

# Oceanside Rail Trail Study



DECEMBER 2024



alta

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# Introduction



# Introduction

## Project Description

### OVERVIEW

The Coastal Rail Trail is a planned continuous 44 mile long multi-use trail that, once completed, will connect the City of Oceanside to Downtown San Diego. As of 2023, five segments of the Coastal Rail Trail have been constructed and opened to the public, including segments in Oceanside, Carlsbad, Encinitas, and Solana Beach totaling 4.7 miles in length. In 2003, the City of Oceanside completed a 0.55 mile segment of the Coastal Rail Trail from Morse Street to Vista Way. In 2014 the City of Oceanside in coordination with the San Diego Association of Governments (SANDAG) completed a 0.4 mile long segment between Oceanside Boulevard and Wisconsin Avenue, creating a continuous 0.8 mile long segment from the Oceanside Transit Center to Wisconsin Avenue. Once all segments within Oceanside are constructed, the Coastal Rail Trail will be a 2+ mile trail from the Oceanside Transit Center to the Oceanside/Carlsbad city border.

### Project Focus

The Oceanside Railroad Trail Study focuses on improving the existing Coastal Rail Trail from Buccaneer Park/Morse Street to Vista Way, and closing the trail gap from Vista Way to South Coast Highway. In addition to the mainline Coastal Rail Trail, this study also includes improving trail access from Morse Street, east of the railroad, to Buccaneer Beach Park and the Coastal Rail Trail. The study investigates alternative trail alignments, evaluates them through analysis and community engagement, and provides guidance on design, implementation, and next steps.



# Connection to Prior Planning and Design Efforts

## OVERVIEW

Existing city and regional plans provide valuable context that can help focus and prioritize project goals, objectives, and design alternatives. Six city planning documents and two regional planning documents are summarized in this section that provide relevant detail for the Oceanside Railroad Trail Study (Table 1).

**Table 1:** Summary of Relevant Plans and Documents

Plan Name	Agency	Year	Relevance to Project
Oceanside General Plan - Land Use Element (Non-Motorized Transportation Objectives)	City of Oceanside	2002	Provides objectives and specific policies related to bike facilities
Coast Highway Vision and Strategic Plan	City of Oceanside	2009	Identifies ongoing projects near study area for coordination
Oceanside General Plan - Circulation Element	City of Oceanside	2012	Provides high level goals and priorities for trail projects
City of Oceanside 2030 Master Transportation Roadway Plan	City of Oceanside	2012	Provides general design guidance for roadways
Coastal Rail Trail Project Study Report - Loma Alta Creek Project	City of Oceanside	2017	Provides design and trail alignment details of connecting trail project
Climate Action Plan	City of Oceanside	2019	Provides high level goals related to complete streets
SANDAG Regional Plan	San Diego Association of Governments (SANDAG)	2021	Provides high level goals related to all modes of transportation
County of San Diego Health and Human Services Agency Community Action Plan	County of San Diego	2021	Provides guidance related to funding

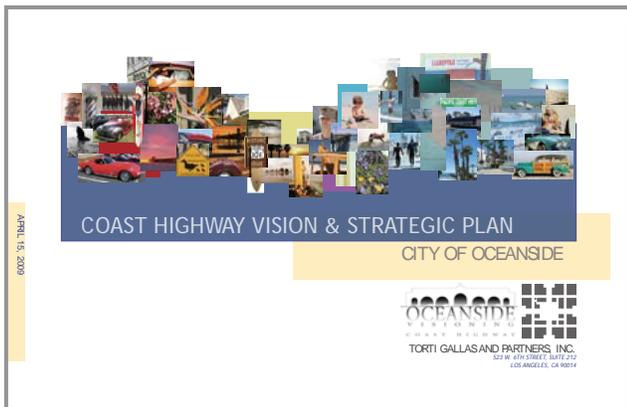
## CITY OF OCEANSIDE GENERAL PLAN - LAND USE ELEMENT (2002)

The City of Oceanside General Plan identifies the proposed types and locations of land uses which includes open space and community facilities. Long range policies are provided that relate to community enhancement, community development, and natural resource management.

Within the Land Use Element, specific objectives and policies are outlined that relate to Non-Motorized Transportation. Overall, the City of Oceanside aims to enhance environmental and social benefits for its citizens through the creation of an integrated system of safe and efficient bicycle and pedestrian networks.

### **Relevance to Project**

The Non-Motorized Transportation policies include the connection and continuation of the Coastal Rail Trail within the City of Oceanside. Additionally, along collector streets that function as links in the bicycle network, policies state that they shall require Class II bike lanes (at a minimum). In order to reduce hazards to cyclists, on-street parking may be eliminated along collector streets where necessary. With this in mind, alternative alignments that may require the removal of on-street parking should be considered as feasible options.



## COAST HIGHWAY VISION AND STRATEGIC PLAN, CITY OF OCEANSIDE (2009)

The Coast Highway Vision Plan provides a guide for future development along and near Coast Highway to stimulate economic investment and should be considered as part of any pertinent future changes to the City of Oceanside's plans and policies. The Coast Highway Vision and Strategic Plan's objectives are to:

- ▶ Reflect the Oceanside Identity (“Brand”) of economic and cultural diversity, coastal character, civic-minded tourism, artistic and artful, and environmentally conscious community
- ▶ Promote environmentally and economically sustainable smart growth for transit, pedestrian, bicycle, and multi-generational-friendly infill development
- ▶ Enable corridor development by optimizing urban connectivity, capitalizing on transportation/mobility options and rationalizing parking
- ▶ Maintain adequate regulatory flexibility to accommodate the community’s emerging needs and safeguard the future prosperity of the reinvented district from economic market fluctuations
- ▶ Promote high quality urban and architectural design, sustainable development, synergistic land uses, and enhancement of environmental resources through incentives
- ▶ Promote a preservation ethic that encourages and supports the preservation of Oceanside’s historical heritage and resources to the extent possible

### Relevance to Project

While the Coast Highway Vision Plan study area does not include the primary Coastal Rail Trail segment that is the focus of this feasibility study, it does identify Cassidy Street and Vista Way as corridors to receive new streetscaping to frame views towards the beach and identify the area as a district. Additionally, alternative routes explored as part of this feasibility study utilize the Coast Highway to navigate complex right-of-way (ROW) and environmental impacts. The Coast Highway Vision Plan provides an urban design concept for the area north of the Coastal Rail Trail study area between Cassidy Street and Eaton Street named the "South 'O' Village". The South 'O' Village is designed as two blocks of pedestrian-oriented retail and commercial mixed-use buildings compatible in mass and character with existing structures along Coast Highway and with adjacent residential development (Figure 1). The Coastal Rail Trail has potential to improve connections to this future vibrant commercial district.

Figure 1: South 'O' Village Illustrative Plan



## CITY OF OCEANSIDE GENERAL PLAN - CIRCULATION ELEMENT, CITY OF OCEANSIDE (2012)

New statutory requirements from the City of Oceanside in 2011 called for the legislative body to plan for a balanced, multimodal transportation network that meets the needs for all users upon any substantive revision of the General Plan's Circulation Element. The Circulation Element provides goals, objectives, and policies to maintain and improve the City's transportation system and enhance travel choices for residents, visitors, and workers. The goals of the circulation element are as follows:

- ▶ Enhance the City's corridors for all modes of transportation; increasing bicycle and pedestrian connections, routes, and facilities
- ▶ Refine the City's traffic calming program to promote safer streets for motorists, pedestrians, and bicyclists
- ▶ Identify and incorporate intelligent transportation system (ITS) technology for the City
- ▶ Increase support of Transportation Demand Management programs
- ▶ Improve the efficiency of the existing transportation system

### Relevance to Project

The Circulation Element provides specific goals, objectives, and policies related to bicycle and pedestrian facilities, which are consistent with the primary goals and objectives for the Oceanside Coastal Rail Trail, to design safe and high quality facilities that encourage walking and biking. Additionally, the Circulation Element identifies the Coastal Rail Trail as a planned Class I bicycle facility in an area with high pedestrian activity.

## **CITY OF OCEANSIDE 2030 MASTER TRANSPORTATION ROADWAY PLAN (2012)**

The Master Transportation Roadway Plan provides guidance and establishes standards and policies for the transportation network as it pertains to the street system as a whole – for vehicular, cycling, transit, and pedestrian needs. Designs are to follow outlined design standards and recommended roadway improvements. Roadway classifications are provided to help facilitate standard design and function for each class of road. Classifications from expressway to local street are provided.

The existing circulation system was evaluated and examined to determine what areas did not meet Level of Service (LOS) requirements. Maps document existing road classifications, traffic volumes, existing LOS, and recommendations. The 2030 Master Transportation Roadway Plan includes recommendations for intersection geometry, and projected traffic volumes and LOS. Specific roadway segments are identified that do not meet LOS D or better and should be prioritized, although, no roads within the project study area are below LOS D.

### ***Relevance to Project***

The Master Transportation Roadway Plan outlines additional recommended transportation network guidelines that relate to the project. In the design of transportation facilities, the plan states that reasonable effort should be made to integrate a complete streets design concept to accommodate the various users of the network such as pedestrians, bicyclists, and transit. It is crucial that any improvements or changes to road configurations within the project study area do not impact LOS to be below LOS D.

## **COASTAL RAIL TRAIL PROJECT STUDY REPORT - LOMA ALTA CREEK PROJECT (2017)**

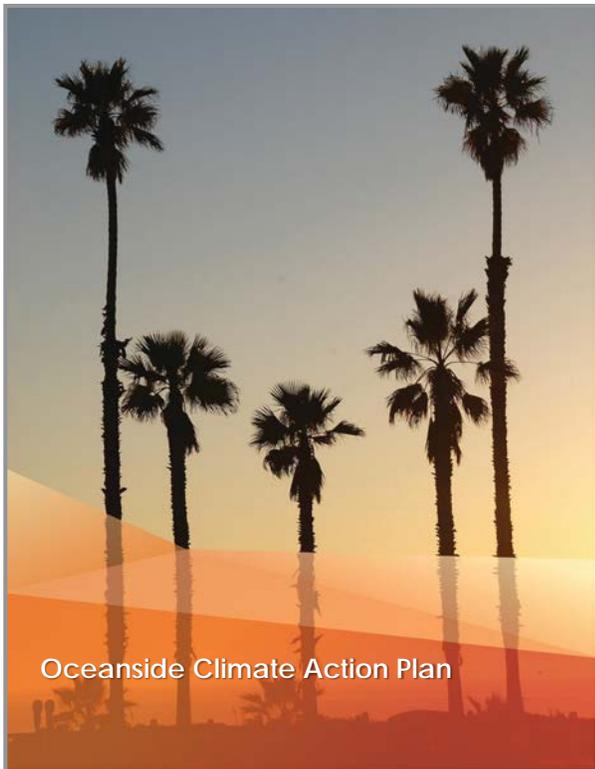
The Coastal Rail Trail Project Study Report was conducted for the City of Oceanside to develop alternatives for a half mile trail connection between Morse Street and Oceanside Boulevard. This planned project is a key gap for the planned 44 mile Coastal Rail Trail. The trail will provide access through Buccaneer Park, Loma Alta Creek, and the La Salinas Wastewater Treatment Plant Site. Included in the alignment is a prefabricated 255 ft multi-use path bridge over Loma Alta Creek and the existing Loma Alta Creek footpath. The proposed path width was determined by analyzing user volume, safety, Caltrans Highway Design Manual, and AASHTO Bike Guide. Public outreach was conducted to determine preferred community connections to and from the trail. The report also includes other alternatives that were explored and why they were rejected, as well as typical sections for each section of the segment, a floodplain impacts memo, and an environmental constraint analysis.

### ***Relevance to Project***

The Loma Alta Creek Project ties directly in to the northern extent of the project corridor. There will need to be coordination between the project design and the Loma Alta Creek Project, particularly with regards to the connection point and transition between the two projects. Additionally, the Loma Alta Creek Project sets a framework to help guide the evaluation of this project.

## CLIMATE ACTION PLAN, CITY OF OCEANSIDE (2019)

The City of Oceanside's Climate Action Plan (CAP) aligns with state efforts to reduce greenhouse gas (GHG) emissions. The CAP integrates the City's past and current GHG reduction efforts with additional measures that seek to balance GHG reduction with other priorities, including quality of life, economic development, and fiscal responsibility. The CAP provides guidance and measures that enable the Oceanside community and municipality to use energy more efficiently, harness renewable energy, reduce, reuse, recycle, and compost waste, conserve water, and enhance access to sustainable modes of transportation. The implementation of these measures will reduce city costs, increase business activity, generate new green jobs, and improve the lives of Oceanside residents in sustainable ways.



## Relevance to Project

GHG inventories identified that on-road transportation sources account for 48% of emissions for the Oceanside community. The "Transportation and Land Use" section of the CAP details a measure to "Expand Complete Streets Programs". Improving pedestrian and bicycle infrastructure throughout Oceanside encourages residents to use active transportation to access places of employment and destinations, as opposed to using their personal vehicles, and thereby reducing GHG emissions. The CAP calls for a network of complete streets with bicycle lanes and sidewalks, and connections to off-street multiuse pathways that are safe and convenient.



## **REGIONAL PLAN, SANDAG (2021)**

The SANDAG 2021 Regional Plan provides a vision for San Diego's transportation system that does not rely on any single mode of transportation but offers a complete and integrated system that is safe and accessible to all residents. The Regional Plan considers the rapidly expanding use and desire for on-demand mobility like shared ride services, electric scooters, and bikes to plan for future transportation demands and needs. The Regional Plan is guided by a vision for a fast, fair, and clean transportation system and a resilient region. The plan's goals include:

- ▶ The efficient movement of people and goods
- ▶ Access to affordable, reliable, and safe mobility options
- ▶ Healthier air and reduced GHG emissions

SANDAG is currently preparing the draft 2025 Regional Plan which will be ready for public release by winter of 2025.

### ***Relevance to Project***

As part of the Regional Plan's vision for a re-imagined transportation system in San Diego County, "Complete Corridors" will play a crucial role providing people with safe and comfortable spaces to get around whether they are on foot, riding a bike, using a Flexible Fleet vehicle, or using some other mode of transportation. The Regional Plan identifies the Coastal Rail Trail as a crucial linkage in the 2050 Complete Corridor Bike Network. The plan raises the importance and benefit of creating dedicated lanes for transit and micromobility vehicles and separate space for people who walk and bike in an effort to make traveling safer, faster, and more comfortable for everyone.

## **COUNTY OF SAN DIEGO HEALTH AND HUMAN SERVICES AGENCY COMMUNITY ACTION PLAN (2021)**

Completion of the Community Action Plan is required for agencies to receive funding through the Community Services Block Grant network. In this plan the County of San Diego assessed poverty-related needs, available resources, and feasible goals and strategies. The Community Needs Assessment provides a checklist of what communities are most in need of according to quantitative and qualitative data. The Community Action Plan ranks needs based on priority and are to be backed by the agency's vision and mission statement.

### ***Relevance to Project***

Out of the top eight agency priorities the County of San Diego ranked "Increased Accessibility to Physical Activity and Open Spaces" as number two. The plan outlines programs, services, and activities that the County deems as crucial to this goal and highlights bicycle, pedestrian, and scooter education and engagement opportunities to support active transportation.

**2**

# Opportunities + Constraints



# Overview

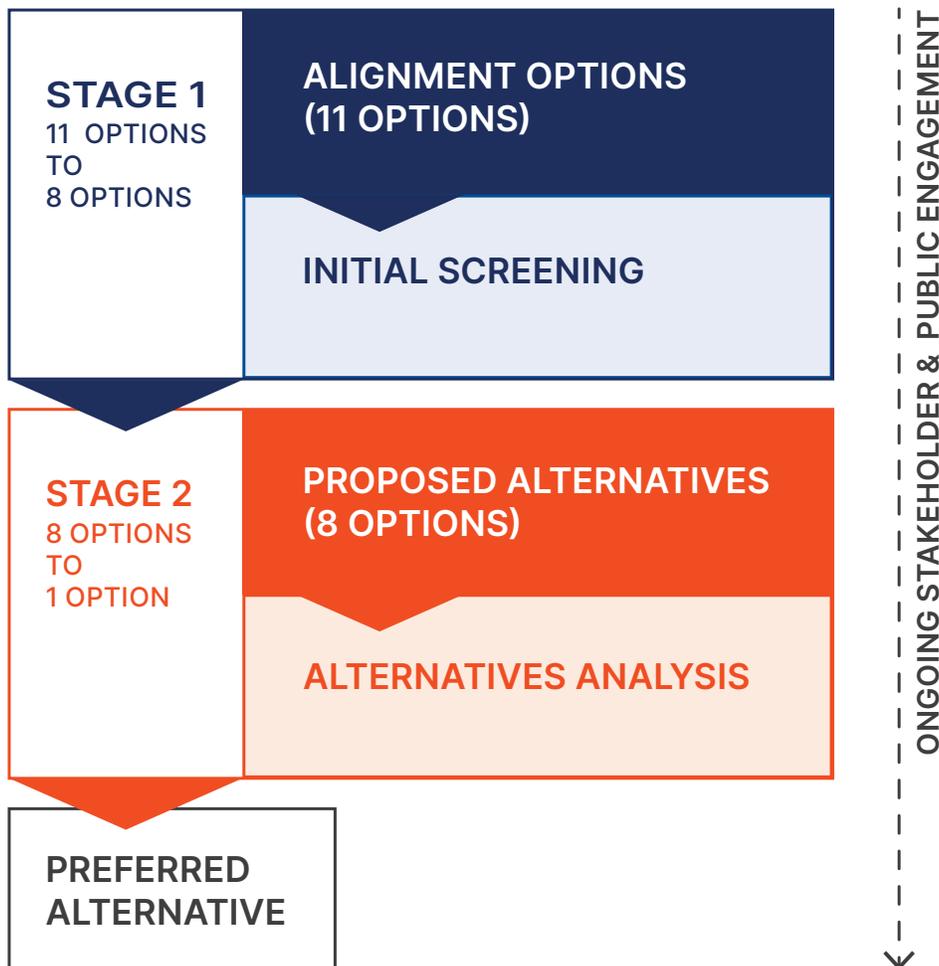
## Trail Alternatives Process

### OVERVIEW

The opportunities and constraints analysis identifies and explores possible alignment options for the Oceanside Coastal Rail Trail. Through public outreach and further analysis, detailed in subsequent chapters, a single preferred alternative was identified and further designed. As detailed in Figure 2, this chapter serves to provide the many alignment options identified in Stage 1 that were narrowed to a preferred alternative throughout the course of the project.

Prior to the opportunities and constraints analysis, the project team documented and mapped existing conditions to more broadly analyze the transportation networks, demographic characteristics, environmental conditions, and planning context as they relate to the study area. Findings from this effort are detailed in Appendix B.

**Figure 2:** Alternatives Analysis Process Diagram



## Field Visit

The project team conducted a field visit with the City of Oceanside on May 16, 2023 to document conditions on the ground and identify opportunities and constraints throughout the study area. Major opportunities identified by the team included available right-of-way (ROW) and the ability to widen the existing trail to create a safer and more enjoyable user experience. Major constraints were identified

on crossing the North County Transit District (NCTD) tracks and the connection from Broadway Street to South Coast Highway and the Oceanside/Carlsbad border.

The key observations from the field visit are documented in the segment maps found in this chapter.



*Eaton Street lacks sidewalks, features private property encroachment into the public ROW, and has driveways and utility poles that constrain the remaining public ROW.*

# General Assumptions

The alignment options explored in this document were created under the following assumptions:

- ▶ Alignment option cross-sections generally align with existing design standard north of Oceanside Boulevard, shown in Figure 3 below.
- ▶ Alignment options generally try to work with the existing street curb location
- ▶ Fence line along railroad and railroad right-of-way (ROW) data may not align exactly
- ▶ The corridor is overgrown and existing trees are of lower quality (palm, eucalyptus) and may need to be removed/replaced

- ▶ An environmental assessment is needed within the NCTD ROW to determine if there are hazardous/toxic materials and the potential impact of constructing a trail through the area

The alignment options and existing ROW are based on GIS parcel and topographic data, aerial imagery, select field measurements, and NCTD easement PDFs. Data is intended for planning purposes only, and future phases will require an official survey to ensure accurate measurements.



