these included in the for early public review or chosen as the proposed option?

Did the Coaster platform movement EIR indicate a movement of the bus bays due to the relocation of the Coaster platform? If, not why was this missed? How can NCTD make up for this missed issue with this project? Should NCTD be required to install shore power for the Coaster as originally planned, but deleted due to cost? It seems there is significant profit for Toll Brothers and NCTD in this project to make good on this prior promise.

Why not keep Cleveland exit at Missouri closed and have all vehicles exit on Michigan and only have emergency access when necessary? This also saves costs as indicated by the LL&G report (Page 28).

The LL&G report envisions “Negative Impacts” to West Missouri residents. What are those impacts that were envisioned and why has there been no mitigation for their impacts in the FEIR?

What type of additional traffic congestion is envisioned at Missouri at South Cleveland as indicated on page 25 of the LL&G report and what is being proposed to mitigate the impacts?

The study looks at existing bus traffic and not new traffic. As stated in the 2/22/23 ORC Development workshop there will be service expansions, and how will the proposed design handle these and what will the impacts be?

Public Outreach

North County Transit District (NCTD) has NOT followed industry standards regarding receiving community input on significant site changes proposed for the redevelopment of the Oceanside Transit Center (OTC).

Due to lapses in the public outreach process, the public was not properly informed of the proposed movement of the NCTD bus bays to the most southerly position of the OTC site, that is currently zoned residential (D5 & R3).

The movement of the bus bays was a condition made by NCTD staff, with no robust public input, and included in the NCTD Board approval of an Exclusive Negotiating Agreement (ENA) with Toll Brothers (approved September 17th, 2020). This approval was made during the pandemic with reduced in-person meetings, (thereby) reducing public participation. The public process should have been expanded and not curtailed, like other agencies did during the COVID-19 Pandemic to better inform the public of major issues.

As background, as early as July 2019, assurances were given to me and neighbors by the NCTD Executive Director and Chief Development Officer that the public would be notified of any potential bus bay movements, and this notification would include public participation prior to Board consideration or any development agreement. THIS WAS NOT DONE!

It should be noted that NCTD has resisted any questions and/or input on their desire to move the buy bays directly next to a ground floor entry level

quiet, residential neighborhood. Further, many alternatives to reduce transition time for riders, were not even considered.

NCTD representatives have previously disavowed any knowledge of the bus bay movements, and they did not properly notify neighbors, or parties who requested to be notified. The neighbors and community are disappointed with the lack of input on the bus bay movements and NCTD has now taken notice of their lack of gathering community input. NCTD has now enhanced their public outreach efforts elsewhere on the advice of ANT Communications. For example, NCTD's new CEO regularly goes to public meetings to provide project updates, and they are gathering additional input prior to project development and initiation.

While these new outreach enhancements are admirable, they do not make up for the missteps NCTD made with their OTC efforts.

Traffic, VMT, and Parking

The project will generate over 6,000 vehicle trips per day and therefore the FEIR should address the impacts of traffic, project related Vehicle Miles Traveled (VMT), GHG generated, and air quality. Although some nearby residents will be able to access public transit by foot or bicycle, many more travelers will use private vehicles. This will be enabled by the large number of parking spots in the development, and an inadequate number of bicycle parking and storage opportunities. A VMT study is critical to the City's attempts to limit GHG emissions and address climate change. Hence, to understand and mitigate these impacts, that study should have been a part of this DEIR.

A thorough analysis must be undertaken the safety impacts of routing dozens of buses and 1000+ additional cars on small local streets (Michigan, Cleveland, and Missouri) creating hazards for residents, pedestrians and cyclists who regularly use this area.

Additionally, where will all the non-EV cars park when they have planned for 1800+ parking spaces with 40% or 720 reserved for electric vehicles. The Union Tribune reports that only 6% drivers have EV's. This will have a significant negative impact on Oceanside's local neighborhoods!

The proposed bus routing and overflow parking from residents will wipe out limited street parking for current residents and many businesses like ACE Hardware and Local Tap House (LTH).

Coast Highway Plan

The OTC project has not fully considered the Coastal Commission approved Coast Highway Corridor plan that will prohibit buses from turning South on Missouri to Coast Highway due to corner bump-outs and medians created to safely manage traffic and pedestrian crossings at this busy intersection. City staff have advised that NO changes can be made to the Coast Highway Plan, or risk losing Coastal Commission Approval. Hence the request by NCTD to move the crosswalk North of Missouri at Coast Highway is imposable or risk losing Coastal Commission approval.

If NCTD was to try and use the Missouri route to Coast Highway, a turn Southbound is virtually impossible as the bump out will not allow for smooth or easy Southbound turns onto Coast Highway from Eastbound Missouri. Again, no changes can be made according to City staff or risk losing the Coastal Commission Approval.

Further, the plan has not considered that northbound buses on Coast Hwy will not be able to turn west onto Michigan due to the Coastal Commission approved Coast Hwy Corridor plan that has a traffic circle at this intersection. The required bus turning radius is too large for this street. However, the Intersection is appropriate at Seagaze with an actual bus turning lane to accommodate the radius required for these buses.

2028 Olympics Impacts and Construction Timing

Oceanside is preparing to host visitors, participants, and workers for the 2028 Olympics. This is a once in a lifetime opportunity to showcase Oceanside to the World. Numerous accommodations will be utilized locally and transportation to the 2028 Olympic venues, in Los Angeles and San Diego, along the LOSSAN train corridor will be critical. The construction of the OTC redevelopment project should consider the impacts and the timing of their project to demobilize, improve access, and beautify all areas at and near the areas affected by this construction.