**Figure 3:** The existing Coastal Rail Trail segment north of Oceanside Boulevard features 3' paved shoulders, a 10' paved multi-use path, and a 10' planted buffer/swale.

# Opportunities + Constraints

## Alignment Option Segments

### OVERVIEW

To simplify the alignment option process, the study area was broken into four segments shown in Figure 4. Segments are based on logical breakpoints such as decision points where the trail could diverge into several different routes.

Figure 4: Segment Overview Map



## SEGMENT A (A.1 TO A.3)

### **Morse Street to Cassidy Street**

- ▶ Existing trail along Myers Street is narrow with overgrown vegetation.
- ▶ Existing trail runs parallel to NCTD right-of-way (ROW) fence line. Proposed alignment options widen the trail and would require an easement.
- ▶ Potential for railroad overcrossing north of Cassidy Street.



## SEGMENT B (B.1 TO B.2)

### **Cassidy Street Railroad Crossing**

- ▶ Existing railroad crossings are 5 ft wide sidewalks on both sides of Cassidy Street designed for pedestrian use. Widened at-grade railroad crossing may require modification of existing railroad crossing infrastructure.
- ▶ Opportunity to utilize existing or additional NCTD easements to widen trail at corners of Cassidy Street to ease turning movements of trail and increase visibility around fences.



## SEGMENT C (C.1 TO C.4)

### **Cassidy Street to Eaton Street**

- ▶ Existing trail along Broadway Street is narrow with overgrown vegetation.
- ▶ Existing public dirt parking lots along Myers Street south of Cassidy Street and Broadway south of Vista Way provide overflow parking for visitors. Trail alignments in these areas may require modification of existing parking lots.



## SEGMENT D (D.1)

### **Eaton Street to South Coast Highway**

- ▶ Eaton Street is constrained and would require modifications to the existing roadway to accommodate a trail consistent with the rest of the Coastal Rail Trail.
- ▶ Alignment options through the Buena Vista Lagoon natural area were not supported by the Audubon Society and therefore not considered for the Coastal Rail Trail.
- ▶ Potential for railroad overcrossing between Vista Way and Eaton Street.



# Segment A

## A.1 - Myers Street

**Section X** Section figures correspond to segment map section cut lines

### OPPORTUNITIES

The Coastal Rail Trail alignment along Myers Street from Buccaneer Beach Park to Cassidy Street can follow the existing trail alignment on the east side of the street. See Figure 5.

The existing Coastal Rail Trail alignment through this section is 8 ft wide with a 2 ft planted shoulder on to the east of the trail and a 5 ft planted shoulder/ parkway to the west. The trail is constrained and not comfortable for trail users to pass each other. The planted shoulders are overgrown and crowd the trail, forcing users to walk and ride in the center of the trail.

Alignment A.1 - Option 1 widens the multi-use trail to 10 ft with 2 ft clear shoulders and 5 ft planted buffers. The new configuration extends the trail to the NCTD property boundary and does not require additional easements or ownership to construct.

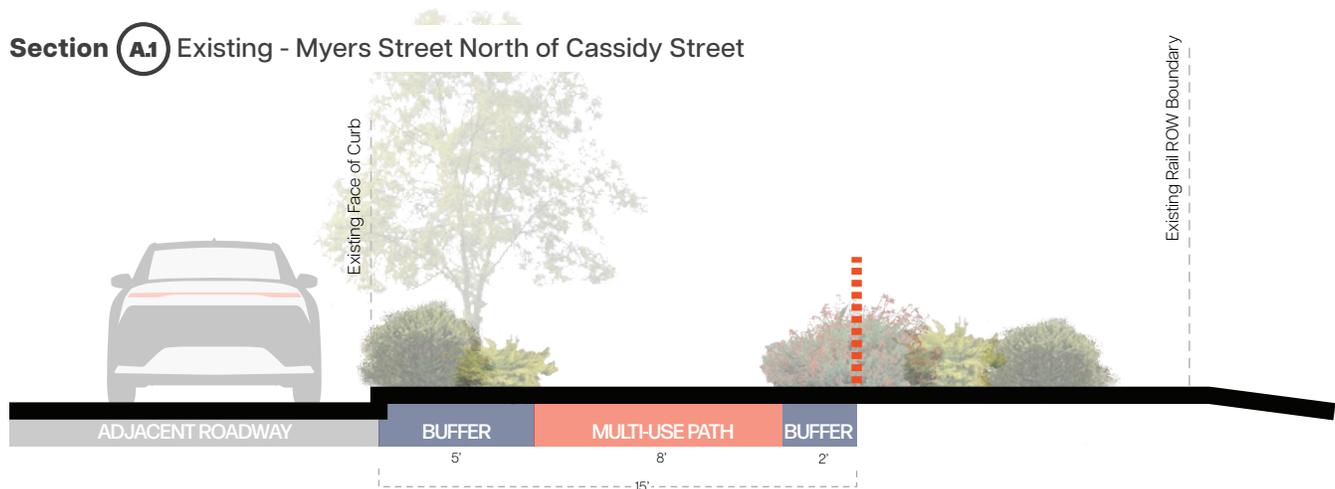
Alignment A.1 - Option 2 maintains the same dimensions as Option 1, but adds a planted swale between the trail surface and NCTD property. This inclusion of a planted swale to capture stormwater runoff follows the design precedent set by the existing Coastal Rail Trail segment between Wisconsin Avenue and Oceanside Boulevard. The planted swale extends into NCTD property and would require an additional easement to construct.

### CONSTRAINTS

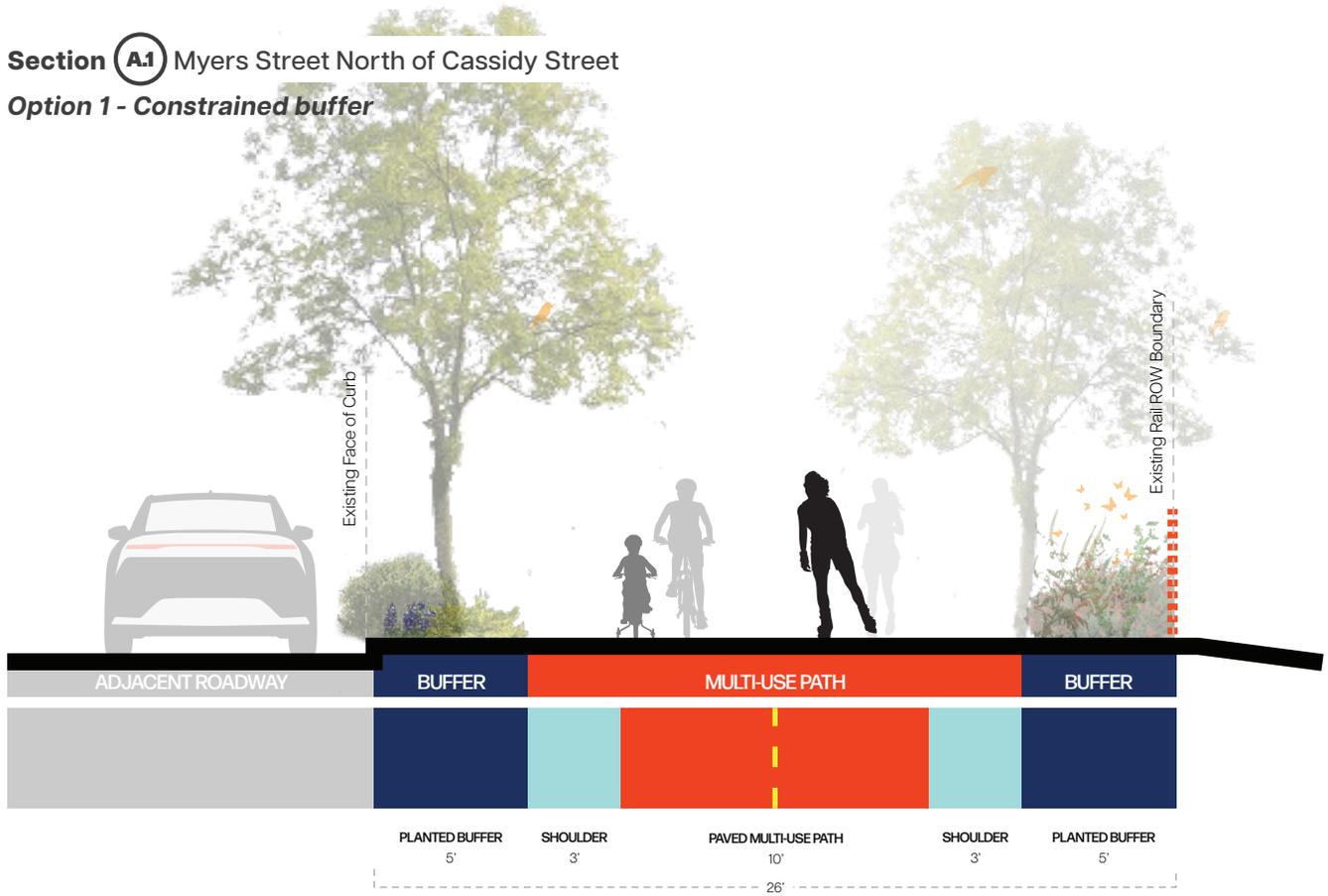
Roughly 30 ft into the NCTD parcel edge is a steep eroding slope towards the railroad. The proposed widened trail through this segment would not intersect the steep slope.

Adjacent trail plantings require maintenance and frequently encroach on the usable path width. Landscape improvements will consider low maintenance species with controlled growth patterns.

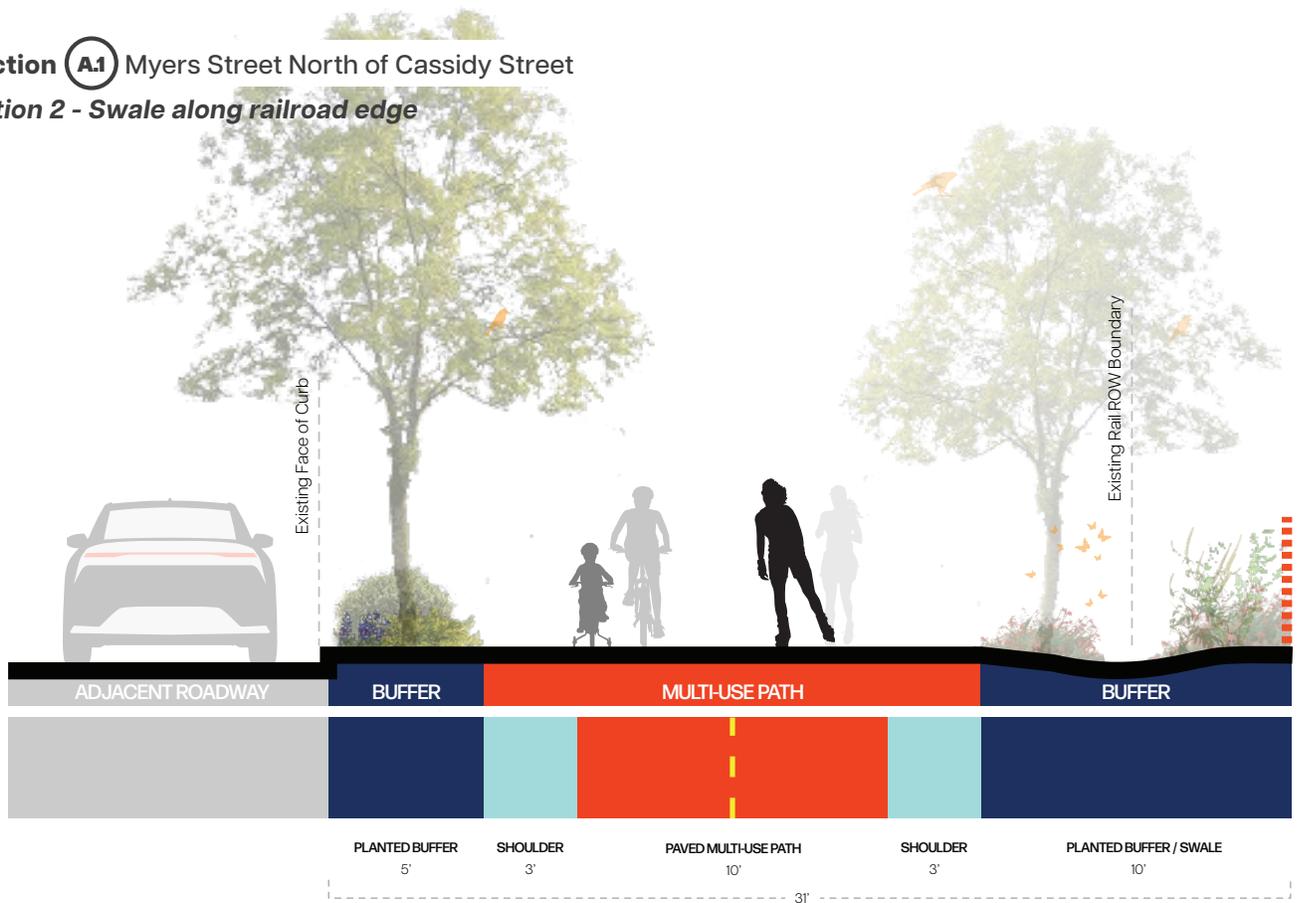
### Section A.1 Existing - Myers Street North of Cassidy Street



**Section A.1** Myers Street North of Cassidy Street  
**Option 1 - Constrained buffer**



**Section A.1** Myers Street North of Cassidy Street  
**Option 2 - Swale along railroad edge**



# Segment A

## A.2 - NCTD Overcrossing

**Section X** Section figures correspond to segment map section cut lines

### OPPORTUNITIES

Alignment A.2 creates a railroad overcrossing that allows the Coastal Rail Trail to avoid the constraints at Cassidy Street's grade crossing. See Figure 5.

Due to existing grades and recessed rail lines, the proposed crossing location proposed in Alignment A.2 is the most efficient overcrossing option throughout the corridor. There is ample space to accommodate a bridge structure.

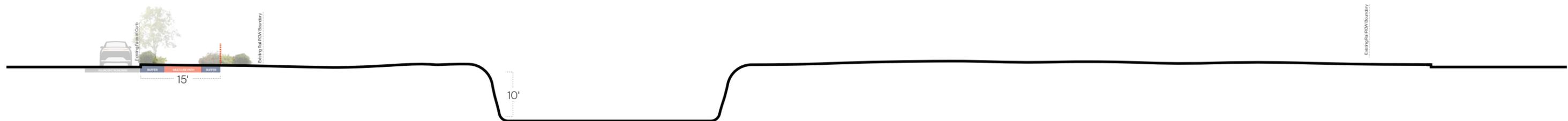
Crossing to Broadway Street north of Cassidy Street provides an opportunity to connect to the proposed

Morse Street Connector trail (information on the Morse Street Connector is detailed in Segment A.3 Morse Street Connector). The ample space on the east side of the railroad corridor provides an opportunity for a trail, linear park, and/or landscape improvements.

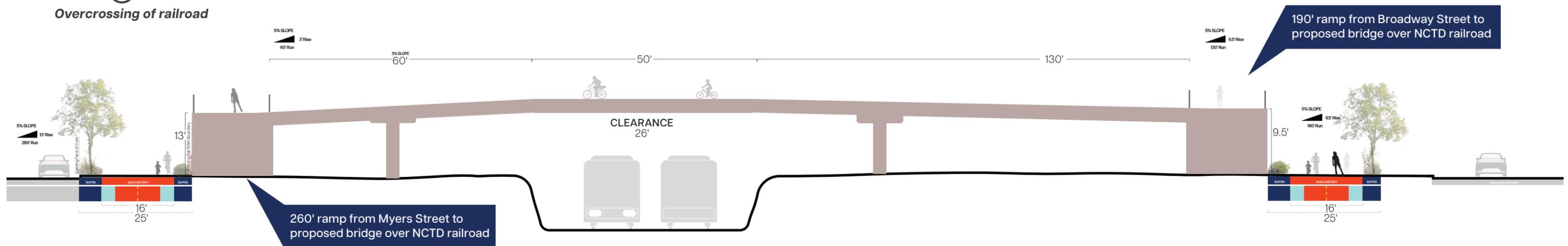
### CONSTRAINTS

Alignment A.2 would require a sizable easement from NCTD to accommodate crossing structures and trail facilities.

#### Section A.2 Existing - NCTD Railroad Corridor from Myers Street to Broadway Street



#### Section A.2 NCTD Railroad Corridor from Myers Street to Broadway Street Overcrossing of railroad



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# Segment A

## A.3 - Morse Street Connector

**Section X** Section figures correspond to segment map section cut lines

### OVERVIEW

The Morse Street Connector was added to the study in response to significant resident requests received during the initial outreach phase, even though it was not part of the original project scope. Concept design for the Morse Street Connector is included in the concept plans found in Appendix A.

### OPPORTUNITIES

Alignment A.3 creates a trail connection from Morse Street to the Loma Alta Creek footpath. The implementation of the Morse Street Connector would create a more direct connection to Buccaneer Beach Park for residents living to the east of the railroad. See Figure 5.

There is a steep slope to the east of the rails edge, however, there is approximately 23 ft of space between the bottom of slope and adjacent property/ parking lot allowing for a standard trail cross section.

### CONSTRAINTS

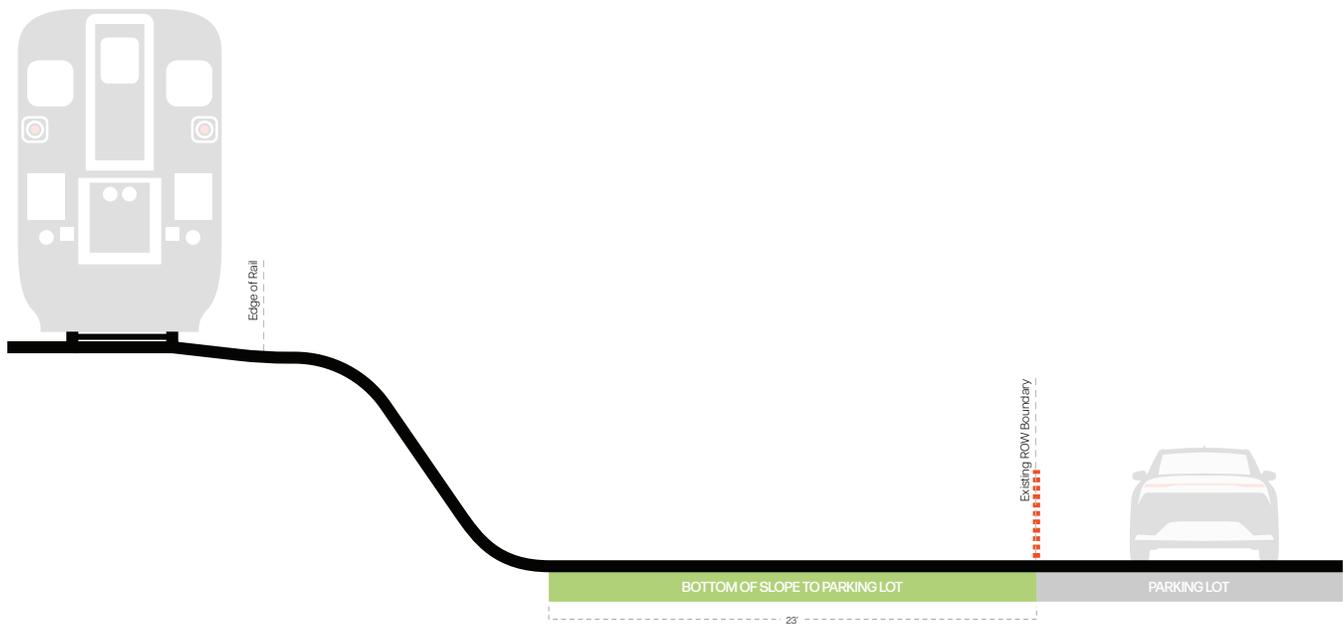
Alignment A.3 would require an easement from NCTD to accommodate the trail cross section. A small retaining wall may be required to construct the full trail cross section. A full 5 ft planted buffer is only feasible on one side of the trail due to trail width constraints.

Alignment A.3 would require a ramp system to connect Morse Street to the area illustrated in Section A.3. The ramp concept is further detailed in the concept plans found in Appendix A.

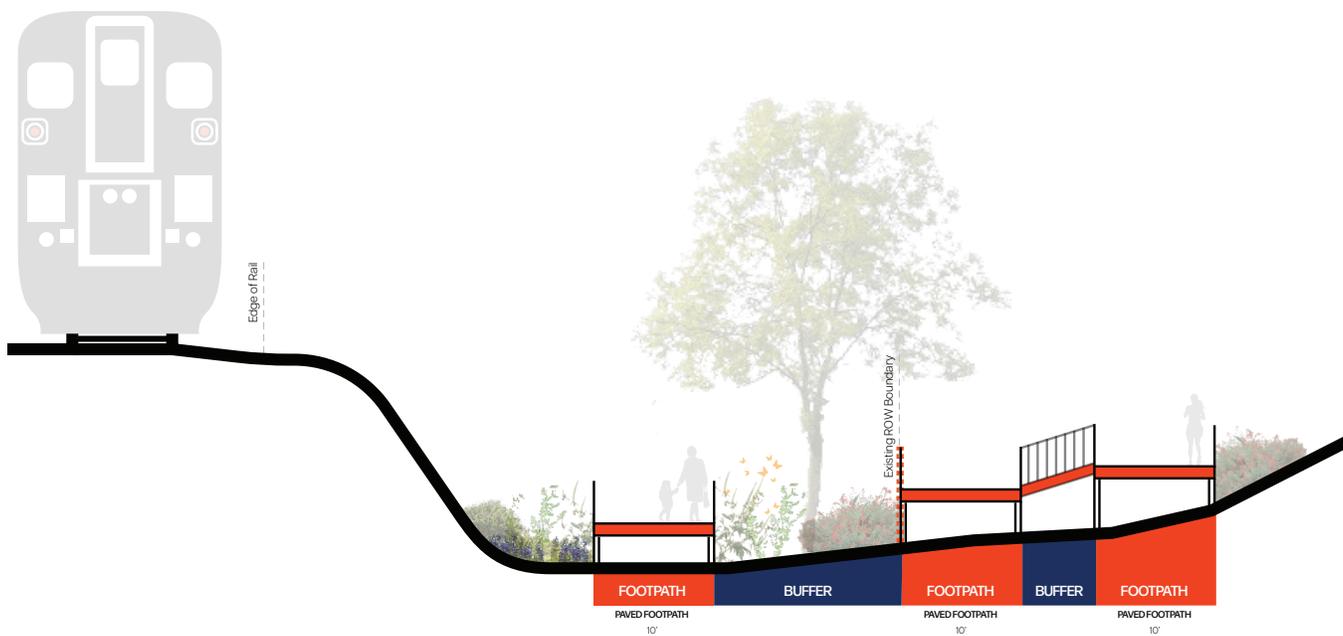


Looking north towards the Loma Alta Creek Footpath, the Morse Street Connector would allow residents and trail users to safely and efficiently access Buccaneer Beach Park on the west side of the railroad corridor.

**Section A.3** Existing - Morse Street Connector



**Section A.3** Morse Street Connector  
*Constrained buffer*



# Segment A

## Alignment Options

- A.1 Myers Street
- A.2 NCTD Overcrossing
- A.3 Morse Street Connector

### LEGEND

- City Boundary
- Public Park
- Traffic Signal
- Alignment Option
- Planned Multi-Use Path
- Existing Multi-Use Path
- Bike Lane
- Bike Route
- Cross Section Line

### Ownership

- North County Transit District
- Buena Vista Audubon Society
- City of Oceanside
- State of California
- Private

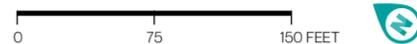
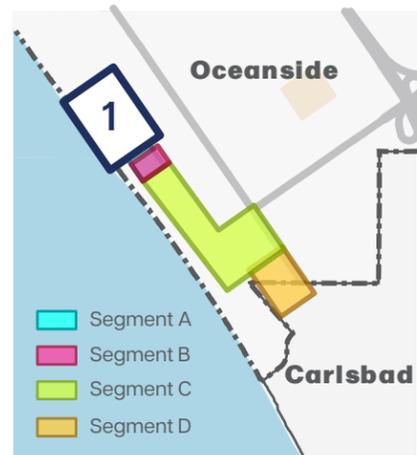
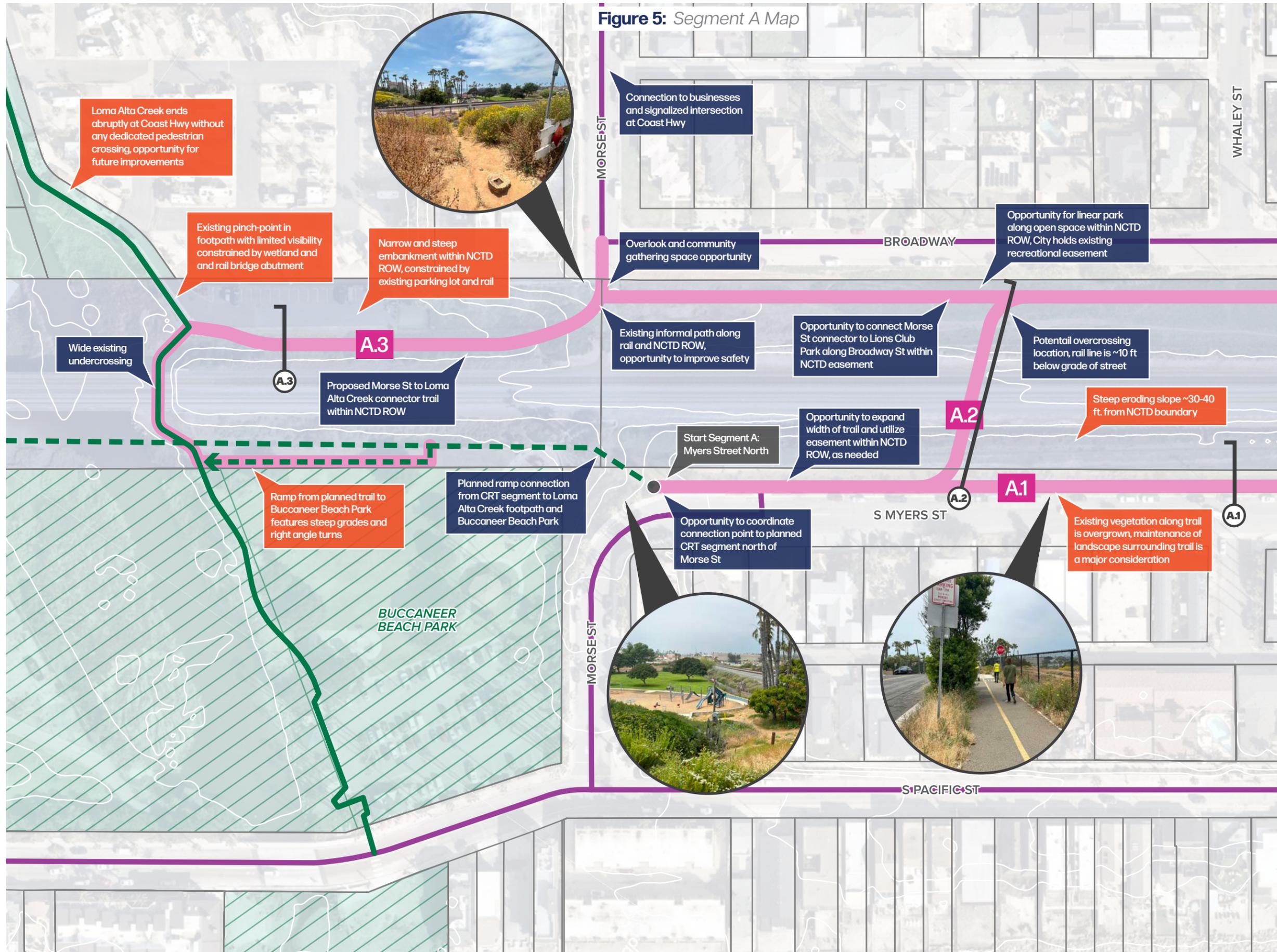


Figure 5: Segment A Map



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# Segment B

## B.1 and B.2 - Cassidy Street

**Section X** Section figures correspond to segment map section cut lines

### OPPORTUNITIES

There is no formal existing Coastal Rail Trail alignment along Cassidy Street that crosses the NCTD railroad. Currently, the Coastal Rail Trail alignments on Myers Street and Broadway transition to sidewalks on the north and south sides of Cassidy Street to cross the NCTD railroad. The existing crossings were recently improved and are sufficient for pedestrians, but lack enough width to comfortably serve both cyclists and pedestrians. There is an opportunity to improve the existing railroad crossing and wayfinding by creating a more robust trail alignment on one side of the street.

The presence of Lion's Club Park on the north west corner of Cassidy Street and Broadway Street presents an opportunity to create a Coastal Rail Trail trailhead with trail focused amenities, and to tie into an improved crossing across Cassidy Street.

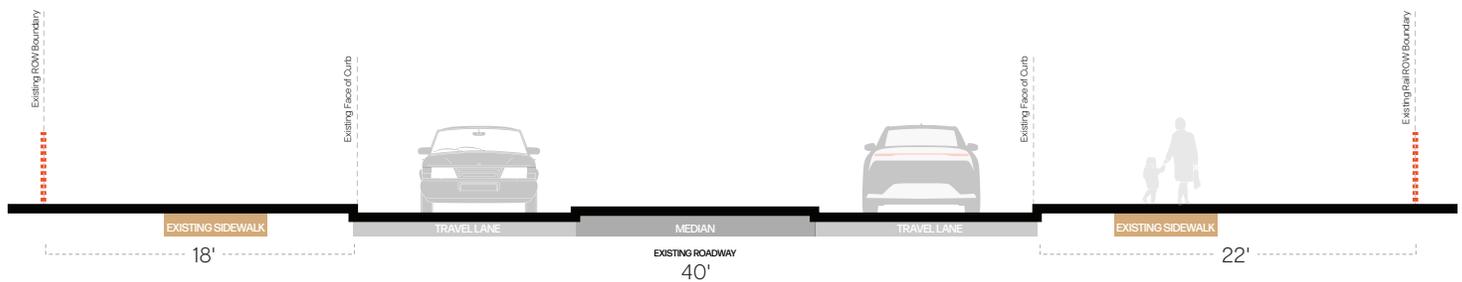
### CONSTRAINTS

Increasing the width of the Coastal Rail Trail alignment along Cassidy Street would require modifications to the existing railroad crossing. Modification of the existing railroad crossing infrastructure to create a Class I path across the railroad will require significant coordination with NCTD.

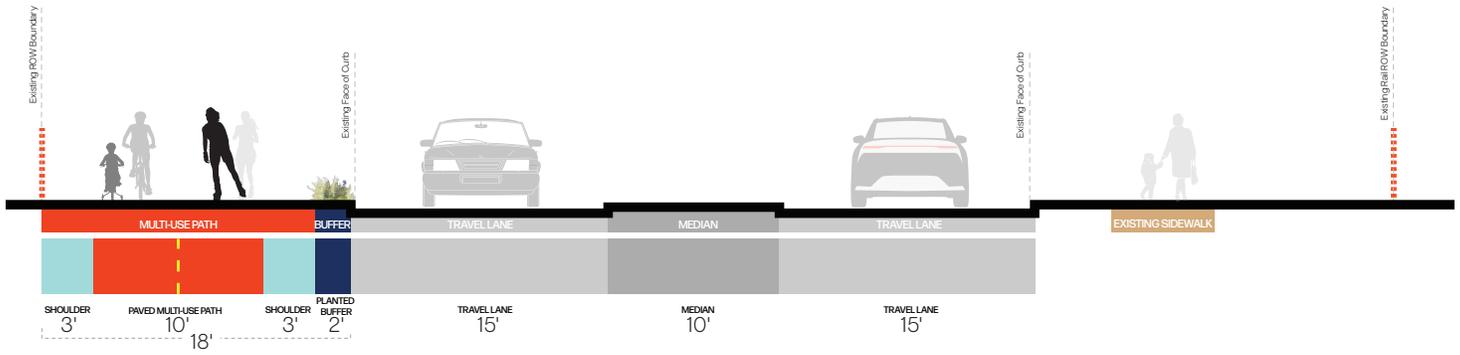
See Figure 6.

### Section B.1 B.2 Existing - Cassidy Street

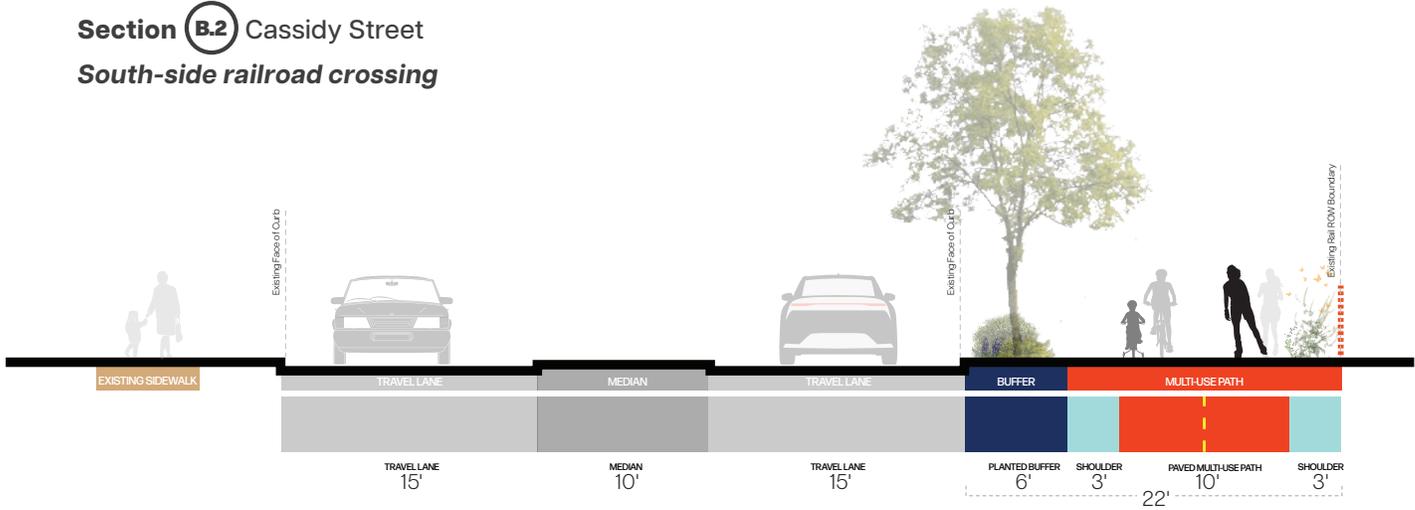
*This section demonstrates conditions found in both alternatives.*



**Section B.1** Cassidy Street  
*North-side railroad crossing*



**Section B.2** Cassidy Street  
*South-side railroad crossing*



# Segment B

## Alignment Options

- B.1 North-side of Cassidy Street
- B.2 South-side of Cassidy Street

**LEGEND**

- City Boundary
- Public Park
- Traffic Signal
- Alignment Option
- Planned Multi-Use Path
- Existing Multi-Use Path
- Bike Lane
- Bike Route
- Cross Section Line

**Ownership**

- North County Transit District
- Buena Vista Audubon Society
- City of Oceanside
- State of California
- Private

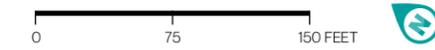
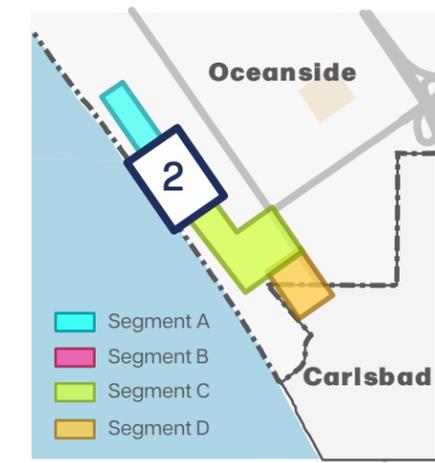
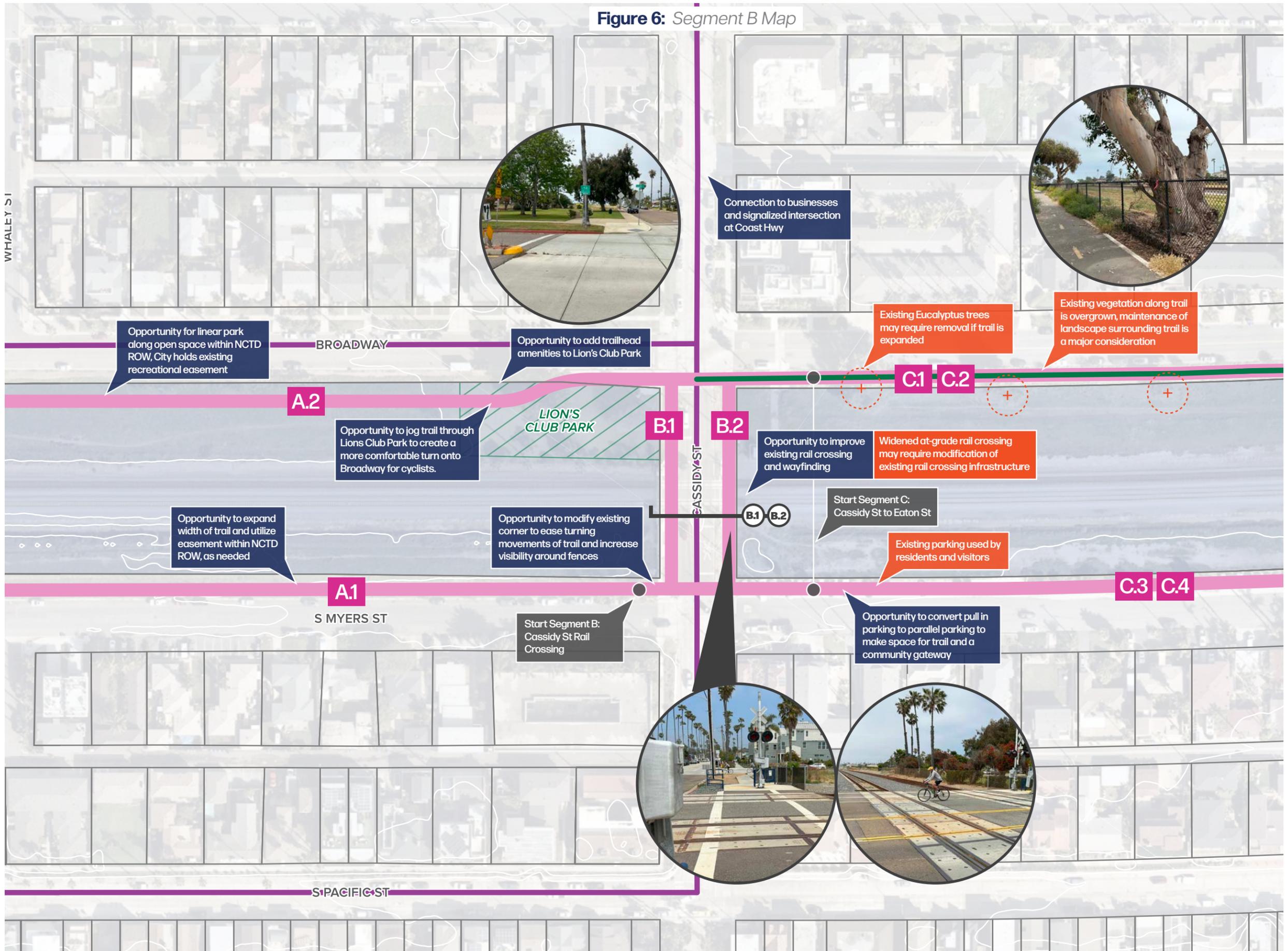


Figure 6: Segment B Map



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# Segment C

## C.1 and C.2 - Broadway Street

**Section X** Section figures correspond to segment map section cut lines

### OPPORTUNITIES

Similar to the existing condition along Myers Street, the right-of-way (ROW) available between the edge of curb and NCTD parcel boundary ranges between 20 and 22 ft along Broadway Street. This extra ROW would allow for a widened trail with clear shoulders and planted buffers, creating safer and comfortable experience for trail users. With additional easements on NCTD property, the trail footprint could be expanded further to accommodate a planted swale similarly to Segment A.1.