Air and Noise Pollution

Along with the current trains idling, the proposed bus routings create a HUGE and concentrated air quality and noise issues (old buses will take time to be replaced with new fuel cell buses), especially for neighbors to the south of the project. The city should also note that with increased traffic to this area, the trains may blow their horns up to 10 times per arrival and departure! The City of Oceanside spent significant funds to curtail train noise, and this project, and specifically the movement of the bus bays south, will only significantly worsen the noise problem. Even though the FEIR indicates there will be significant noise impacts, the applicant does not have any mitigation for these impacts, not even new sound reducing double pain windows for residents. The cost for these windows would be minimal considering the applicant is purchasing a $1.5M fire truck for the City of Oceanside and making storm water improvements which will not benefit impacted residents as directly as alterations to the proposed bus routes.

The buses and Coaster (including bus-bridge buses) many times have auxiliary power for their heating and cooling systems which do not utilize clean fuels while the vehicles are idling and/or are in operation and this needs to be modeled and accounted for.

Clarification of the project in the FEIR

It should be noted that City staff felt it necessary to clarify the project in the FEIR in the Revisions section. If the City felt it necessary to do so, many of us believe the Draft EIR should be recirculated since many in the public may need to the clarification to better understand and comment on the project during that important stage. If clarification is necessary, something was missed in the original documents and information.

Thank you for the opportunity to comment on the Oceanside Transit Center (OTC) FEIR. The report indicates that there are significant impacts that do not require mitigation due to the overall reduction of pollution and traffic congestion. I disagree that no mitigation is required. This was once said about Barrio Logan and other areas of San Diego County where negative impacts were foisted on communities for the overall benefit of the Region, and eventual these views changed when lawsuits ensued.

The public has made it clear that this is not proper or acceptable to negatively impact an area for the benefit of others. As you may know, public agencies are trying to make amends for these negative impacts and property takings, and we should also consider the negative impacts of the OTC development and how to mitigate the negative impacts for these sensitive receptors and community members. You now have the ability to do the right thing, and make the development properly handle their localized negative impacts and potential adverse and eminent domain takings.

As Oceanside City staff have indicated and know well, NCTD is not to be trusted with their word. I can tell you from talking to Oceanside and other city staff in NCTD's service area, NCTD does not listen to their input. Maybe Oceanside can get a multimillion-dollar settlement from NCTD, like the City of Vista did when they uncovered NCTD's hidden and negative Sprinter impacts.

ON this occasion let's have a victory for residents and make sure NCTD and Toll Brothers create a project that works with and for residents. The City should use their land use authority to craft a project that you and the community can be proud of, not just NCTD riders.

All required conditions/mitigations should not be included in any side letter or agreement other than a legally binding agreement, that conditions the use of the site and is included in all title documents and land use authorities. That way in the future, if conditions are not followed, NCTD and Toll Brothers has teeth built into their approved use that will force compliance.

In closing, I oppose the movement of the bus bays to the South parking lot. However, if this is done, residents adamantly oppose the routing of buses on Missouri, South Cleveland and northbound buses on Michigan, ESPECIALLY when Seagaze is wider, has appropriate turning lanes, and will not affect the health and safety of residents and visitors. We suggest keeping the buses on the same streets they currently utilize to reduce the impact any residential streets which are narrower and not intended for this bus use. These bus routing requirements should be made as condition of the zoning changes to document and codify these requirements.

Thank you for your consideration of my input.

Kevin Ham

South Cleveland Street Resident

Robert Dmohowski

From: Alex Foster <afoster@gmail.com>
Sent: Tuesday, June 17, 2025 1:11 PM
To: Planning-Planning Commission
Subject: Support for Oceanside Transit Center

Warning: External Source

Dear Planning Commission,

I am writing to support the passage of the Oceanside Transit Center project. This development will result in enormous benefit and go a long way toward transforming Oceanside to the walkable, pedestrian-friendly, human-centered city we know it can be. Aside from heavily incentivizing transit and reducing vehicle miles traveled, it will add sorely-needed housing stock, much of it affordable. This is an opportunity the city cannot afford to pass up.

I would also like to bring attention, once again, to the desperately flawed plans for the Coast Highway redevelopment -- a project which is, in theory, supposed to encourage more cycling and active transport. As written, however, the project places the **unprotected** bike lane directly next to the vehicle traffic lane with ZERO barrier separating the two lanes. Worse, the bike lane is sandwiched between vehicles and their parking, putting cyclists at substantial risk of collision from cars accessing or leaving parking spots as well as driver-side doors.

Time and again, contemporary urban literature has identified the critical importance of physical protections for cyclists, both to make them safer and encourage the use of cycling infrastructure. These plans should be amended to have the parking lane IN BETWEEN the traffic and bike lanes, thus utilizing parked cars as physical protection for cyclists and eliminating an imminent danger to cyclists. I urge the planning commission to make the necessary changes to turn this into a successful project.

Alex Foster

Merisue S. Repik

From: donna smith <smithdonn31@gmail.com>
Sent: Wednesday, June 18, 2025 3:10 PM
To: Planning-Planning Commission
Subject: Support for Oceanside Transit Center

Warning: External Source