Figure 7 details the two alignment options in Segment C along Broadway Street. Segment C.1 routes the Coastal Rail Trail along Broadway Street to South Coast Highway via Vista Way. Segment C.2 routes the Coastal Rail Trail along Broadway Street to

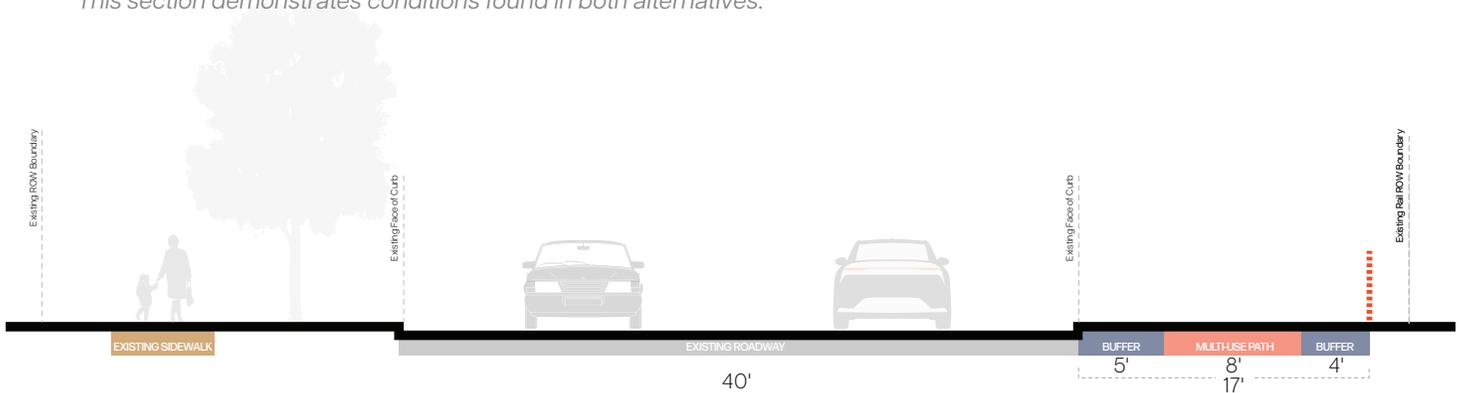
Eaton Street where Segment D begins and provides several options to connect the trail from Broadway Street to the city border. Segment C.1 and C.2 Option 1 maintains the existing NCTD fence line edge and modifies the street, while Segment C.1 and C.2 Option 2 does not alter the street configuration and extends into NCTD ROW past the existing fence line.

### CONSTRAINTS

Large non-native eucalyptus trees exist just beyond the current NCTD property fence line along Broadway Street. Widening the trail footprint would require the removal of several large trees. This could present the opportunity to replace existing non-native trees with native shade trees.

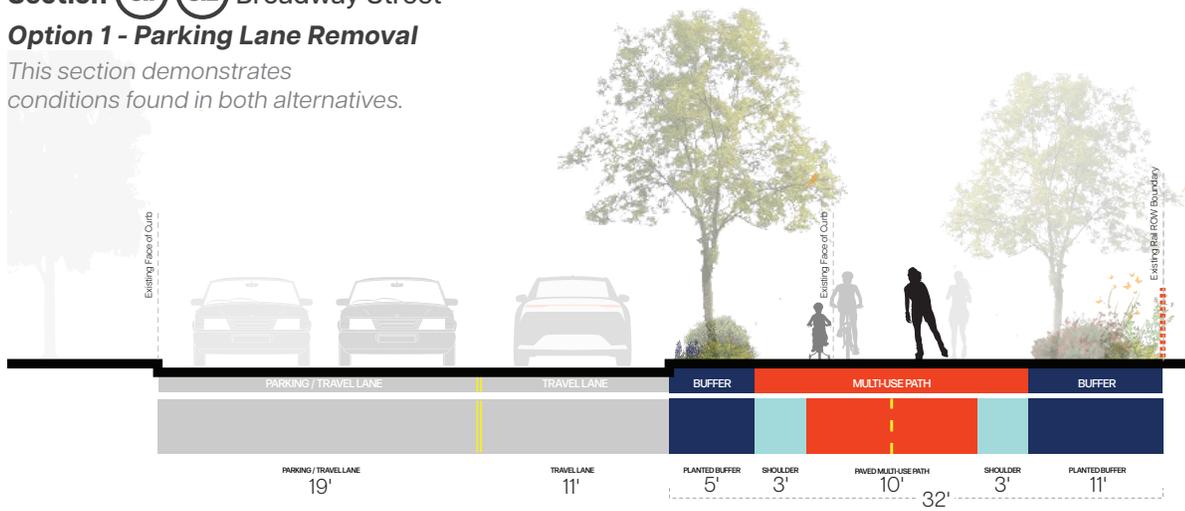
### Section C.1 C.2 Existing - Broadway Street

*This section demonstrates conditions found in both alternatives.*



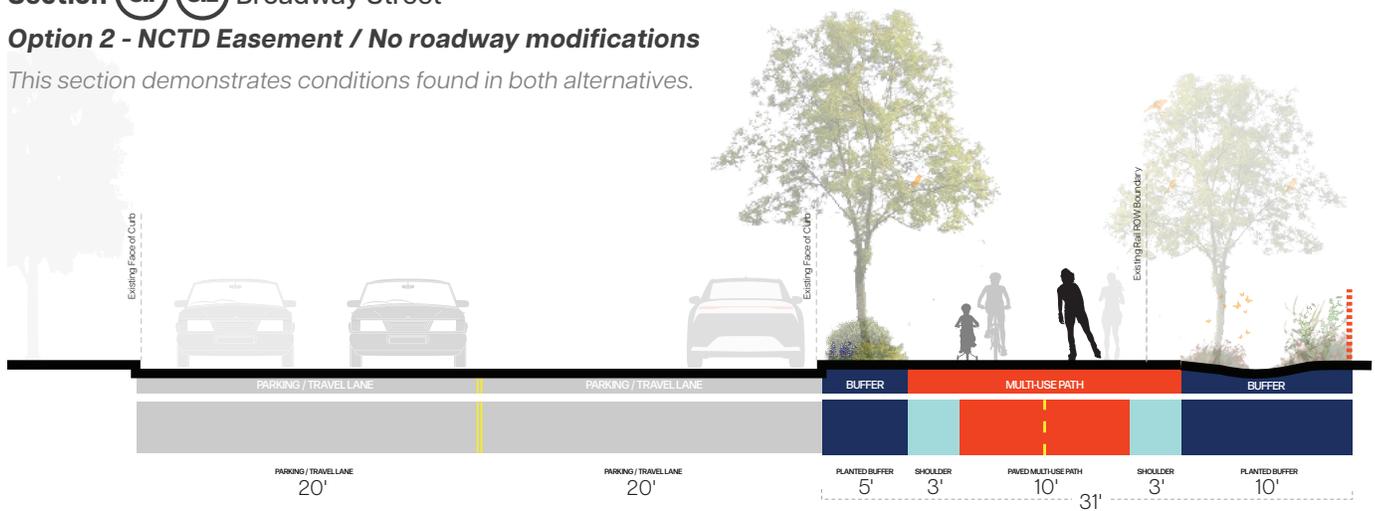
**Section C.1 C.2** Broadway Street  
**Option 1 - Parking Lane Removal**

*This section demonstrates conditions found in both alternatives.*



**Section C.1 C.2** Broadway Street  
**Option 2 - NCTD Easement / No roadway modifications**

*This section demonstrates conditions found in both alternatives.*



# Segment C

## C.1- Vista Way / South Coast Highway

### OPPORTUNITIES

Segment C.1 travels east from Broadway Street along Vista Way before turning south along South Coast Highway. The following section cuts detail the existing and potential configuration of Vista Way and South Coast Highway. Figure 7 details the alignment of Segment C.1.

Vista Way is a two lane street with parking lanes that is similar in width to South Coast Highway. Vista Way has existing sidewalks and wide planted parkways on both sides of the street. Given the overly wide travel and parking lanes, there is space on the south side of the street to design a separated use facility adjacent

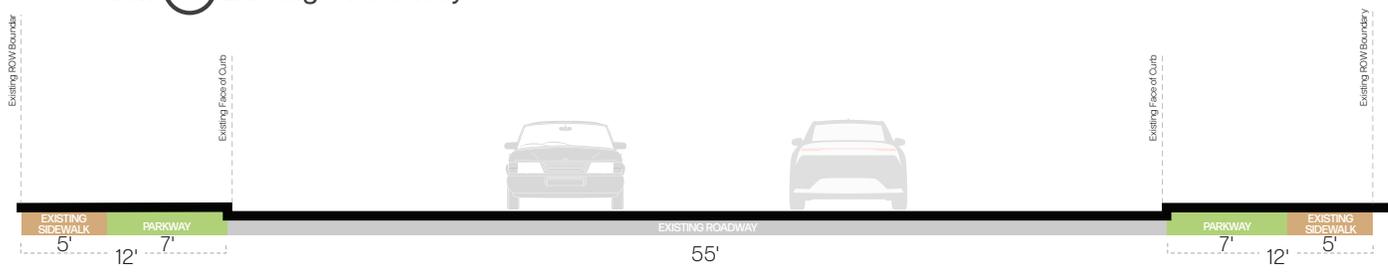
to the sidewalk that features a planted buffer between the bikeway and parking lane.

### CONSTRAINTS

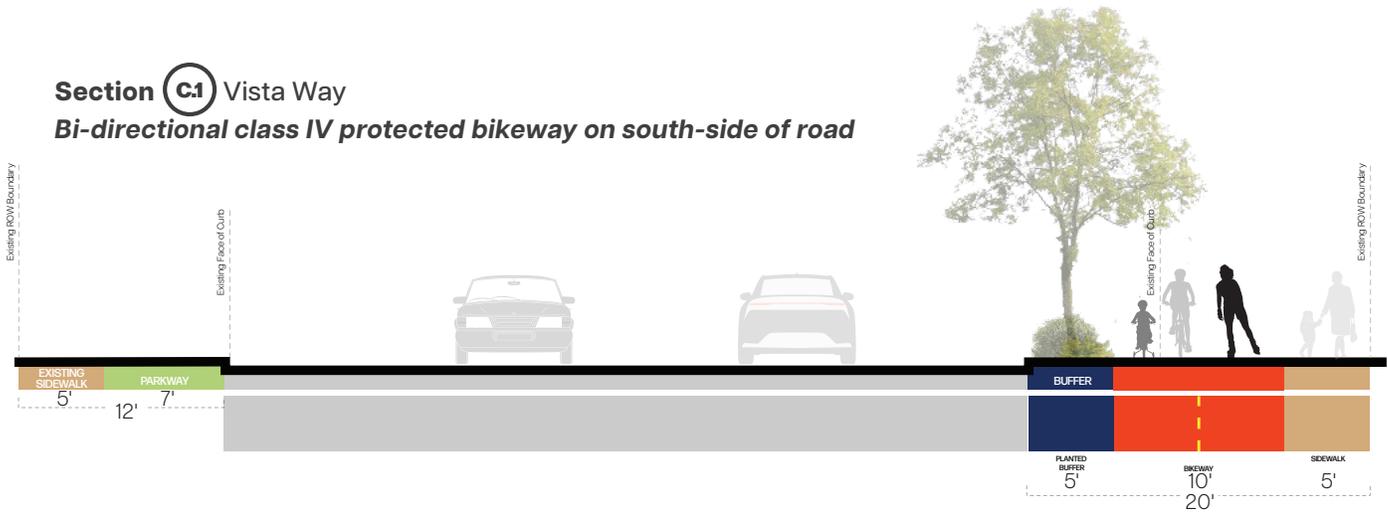
Roadway modifications are required to shift the existing curb line on the south side of the street along Vista Way to accommodate the alignment.

The south/west side of South Coast Highway requires parkway and standard bike lane removal or roadway modification to accommodate a raised facility. Additionally, there are numerous driveways that would create conflict points and require significant modification.

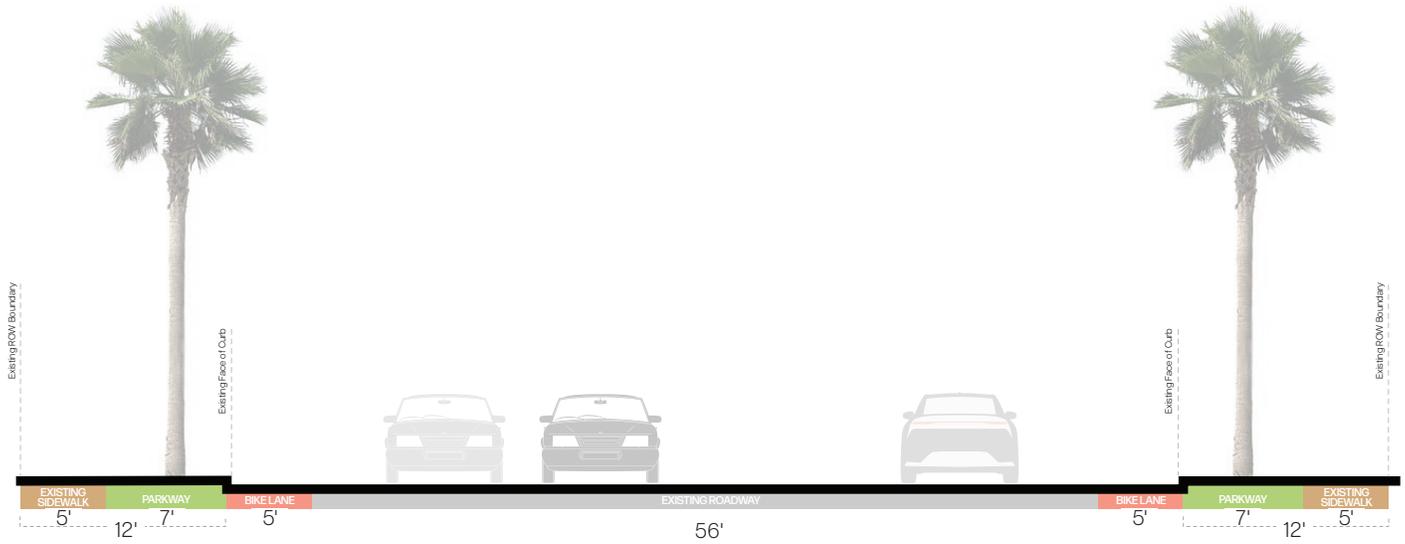
### Section C.1 Existing - Vista Way



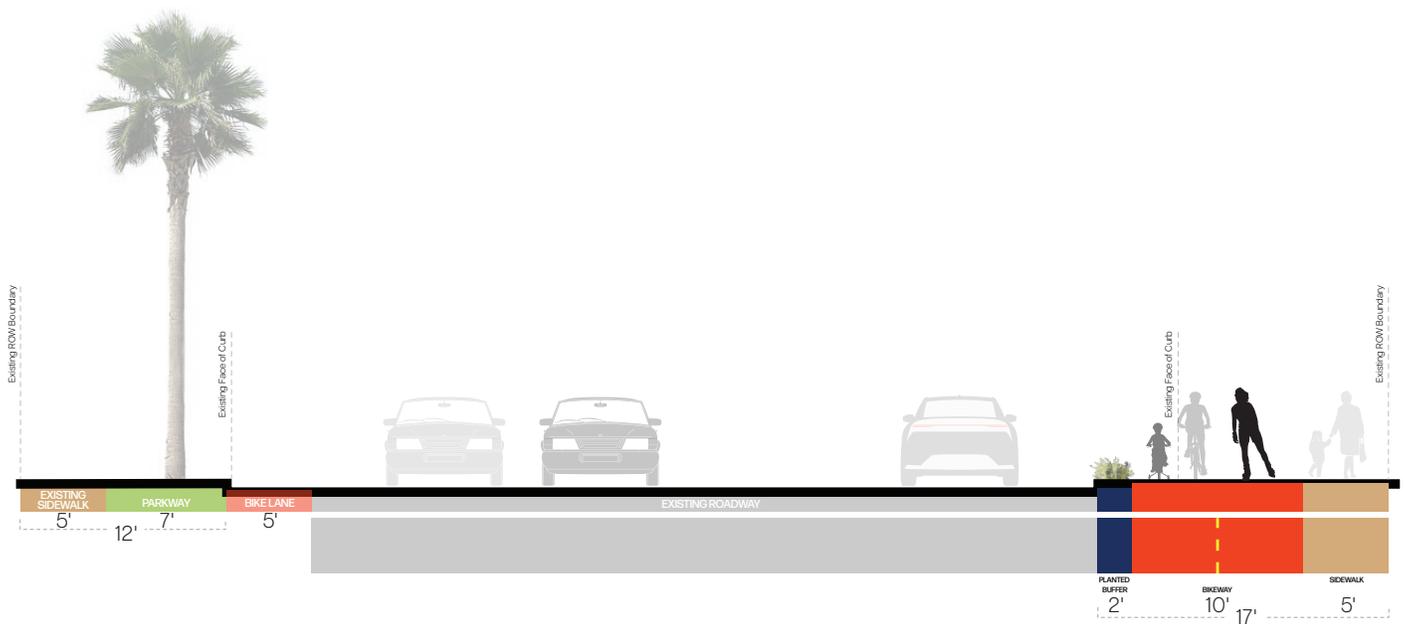
### Section C.1 Vista Way Bi-directional class IV protected bikeway on south-side of road



**Section C.1** Existing - South Coast Highway



**Section C.1** South Coast Highway  
*Bi-directional class IV protected bikeway on west-side of road*



# Segment C

## C.3 and C.4 - Myers Street

**Section X** Section figures correspond to segment map section cut lines

### OPPORTUNITIES

The right-of-way (ROW) available between the edge of curb and NCTD parcel boundary on the east side of Myers Street is around 25 ft. This extra ROW would allow for a trail with clear shoulders and planted buffers, creating a more comfortable experience for trail users. With additional easements on NCTD property, the trail footprint could be expanded further to accommodate a planted swale.

As detailed in Figure 7, two alignment opportunities exist in Segment C along Myers Street. Both alignments follow the same footprint along Myers Street, but provide different options to cross the NCTD railroad ROW to connect to Broadway Street and Segment D, as shown in Figure 8. Both an overcrossing and undercrossing may be feasible to cross the NCTD railroad ROW to connect Myers Street to Broadway Street. The conceptual overcrossing cross section.

### CONSTRAINTS

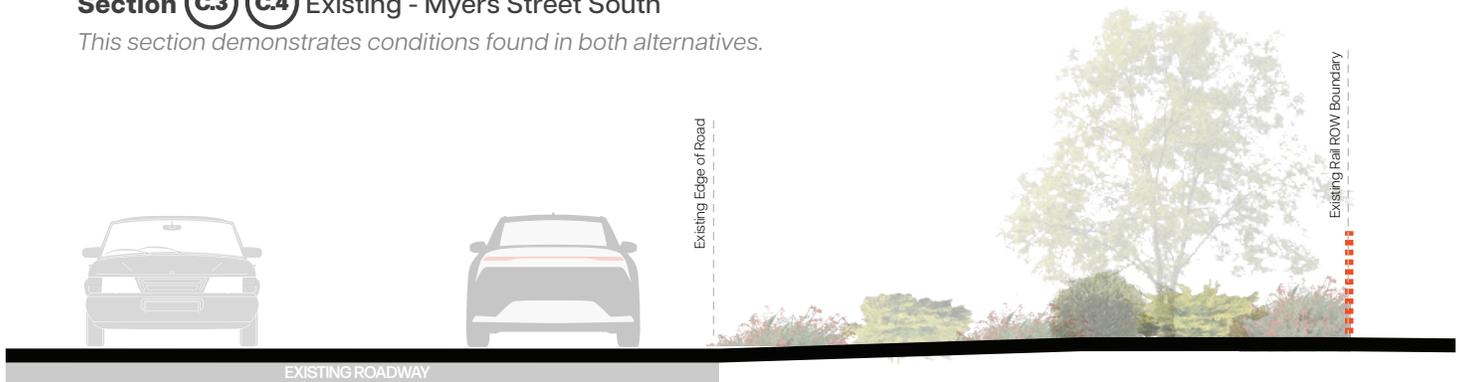
A dirt public parking lot exists near Cassidy Street along the east side of Myers Street and would likely require removal or modification resulting in a reduction of parking spots.

Mature pine trees and neighborhood plantings line the roadway between the travel/parking lanes and railroad property fence line. These trees and plantings will require consideration and potentially removal.

A high pressure gas facility is located just within the NCTD property boundary and will require consideration when designing a trail alignment through the adjacent area.

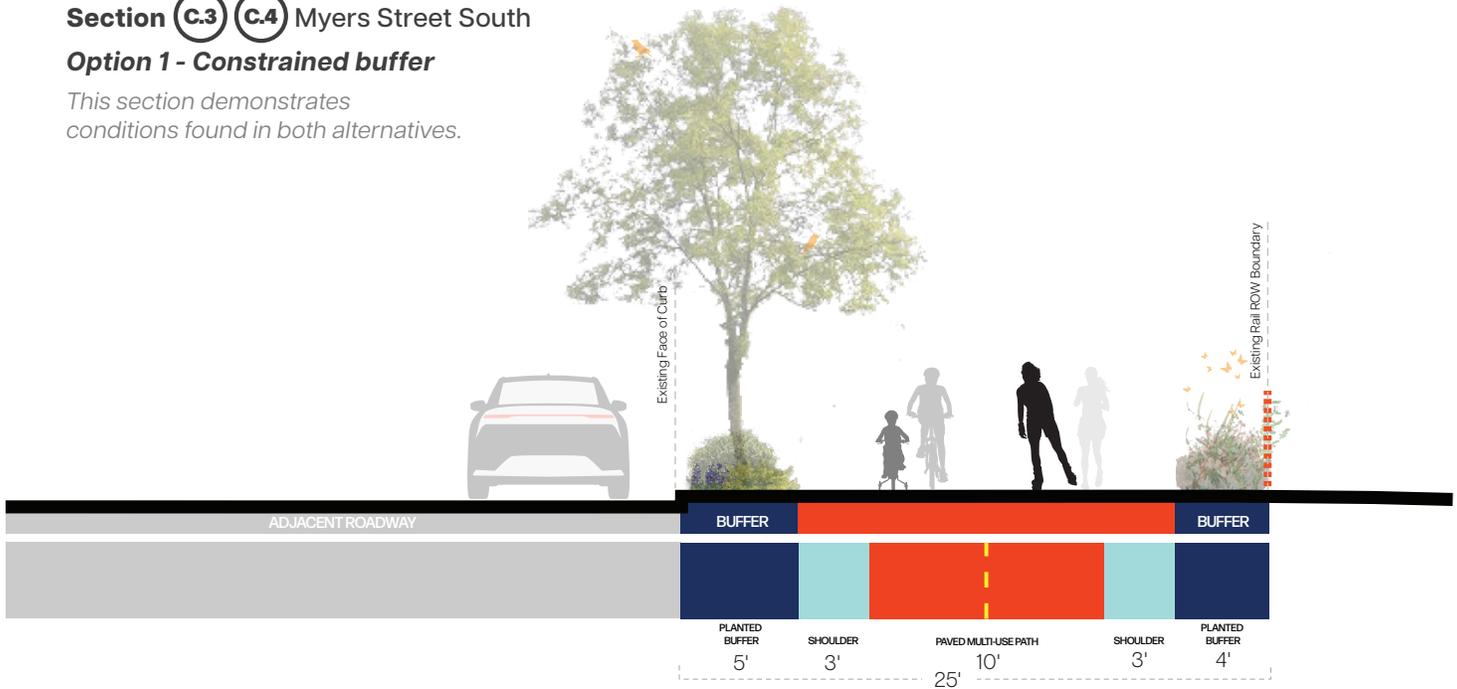
### Section C.3 C.4 Existing - Myers Street South

*This section demonstrates conditions found in both alternatives.*



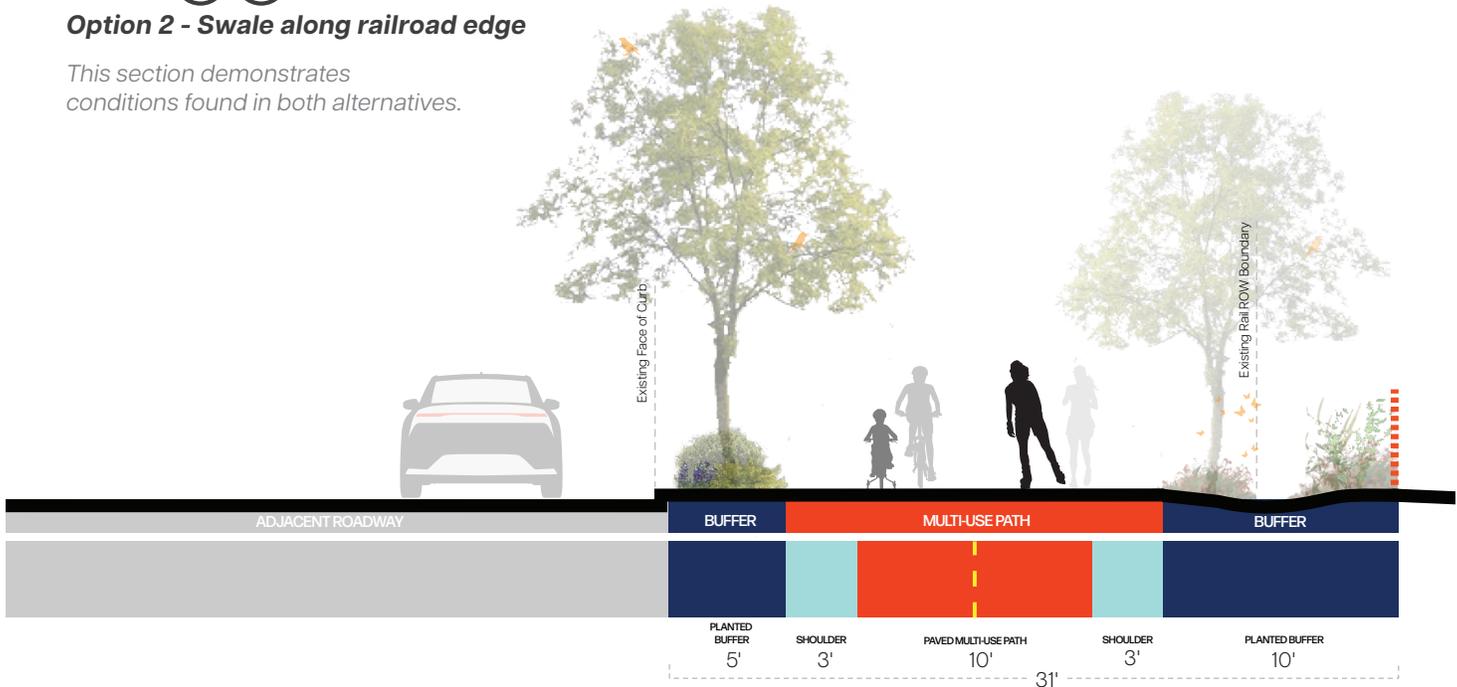
**Section C.3 C.4 Myers Street South**  
**Option 1 - Constrained buffer**

*This section demonstrates conditions found in both alternatives.*



**Section C.3 C.4 Myers Street South**  
**Option 2 - Swale along railroad edge**

*This section demonstrates conditions found in both alternatives.*

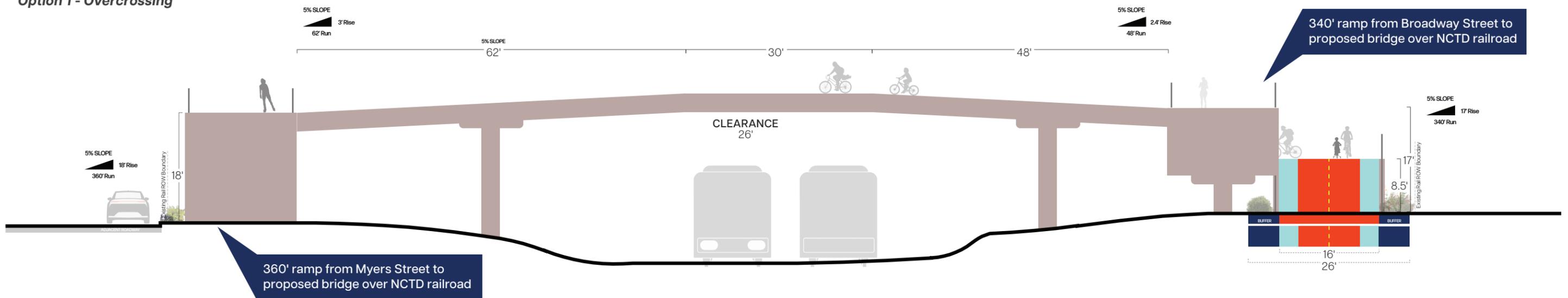


**Section C.3 C.4 Existing - Myers Street South to Broadway Street**

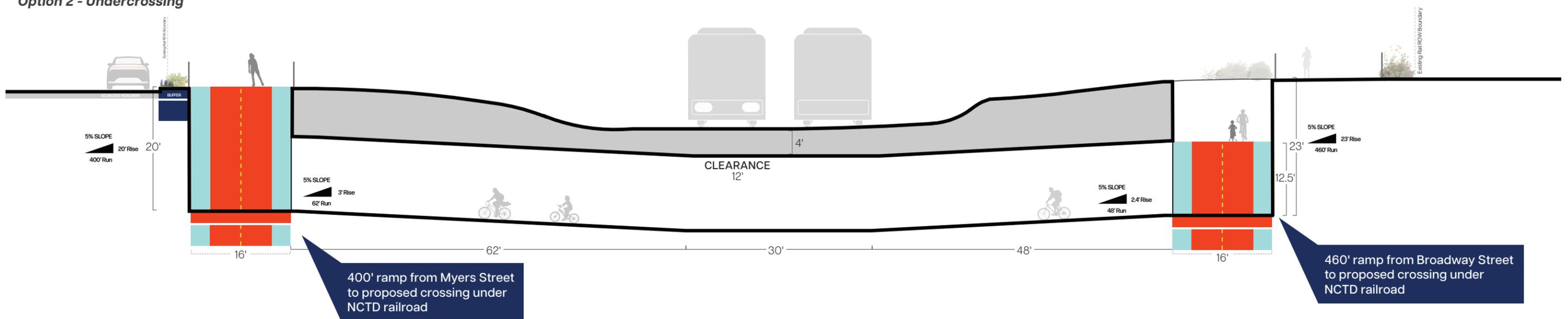
*This section demonstrates conditions found in both alternatives.*



**Section C.3 Myers Street South to Broadway Street  
Option 1 - Overcrossing**



**Section C.4 Myers Street South to Broadway Street  
Option 2 - Undercrossing**



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# Segment C

## Alignment Options

- C.1 Broadway to Vista Way/Coast Highway
- C.2 Broadway to Eaton
- C.3 Myers Street to railroad overcrossing
- C.4 Myers Street to railroad undercrossing

### LEGEND

- City Boundary
- Public Park
- Traffic Signal
- Alignment Option
- Planned Multi-Use Path
- Existing Multi-Use Path
- Bike Lane
- Bike Route
- Cross Section Line

### Ownership

- North County Transit District
- Buena Vista Audubon Society
- City of Oceanside
- State of California
- Private

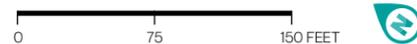
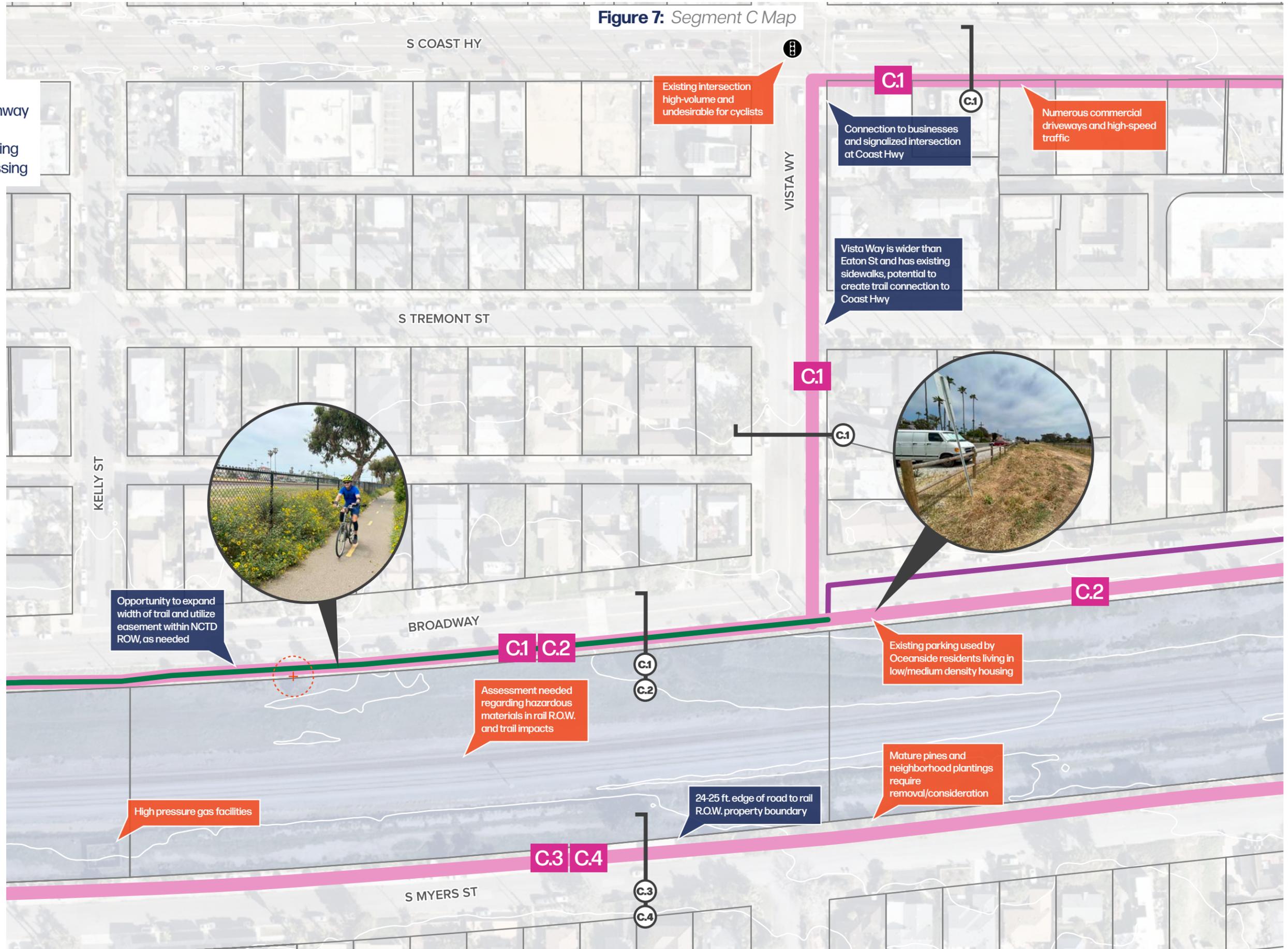


Figure 7: Segment C Map



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# Segment D

## D.1 - Eaton Street

**Section X** Section figures correspond to segment map section cut lines

### OPPORTUNITIES

Segment D features three options to connect trail users from Broadway Street to Coast Highway. Segment D.1 as shown in Figure 8, routes users along Eaton Street, which is currently used by trail users to connect to and from the existing Coastal Rail Trail along Broadway. The conceptual cross sections explored in Segment D.1 Option 1, Option 2, and Option 3 present different alternatives along Eaton Street.

Option 1 maintains the existing Class III bike route, parking, and travel lanes on both sides of the street, and adds a continuous sidewalk on the south side of the street to provide a pedestrian route. The addition of a continuous sidewalk on the south side of Eaton Street between Broadway Street and Coast Highway would be located in areas with existing private property encroachment into the public right-of-way (ROW) including landscaping and decorative fences.

Option 2 is entirely located within the existing curb-to-curb space, and removes parking on both sides of the street to maintain bidirectional vehicle lanes and accommodates a raised multi-use path with a narrow planted buffer adjacent to the road.

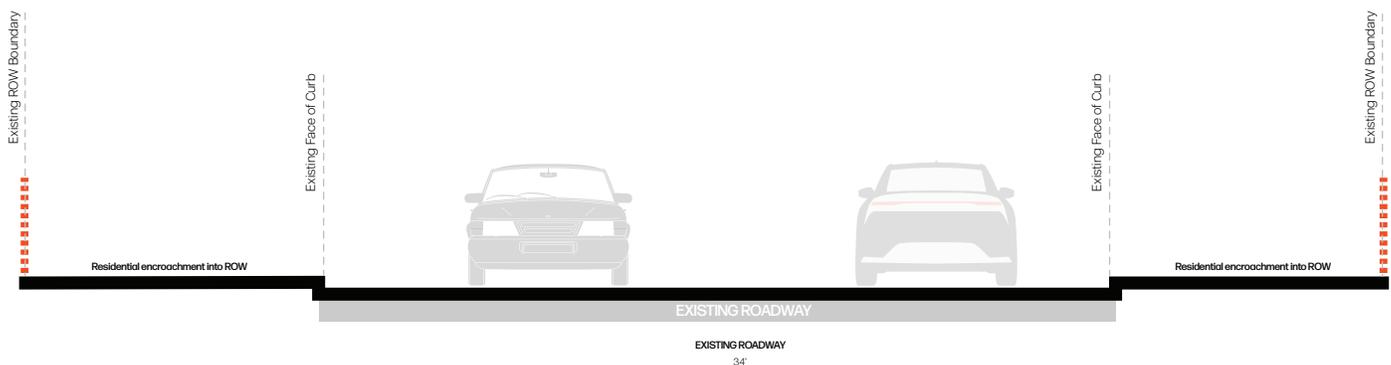
Option 3 converts Eaton from a two-way road to a one-way road with parking on one side. Similarly to Option 2, Option 3 creates a raised multi-use path with a wider planted buffer that can accommodate new street trees.

### CONSTRAINTS

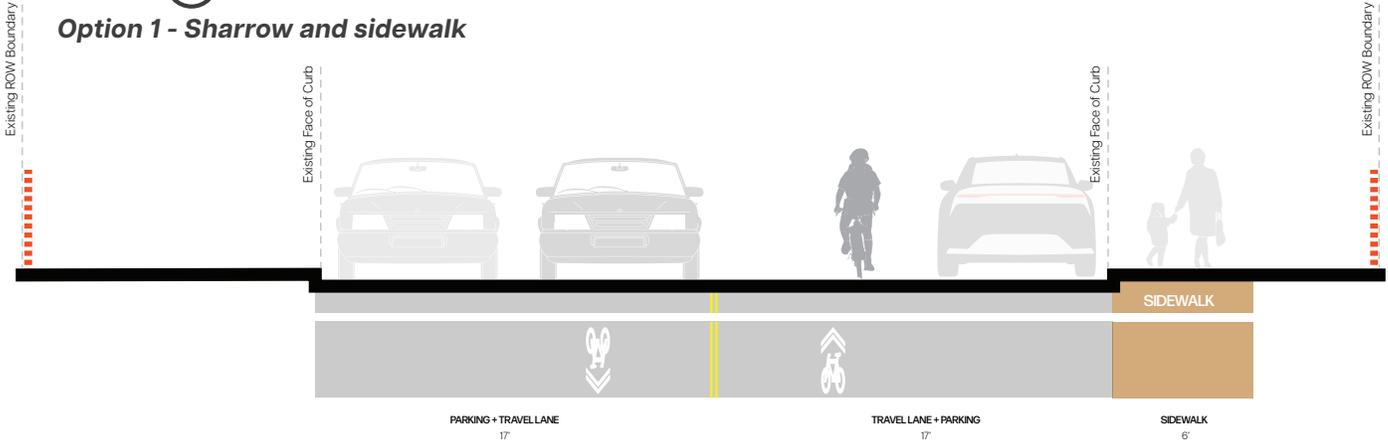
The narrow roadway, lack of existing sidewalks, presence of utilities, and driveways are major constraints when designing a Coastal Rail Trail connection along Eaton Street.

Private encroachment into the public ROW is present along Eaton Street. Collaboration with adjacent homeowners will be vital in determining the most feasible design alternative in this area.

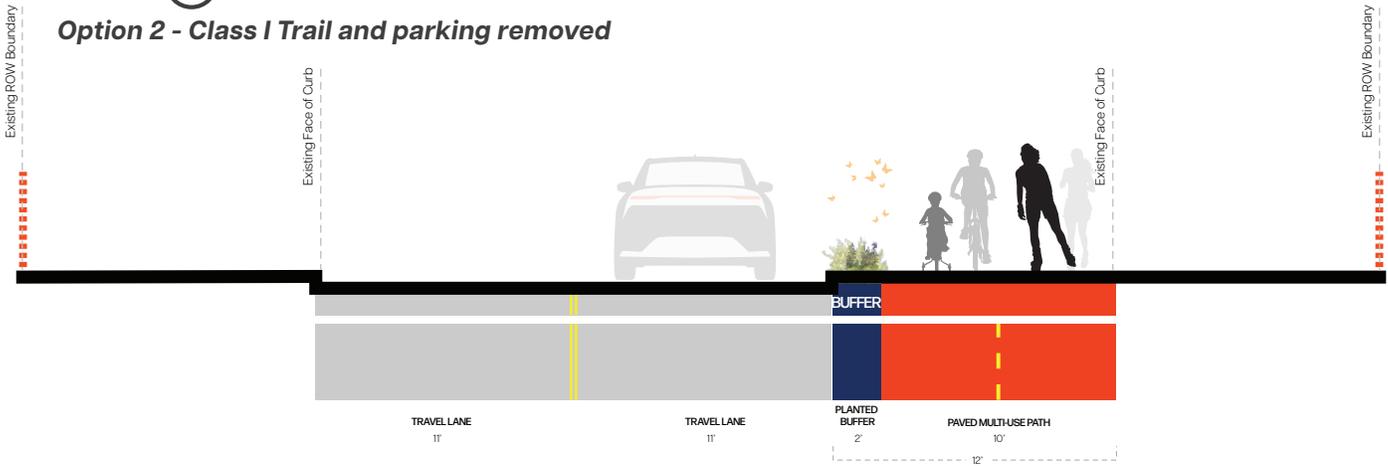
### Section D.1 Existing - Eaton Street North of Cassidy Street



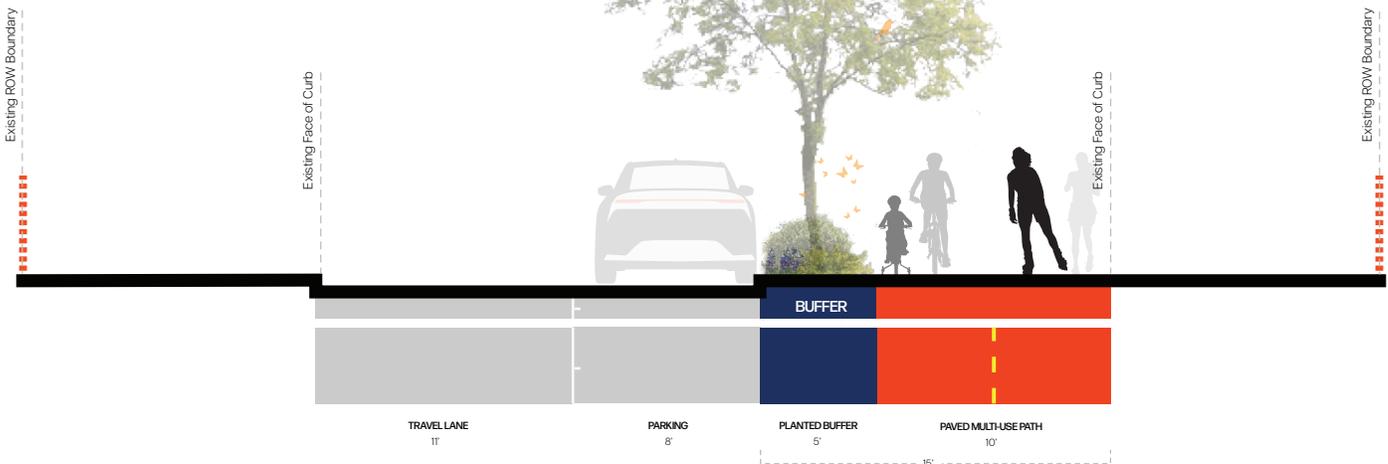
**Section D.1** Eaton Street  
**Option 1 - Sharrow and sidewalk**



**Section D.1** Eaton Street  
**Option 2 - Class I Trail and parking removed**



**Section D.1** Eaton Street  
**Option 3 - Class I Trail and one-way road**



# Segment D

## Alignment Options D.1 Eaton to Coast Highway

**LEGEND**

- City Boundary
- Public Park
- Traffic Signal
- Alignment Option
- Planned Multi-Use Path
- Existing Multi-Use Path
- Bike Lane
- Bike Route
- Cross Section Line

**Ownership**

- North County Transit District
- Buena Vista Audubon Society
- City of Oceanside
- State of California
- Private

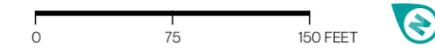
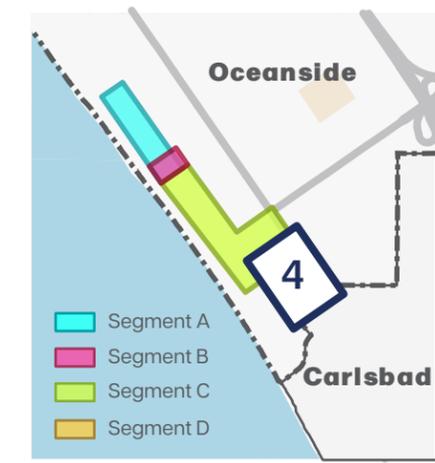
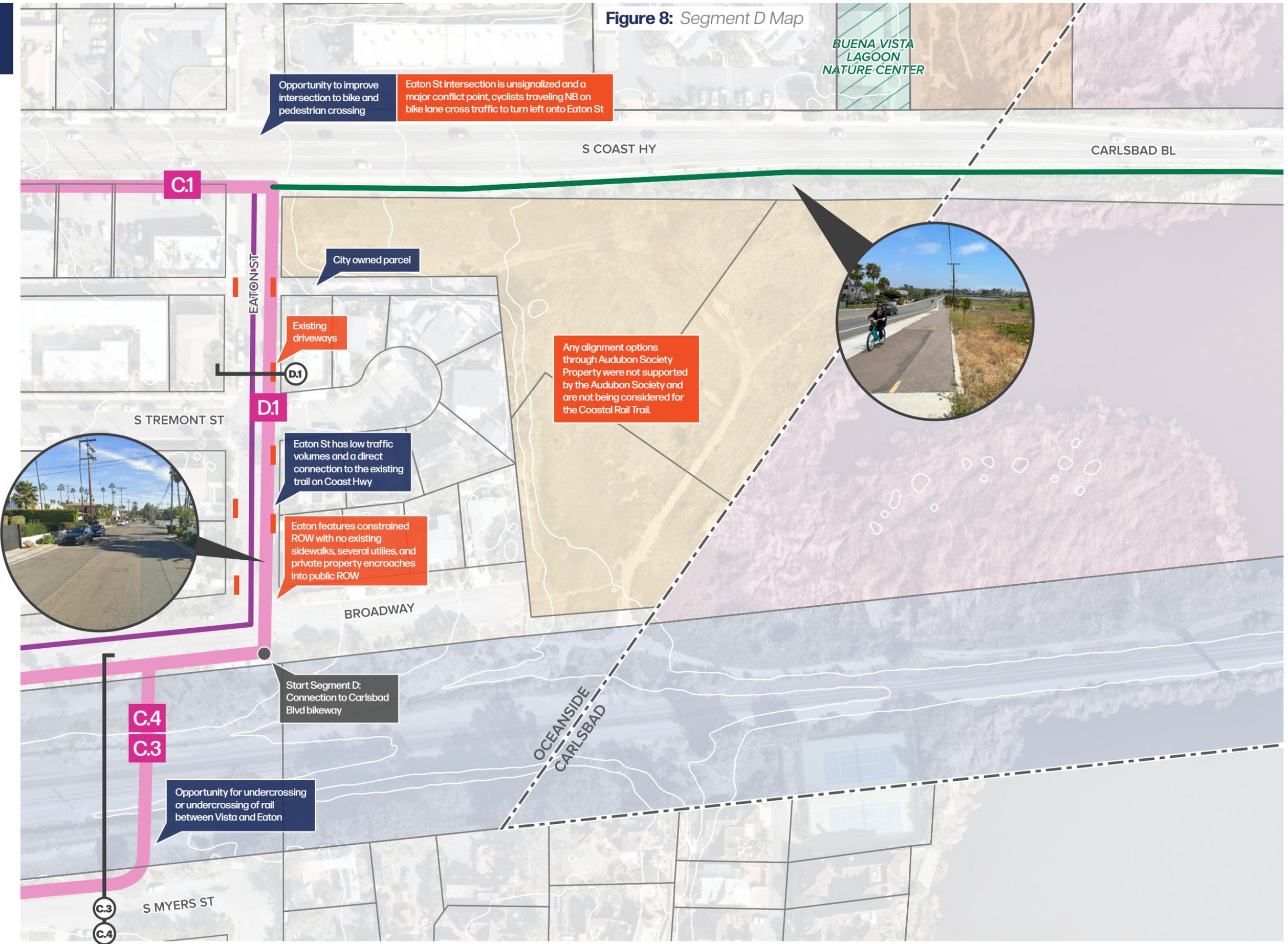


Figure 8: Segment D Map



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3

# Outreach + Engagement



# Outreach + Engagement

## Approach and Methodologies

### OVERVIEW

In an effort to gather input from a wide cross section of the public, the project team employed several different engagement methods including pop-up events, community workshops, and an online survey. These methods are summarized in the following sections.

#### **Pop-Ups**

Pop-up events were held at locations that are accessible to a large and diverse group of stakeholders, such as at Oceanside's Sunset Market and Buccaneer Park. The pop-up events provided opportunities for members of the community to learn about the ongoing feasibility study and provide input while continuing with their daily lives. This targeted outreach was employed to capture a much wider and more representative sample of residents and allowed for more informal, but meaningful input.

#### **Community Workshops**

Two in-person community workshops were conducted to gather additional feedback from community members and provided an opportunity for more extensive dialogue and discussion between stakeholders and the project team. The project team prepared highly visual poster board exhibits to convey planning concepts and to interactively solicit input to better capture opportunities and constraints along the trail corridor and to showcase possible future improvements. Materials displayed included infographics, visual simulations, existing condition photos, and maps to provide several tools the community could utilize to understand the project.

#### **Online Survey**

An online survey was developed that asked respondents to identify barriers and constraints to trail use, their trail design preferences, and priorities as they relate to the goals of the project. Additionally, the survey recorded demographic information of the respondents. The survey was publicized on the project website as well as at pop-up and workshop events. Sidewalk decals were also created and placed throughout the City and along the project corridor that displayed a QR code that directed residents to the online survey, as shown in the photo below.



*Sidewalk decal at the intersection of the Coastal Rail Trail and Wisconsin Avenue*

## OUTREACH PHASES

Outreach and engagement for the Oceanside Coastal Rail Trail Feasibility Study was divided into two (2) phases detailed in Figure 9: Listen + Learn; and Share Design.

### Phase 1: Listen + Learn

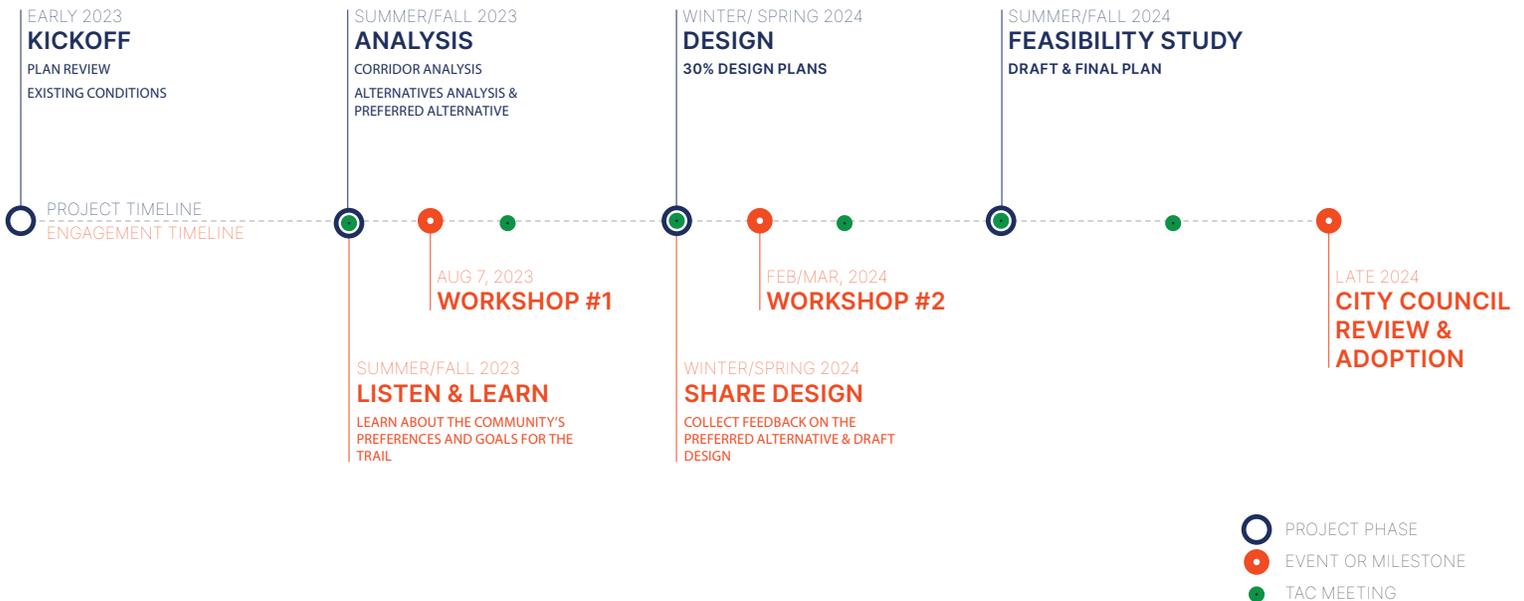
Phase 1 outreach was conducted in Summer and Fall 2023 with the intent of gathering feedback on South Oceanside community concerns and preferences regarding the Coastal Rail Trail. In this phase, the project team hosted three (3) pop-up events, coordinated one (1) stakeholder workshop, and disseminated an online survey. Engagement was focused on garnering an understanding of existing trail behaviors, desired amenities, and potential for increased trail activities. During Phase 1 engagement efforts, 290 individuals participated in an in-person activity for this project.

### Phase 2: Share Design

Phase 2 outreach was conducted in Winter and Spring 2024. Following the engagement efforts of Phase 1, the project team was able to produce several potential railroad crossing alternatives rooted in community preferences. These designs were shared with Oceanside residents in order to identify which proposed alignments drew the greatest community support. In Phase 2, the project team hosted two (2) pop-up events and coordinated one (1) stakeholder workshop, reaching a total of 180 individuals during this phase's engagement efforts.

More details about the events and activities during each phase are provided in the following section.

Figure 9: Project Schedule



# Outreach Events and Activities

## OVERVIEW

The following section provides additional details related to outreach events and activities briefly discussed in the previous section.

### TECHNICAL ADVISORY COMMITTEE (TAC)

Participation from key stakeholders from Oceanside and North County San Diego throughout the planning process was vital to the success of the feasibility study. The project team worked closely with the City to develop a list of key project stakeholders that were invited to join the project Technical Advisory Committee (TAC). The advisory committee convened a total of six (6) times over the course of the project to solicit feedback on important project deliverables. These meetings aligned community and stakeholder participation in the project. The expectation of committee members was to provide input from their unique perspectives and share information through their respective communication channels to gather more community participation. TAC participants included representatives from the following organizations:

- Oceanside Bicycle and Pedestrian Committee
- City of Oceanside Traffic Engineering Department
- City of Oceanside Public Works Department
- City of Oceanside Parks and Recreation Department
- North County Transit District
- City of Carlsbad
- Caltrans District 11
- San Diego Association of Governments (SANDAG)
- Oceanside Arts Commission
- Circulate San Diego

### IN-PERSON EVENTS

The project team, in collaboration with City staff, designed materials for and participated in a series of in-person events to promote the project and to solicit feedback from the community. In order to have maximum reach, the project team conducted in-person events (pop-up events and workshops) to advertise the surveys and gather feedback. These in-person events involved launching informational booths and interactive activities along the Coastal Rail Trail alignment study area to collect community feedback. The events were promoted on social media, flyers, and on the project team's websites.

Engagement activities consisted of an interactive feedback opportunity, which encouraged participants to place stickers on a series of boards detailing design alternatives and identifying which designs they preferred for Oceanside's Coastal Rail Trail. Project staff also provided large-scale maps of the existing pedestrian and bicycle networks that participants could mark up, flagging locations in need of improvement and desired connections. These events and the feedback received are summarized on the following pages.

### **Sunset Market**

The project team hosted a booth at Oceanside’s Sunset Market on June 15, 2023. The project team engaged with 100 people to distribute surveys and gather feedback on possible trail amenities (Figure 10). Per the responses received at this event, the most desired trail amenities included shade, lighting, and native landscapes. Many of the individuals engaging with the booth were parents expressing a desire for safer Coastal Rail Trail facilities for their children. The reach of an event of this stature also drew attendees from neighboring communities, such as Vista, San Marcos, and Carlsbad, who expressed enthusiasm for the trail improvements and indicated that they would travel to Oceanside more frequently to utilize the Coastal Rail Trail if it provided a continuous connection from the northern edge of the city to the southern edge.



**Figure 10:** *Sunset Market Engagement*

### **Mance Buchanan Park**

The project team conducted a pop-up event at Oceanside’s Mance Buchanan Park on July 1, 2023 to distribute surveys and gather feedback on possible trail amenities. This location was selected due to its popularity with people bicycling along the San Luis Rey River Trail. The project team brought refreshments to incentivize cyclists and those walking to come to the table. Throughout the day, the project team engaged with over 50 people, most of whom were both cyclists and Oceanside residents (Figure 11). In addition to providing commentary on amenity preferences, which included drinking fountains, native landscapes, and wayfinding and map kiosks, community members also proposed new ideas of their own, such as restrooms and fix-it stations with solar-powered electrical charging ports.



**Figure 11:** *Mance Buchanan Park Pop-up Engagement*

### **Oceanside Sidewalk Decal Install**

To further promote the project, project website, and project survey, the team installed temporary sidewalk decals directing the public to these resources. The installation occurred on July 20, 2023. The project team placed 23 sidewalk decals in strategically selected locations along the Coastal Rail Trail, around City of Oceanside intersections, and at key destinations with high pedestrian traffic (Figure 12).



**Figure 12:** Sidewalk Decal with QR Code

### **August Stakeholder Workshop**

The project team hosted the first Stakeholder Workshop in the Oceanside Civic Center's Community Room on August 7th, 2023. Participants were encouraged to visit a series of six (6) interactive boards and provide input on various trail design elements and potential Coastal Rail Trail amenities (Figure 13). Over 100 individuals attended the workshop, most of whom were older adults and long-term residents who regularly use the trail for walking and cycling. Per the feedback received at this event, the most popular trail amenities included native landscapes, shade, benches and seating, and lighting. Community members also provided additional recommendations for Coastal Rail Trail improvements, such as pet waste stations and enhanced access for individuals with disabilities.



**Figure 13:** August Stakeholder Workshop

### **Buccaneer Park**

The project team conducted a pop-up event at Oceanside’s Buccaneer Park on August 19, 2023. This location was selected due to its direct proximity to the Coastal Rail Trail. The project team distributed bicycle safety materials to incentivize participation and displayed interactive boards to gather feedback on existing trail conditions and preferred trail amenities. Over 40 people visited the table and engaged with the project team throughout the day, many of whom

were Oceanside residents or avid cyclists (Figure 14). Per the responses received during this event, the most popular preferred trail amenities included native landscapes, lighting, and shade. Community members also expressed their desire for safety improvements along challenging intersections, such as Morse Street and Broadway Street, Eaton Street and South Coast Highway, and Vista Way and Interstate 5.



**Figure 14:** *Buccaneer Park Pop-up Event Engagement*

### **Angelo's Burgers**

The project team conducted a pop-up event near the intersection of Eaton Street and South Coast Highway in front of Angelo's Burgers on February 3, 2024. This location was selected due to its proximity to both the Coastal Rail Trail and the City of Carlsbad. Rather than focusing on amenities and existing conditions, this event engaged community members on proposed design alternatives. Interactive boards prompted individuals to provide their opinions on potential railroad crossings between South Myers Street and Broadway Street and potential connections from Broadway Street to South Coast Highway (Figure 15). The project team engaged with 52 people throughout this event, many of whom were people walking from the surrounding neighborhoods. Per the responses received during this event, community members preferred a bridge overcrossing for the railroad crossing alternatives and supported a shared-use path along Eaton Street to connect Broadway Street to South Coast Highway.



**Figure 15:** Angelo's Burgers Pop-up Engagement

### **Oceanside Pier**

The project team conducted a pop-up event at Oceanside Pier on February 24, 2024. This pop-up event was focused on gathering feedback for proposed designs for railroad crossing alternatives between South Morse Street and Broadway Street and trail connections from Broadway Street to South Coast Highway, as well as to advertise for the upcoming stakeholder workshop. The project team engaged with 98 people throughout this event, many of whom were North County San Diego residents who enjoy walking and bicycling in Oceanside (Figure 16). Per the responses received during this event, community members preferred a bridge overcrossing for the railroad crossing alternatives and supported a shared-use path along Eaton Street to connect Broadway Street to South Coast Highway.



**Figure 16:** Oceanside Pier Pop-up Engagement

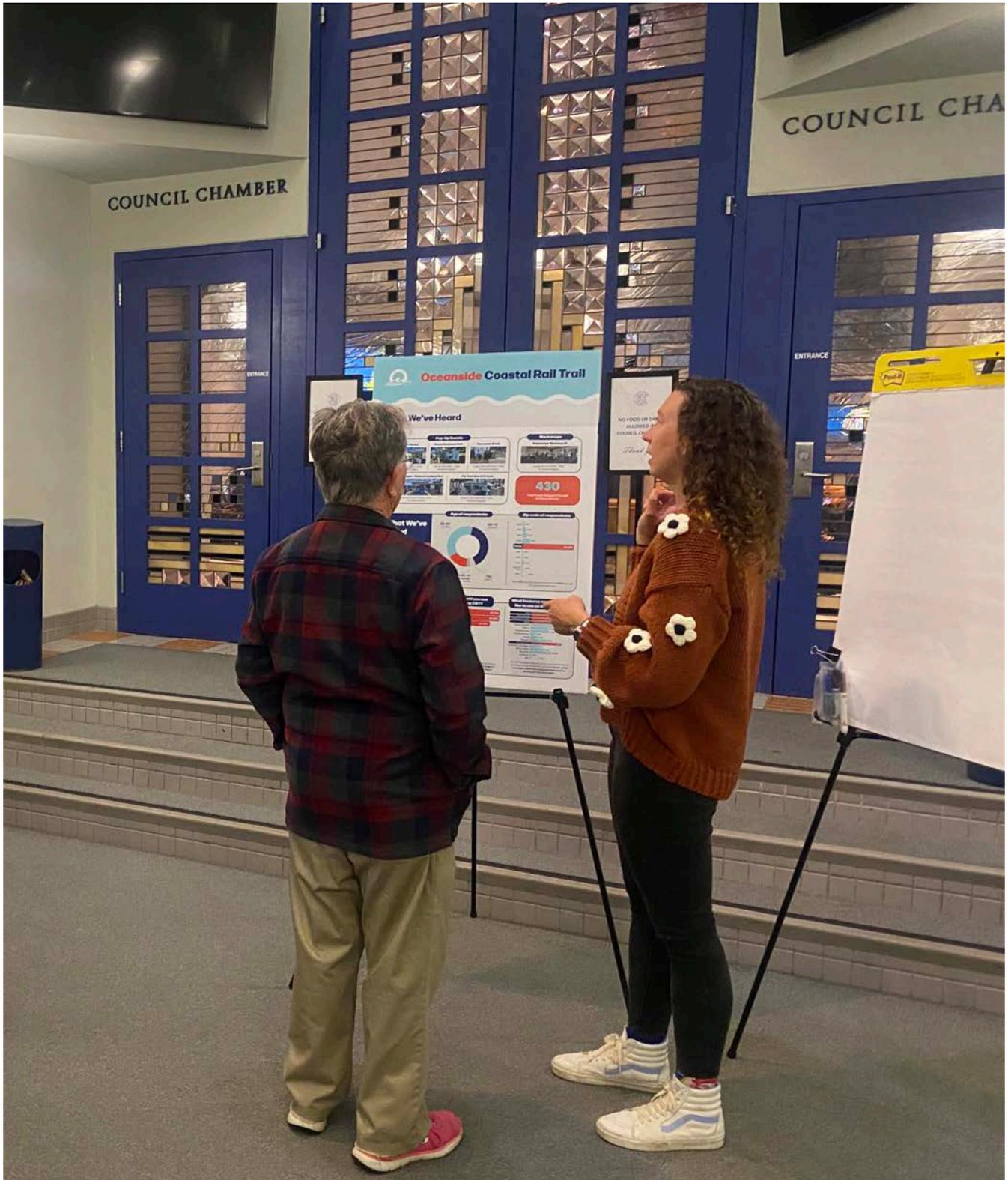
### **February Stakeholder Workshop**

The project team hosted the second Stakeholder Workshop in Oceanside Civic Center's Council Chambers on February 29th, 2024. Workshop attendees were encouraged to engage with nine (9) interactive boards and to provide input on proposed designs and trail alignment alternatives. Approximately 25 individuals participated in this workshop, representing various City of Oceanside departments, pedestrian and bicycle advocacy

organizations, resident groups, and more. In addition to submitting feedback on project designs, participants were also invited to provide high-level recommendations for project goals and themes, which included prioritizing feedback from the neighborhoods adjacent to the Coastal Rail Trail, encouraging safe interactions between people using electric bicycles and people walking or rolling, providing wide and protected facilities, and increasing trail signage and wayfinding materials.



**Figure 17:** February Stakeholder Workshop



# Key Themes and Results

## OVERVIEW

Throughout the engagement process, feedback shared by project stakeholders and community members remained in relative alignment thematically. With the commentary resulting from these conversations, the project team was able to discern several high-level key goals to determine the success of the Coastal Rail Trail feasibility study. Key themes, ranked in order of perceived importance (per survey respondents), include safety, access and mobility, trail experience, sustainable design, feasibility and timeline, and equity. The online survey yielded responses from 390 members of the community and the majority of respondents live in the area directly surrounding the project area.

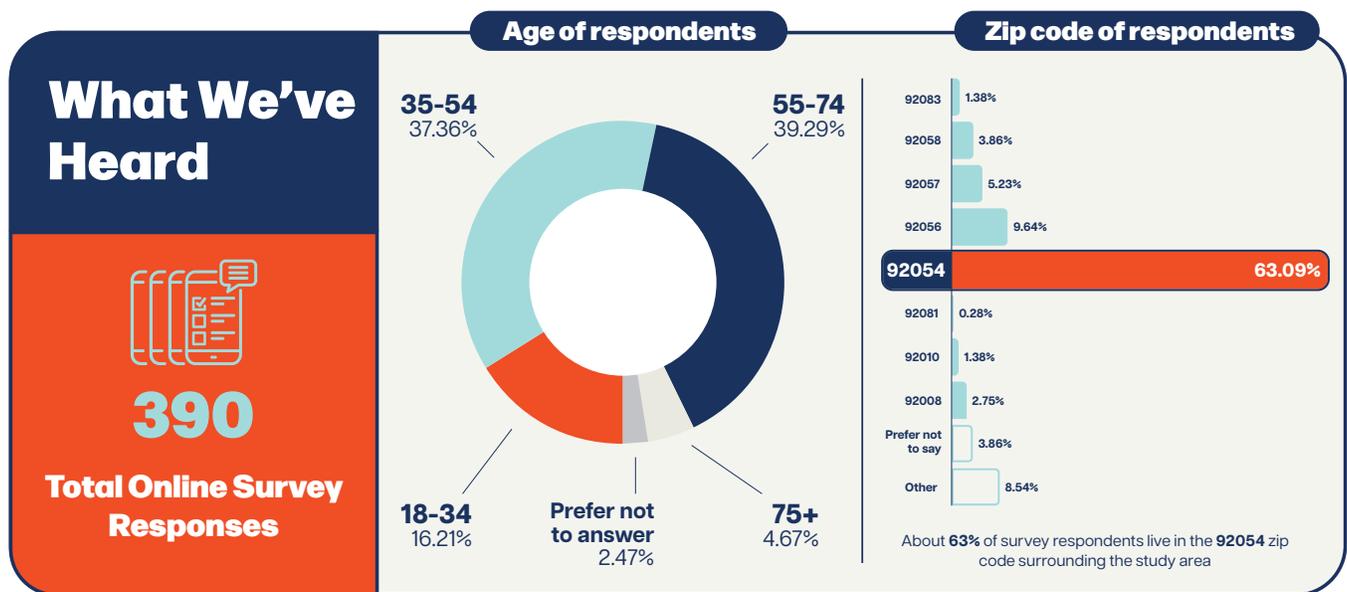
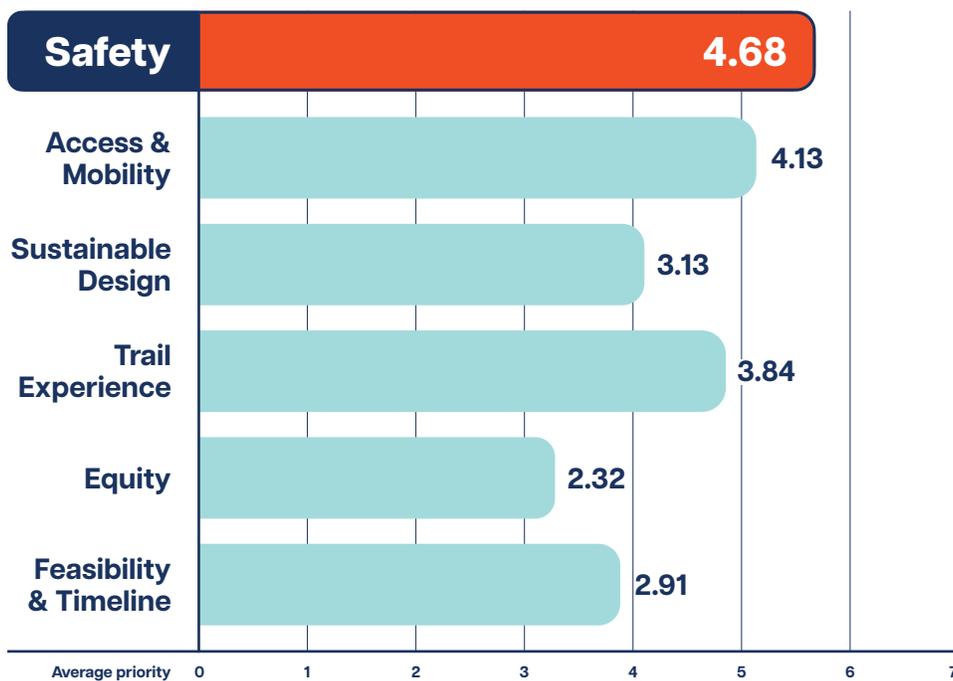


Figure 18: Survey Response Overview

## Safety

Approximately 40% of survey respondents ranked safety as their top priority for the Coastal Rail Trail (Figure 18 and Figure 19), indicating overwhelming support for a trail that is a safe route for all ages and abilities and is separated from vehicular traffic. Community members consistently identified the intersections of Cassidy Street and Broadway Street/

South Myers Avenue and Eaton Street and South Coast Highway as areas of particular concern. Consequently, the project team received a great deal of support for proposed trail realignments in both of those areas. Amenities such as improved lighting, call boxes, and frequent access points were also cited as trail characteristics that would improve users' safety.



**Figure 19:** Average priority. A higher score indicates greater priority to the community. Maximum possible score of 6.

**40%**

of survey respondents ranked **SAFETY** as their top priority for the Coastal Rail Trail

**“We need a crosswalk across Cassidy Street. It is a dangerous intersection and crossing with young kids is scary.”**

**“Safety features like call boxes, frequent access points, and good lighting are needed!”**

**“It will be important to educate trail users on how to use the Coastal Rail Trail safely and courteously”**

**Figure 20:** Safety related survey comments

### **Access and Mobility**

Survey respondents also desire a trail that is easy to get to and connects to popular destinations. Community members routinely spoke of their desire to have improved access to schools, beaches, and parks throughout South Oceanside. Additional requests aligning with this theme included enhanced infrastructure for people with disabilities and wide trails that allow for simultaneous pedestrian and bicycle usage.

### **Trail Experience**

TAC participants, community members, and survey respondents expressed interest in a trail that creates an inviting and comfortable user experience. Amenities such as public art, shade, restrooms, pet waste stations, and wayfinding signage were among the characteristics of a pleasant and appealing trail identified throughout the engagement process.

## Sustainable Design

Oceanside residents and visitors envision the future of the Coastal Rail Trail as a trail that serves as a model for environmentally sustainable design practices. Native landscaping was one of the most highly-requested trail amenities throughout several rounds of engagement, indicating a desire to retain local flora and fauna while still providing a safe and comfortable facility for trail users.

## Feasibility and Timeline

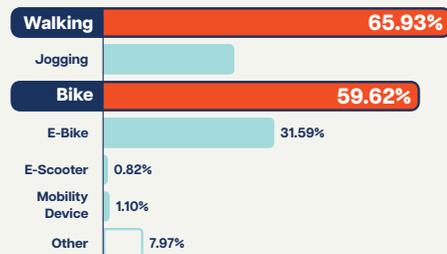
While there was some demonstrated preference for a trail that can be constructed as soon as is realistic and on budget, community members largely indicated support for Coastal Rail Trail improvements that would result in a safer, more comfortable user experience regardless of cost and timeline.

## Equity

In accordance with community wishes, the project team intends to design the Coastal Rail Trail so that it is a trail that serves all trail users, particularly historically underserved populations.

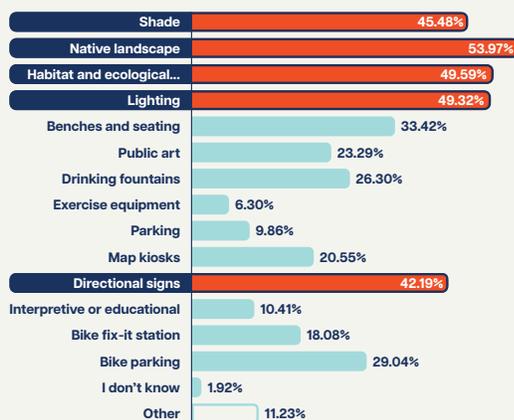
# Results Summary

## How do you use trails?



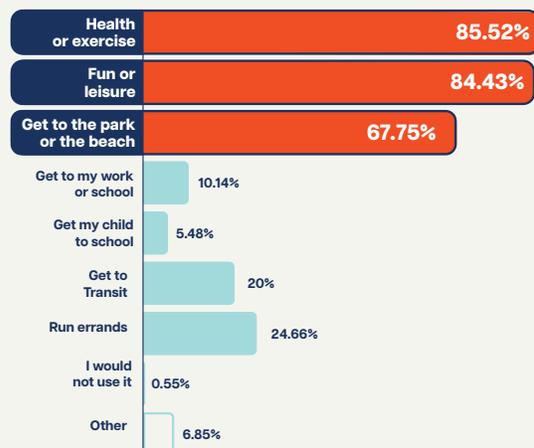
The majority of survey respondents use trails to either **walk or bike**, with a third of people using e-bikes

## What features would you most like to see on the new Coastal Rail Trail?



The top five selected features survey respondents want to see along the new Coastal Rail Trail include **shade, native landscape, habitat and ecological enhancements, lighting, and directional signs**

## How would you use the new Coastal Rail Trail?



The majority of survey respondents said they would use the Coastal Rail Trail for **recreational purposes** like **exercise and leisure** or to **get to a park or beach**

Figure 21: Summary of online survey results

## PHASE 1 ENGAGEMENT RESULTS

During the project's first phase of engagement, 290 people were reached through a series of four (4) direct, in-person pop-up, and workshop events. A primary focus of this phase of engagement was trail amenities, and participants were all asked to provide feedback on their desired characteristics for the Coastal Rail Trail. Throughout this phase, the project team received 214 votes for potential trail amenities. In order of popularity, the seven most requested results were as follows:

- Native Landscape (64 votes)
- Lighting (47 votes)
- Shade (42 votes)
- Benches (19 votes)
- Wayfinding/Educational Signage (17 votes)
- Public Art (15 votes)
- Bike Fix-It Stations (10 votes)

Secondarily, the project team also solicited feedback from community members regarding challenging intersections and trail conditions. As previously mentioned, the intersections of Cassidy Street/Broadway Street and Eaton Street/South Coast Highway were consistently identified as potentially dangerous for pedestrians and bicyclists alike.

## PHASE 2 ENGAGEMENT RESULTS

During the project's second phase of engagement, 172 people were reached through a series of three (3) direct, in-person pop-up, and workshop events (Figure 22). A primary focus of this phase of engagement was proposed Coastal Rail Trail alignments and participants were asked to provide feedback on their preferred alternatives. Throughout this phase, the project team received 124 votes for potential railroad crossing alternatives. In order of popularity, the most strongly desired alignments were as follows:

- Bike and pedestrian bridge over railroad near Whaley Street (72 votes)
- At-grade railroad crossing along the south side of Cassidy Street (20 votes)
- Bike and pedestrian bridge over railroad near Vista Way (20 votes)
- At-grade railroad crossing along the north side of Cassidy Street (12 votes)

Participants also expressed a desire for increased traffic control along Cassidy Street regardless of trail crossing design to maximize pedestrian and bicyclist safety.

Community members were also encouraged to provide input on proposed connections between Broadway Street and South Coast Highway. During this second phase of engagement, the project team received 83 votes for trail alternatives connecting to South Coast Highway. In order of popularity, the most strongly desired alignments were as follows:

- A shared-use trail along the south side of Eaton Street (54 votes)
- A bidirectional protected bikeway along the south side of Vista Way and the west side of Coast Highway (17 votes)
- A sharrow for cyclists in the street and a sidewalk for pedestrians along Eaton Street (12 votes)

All community and stakeholder feedback, along with best practices, were considered and informed the final recommendations and conceptual design of the Coastal Rail Trail.

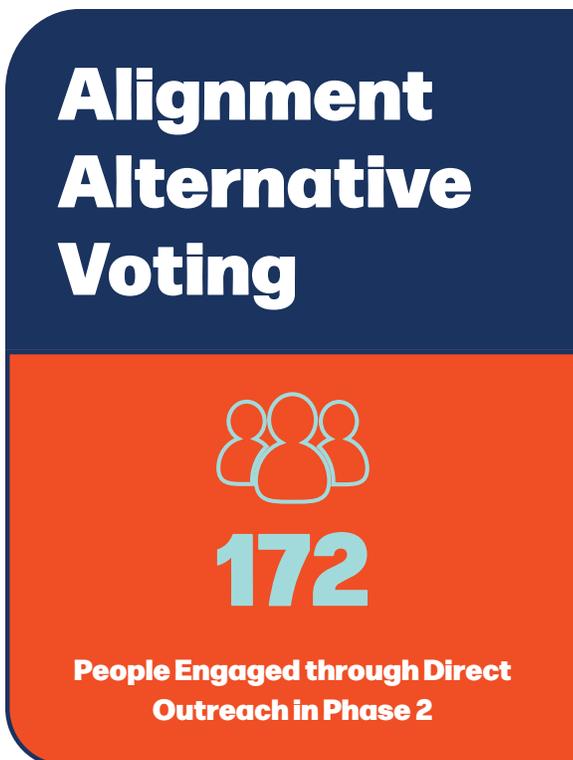
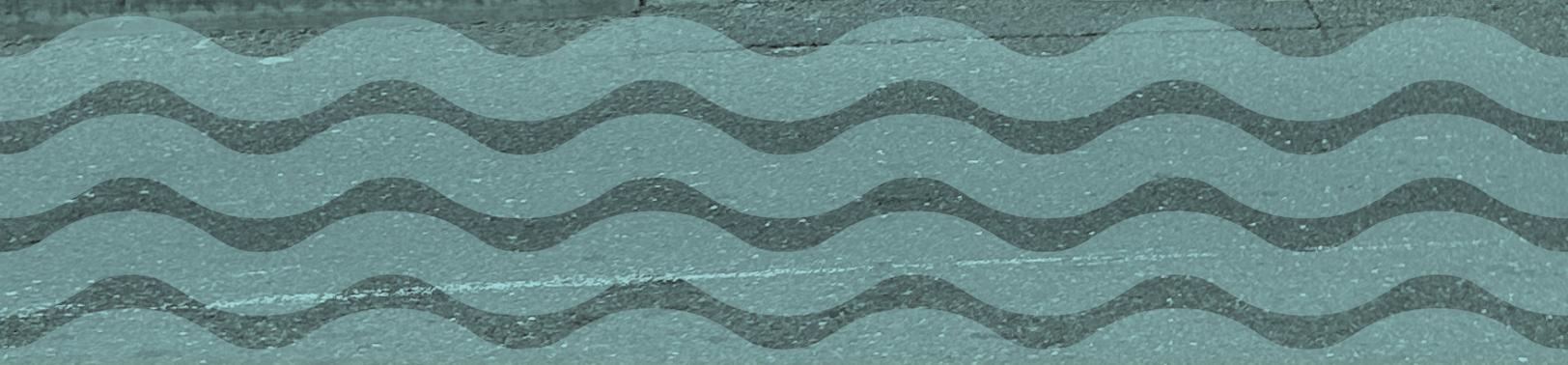


Figure 22: Phase 2 Engagement Alignment Alternative Voting Results

**4**

# Alternatives Analysis



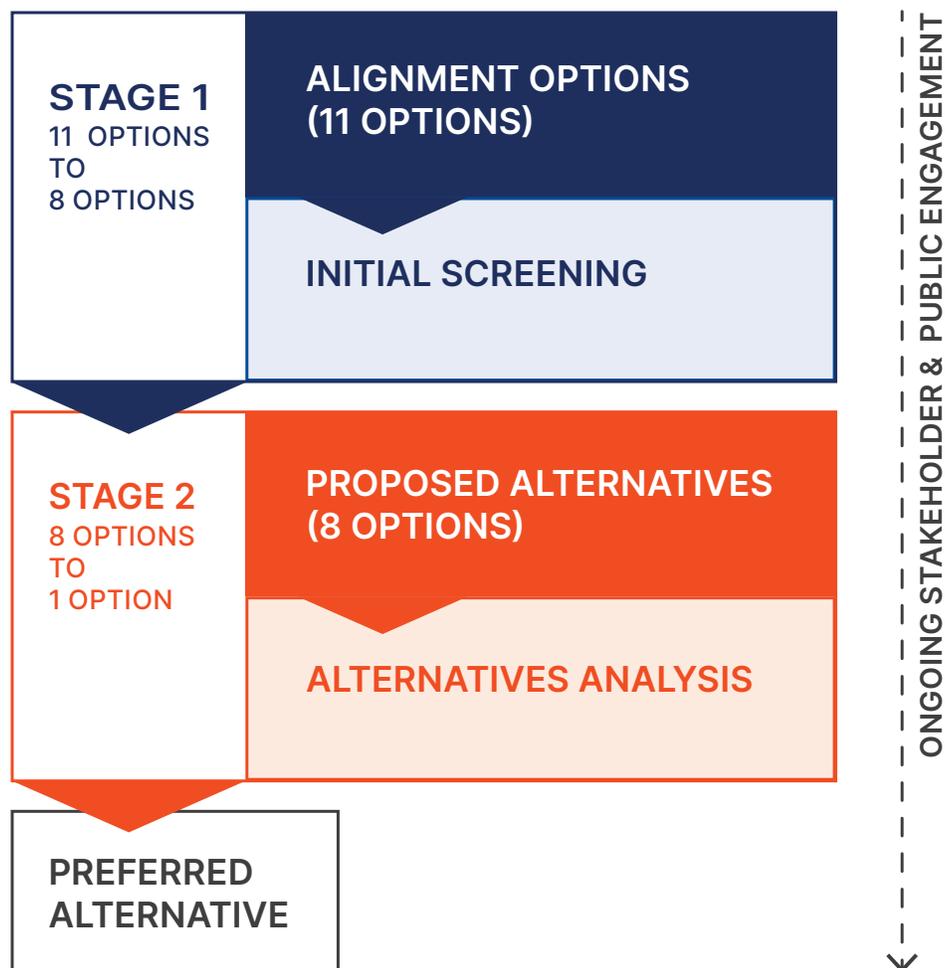
# Analysis Overview

## Alternatives Analysis Process

### OVERVIEW

The alternatives analysis serves to guide the selection of a preferred alternative for the Oceanside Coastal Rail Trail. Building upon public engagement and prior analysis phases, this chapter documents the alternatives analysis process and results to inform the selection of a preferred alternative, as indicated in Stage 2 of the process diagram in Figure 23.

Figure 23: Alternatives Analysis Process Diagram



# Alternatives Overview

## OVERVIEW

To streamline the alternatives analysis process and focus on the most critical decision points, the study area was re-segmented into two main parts at Cassidy Street, as shown in Figure 24. This shift from four segments to two was driven by a clearer understanding of the site's defining features and challenges identified during the opportunities and constraints phase. While the opportunities and constraints process documented a range of potential alignments and site-specific challenges, the alternatives analysis involves scoring these alignments against a set of metrics to determine the preferred option. Cassidy Street serves as a logical breakpoint due to the distinct and separate considerations in each half of the project area. The northern segment focuses heavily on determining how and where to cross the NCTD railroad right-of-way (ROW), which involves navigating spatial constraints and regulatory requirements. The southern segment, by contrast, is primarily concerned with identifying the best alignment to connect from Broadway Street to the existing trail along South Coast Highway, requiring careful evaluation of available street networks and community impact.

Figure 24: Segment Overview Map



## ALTERNATIVES

Alternatives identified for further analysis meet two key criteria:

- The alternative must be entirely located on publicly owned property
- The alternative must meet the design standard for the Coastal Rail Trail to create a direct and continuous trail experience.

### North Segment Alternatives

#### **N1: Myers Street to Broadway Street via railroad overcrossing north of Cassidy Street.**

This alternative crosses the railroad via a bike and pedestrian bridge between Morse Street and Cassidy Street, and creates a direct connection to Lion's Club Park.

#### **N2: Myers Street to Broadway Street via Cassidy north-side at-grade railroad crossing.**

This alternative crosses the railroad at-grade on the north-side of Cassidy Street, with a direct connection to Lion's Club Park.

#### **N3: Myers Street to Broadway Street via Cassidy south-side at-grade railroad crossing.**

This alternative crosses the railroad at-grade on the south-side of Cassidy Street.

#### **N4: Myers Street continuation to railroad overcrossing south of Cassidy Street.**

This alternative keeps the trail along Myers Street south of Cassidy Street. This alternative can only be combined with S4, which would cross the railroad via a bike and pedestrian bridge between Vista Way and Eaton Street.

### South Segment Alternatives

#### **S1: Broadway Street via Vista Way + Coast**

**Highway.** This alternative connects to South Coast Highway via Class IV protected bikeways along Vista Way and Coast Highway.

#### **S2: Broadway Street to Eaton Street shared-**

**use trail.** This alternative connects to South Coast Highway via Class I trail along Eaton Street.

#### **S3: Broadway Street to Eaton Street sharrow and**

**sidewalk.** This alternative connects to South Coast Highway via sharrows and a sidewalk along Eaton Street.

#### **S4: Myers Street to Eaton Street via south-side**

**railroad overcrossing.** This alternative crosses the railroad via a bike and pedestrian bridge between Vista Way and Eaton Street. This alternative can only be combined with N4.

## COMBINING ALTERNATIVES

The preferred alternative will include one alternative from both the north and south segments to create a continuous alignment. The alternatives N1, N2, or N3 can be combined with S1, S2, or S3, as all connect to the intersection of Cassidy Street and Broadway Street. The alternative N4 can only be combined with S4.

The following pages include detailed description and analysis of each alternative.

# N1

## MYERS TO BROADWAY VIA NORTH-SIDE RAILROAD OVERCROSSING

**Cost:** \$8,695,400

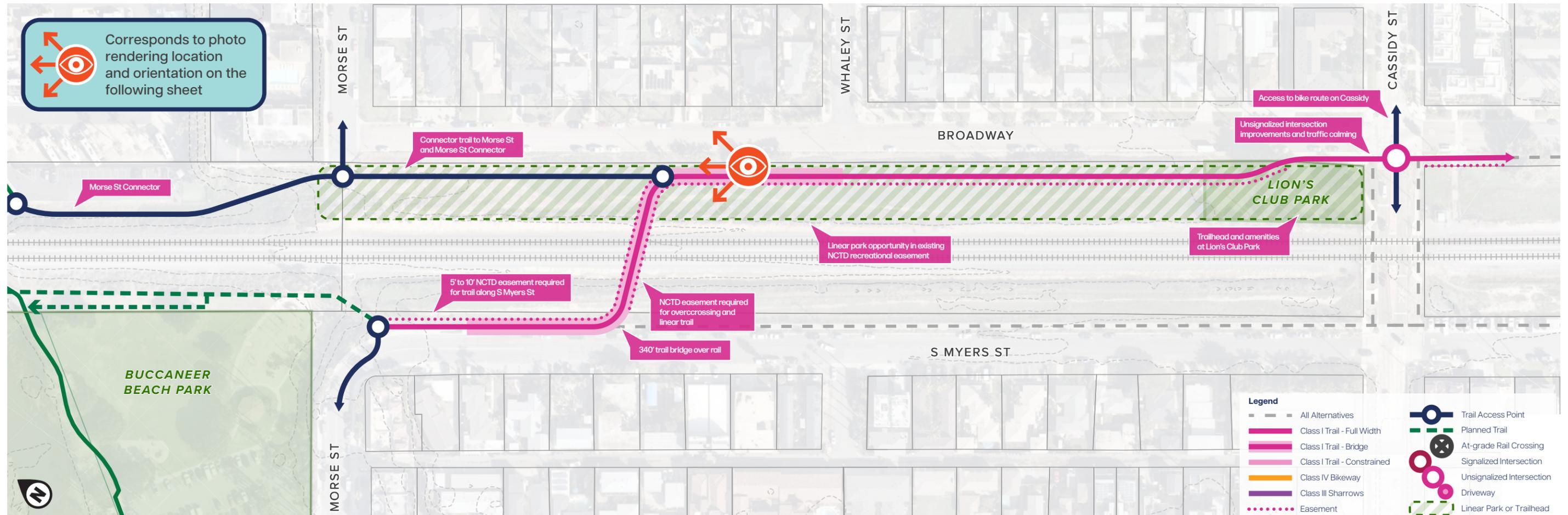
**Description:** N1 features a Class I trail along Myers Street that connects to the planned Coastal Rail Trail segment between Oceanside Boulevard and Morse Street. Continuing south, the alternative ramps up and crosses over the NCTD railroad right-of-way (ROW) via a bike and pedestrian bridge before ramping down on the east side at Broadway Street. The alternative continues as a Class I trail along Broadway and crosses Cassidy Street with a raised intersection at Broadway Street. The wide flat area adjacent to Broadway presents the opportunity for a linear park along the trail to Lion's Club Park.

### What differentiates the north-side alternatives?

<b>Cost</b>	Higher cost compared to N2 and N3 due to a bridge overcrossing
<b>Coordination + Permitting</b>	Greater coordination due to a bridge overcrossing of NCTD railroad
<b>Priority of Railroad Crossing</b>	Highest priority with grade-separated bridge overcrossing of railroad
<b>Access + Connectivity</b>	Highest access and connectivity with convenient access to Morse and Cassidy
<b>Linear Park + Trail Amenities</b>	Greatest opportunity for trail amenities and linear park within existing NCTD recreational easement along Broadway

### How does the alternative perform to the project goals?

Feasibility + Timeline	★★
Equity + Community	★★★★
Safety	★★★★
Access + Mobility	★★★★
Trail Experience	★★★★
<b>Overall</b>	★★★★





Broadway Street (north of Cassidy Street) - looking north

# N2

## MYERS TO BROADWAY VIA CASSIDY NORTH-SIDE AT-GRADE RAILROAD

### CROSSING

**Cost:** \$1,961,300

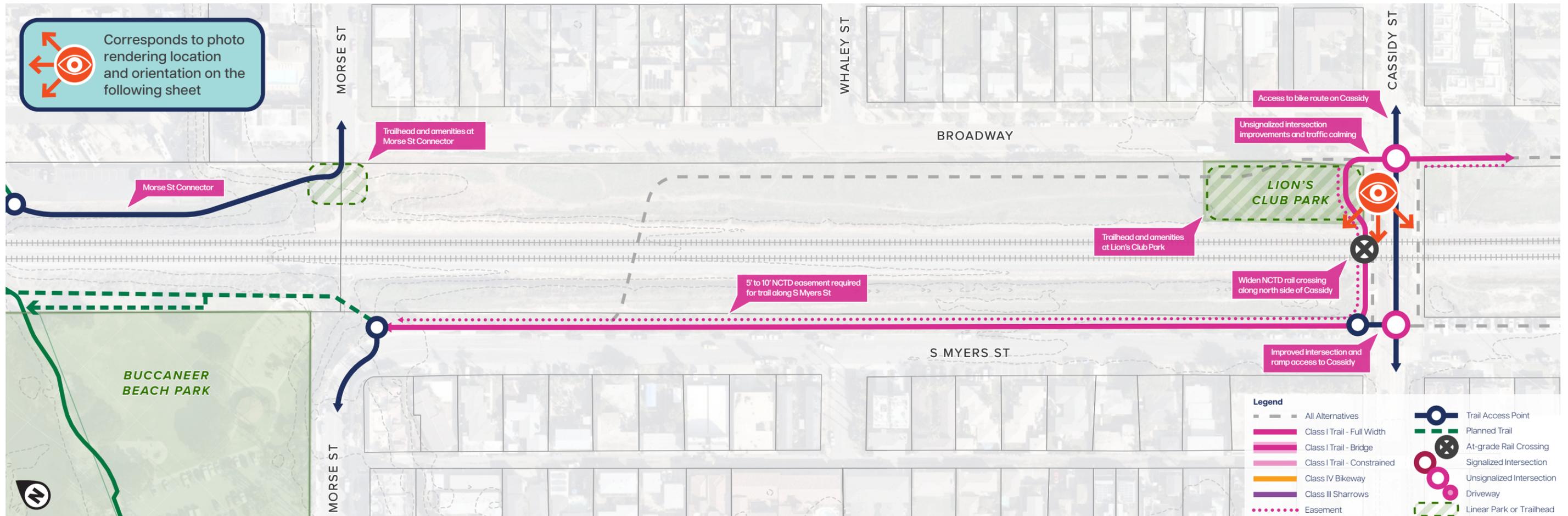
**Description:** N2 features a Class I trail along Myers Street that connects to the planned Coastal Rail Trail to Oceanside Boulevard at Morse Street. Continuing south, the alternative replaces the existing trail alignment along Myers Street to Cassidy Street. The alternative widens and improves the railroad crossing on the north side of Cassidy Street to connect to Lion's Club Park. The alternative then turns and crosses Cassidy Street with a raised intersection at Broadway Street.

#### What differentiates the north-side alternatives?

<b>Cost</b>	Lower cost compared to N1 and N4 with only at-grade trail and intersection improvements
<b>Coordination + Permitting</b>	Less coordination due to a consistent 5' to 10' NCTD easement the entire length
<b>Priority of Railroad Crossing</b>	Railroad crossing is at-grade and the width may be constrained by railroad utilities
<b>Access + Connectivity</b>	Average access due to a direct connection to Cassidy Street on both sides of the railroad
<b>Linear Park + Trail Amenities</b>	Greater opportunity for trail amenities with direct access to Lion's Club Park

#### How does the alternative perform to the project goals?

Feasibility + Timeline	★★★★
Equity + Community	★
Safety	★★
Access + Mobility	★★★★
Trail Experience	★★★★
<b>Overall</b>	★★★★





Widened at-grade railroad crossing

Overhead lighting

Connection to Lions Club Park

Buffer from roadway

North-side Cassidy Street crossing - looking west

# N3

## MYERS TO BROADWAY VIA CASSIDY SOUTH-SIDE AT-GRADE RAILROAD

### CROSSING

**Cost:** \$1,698,800

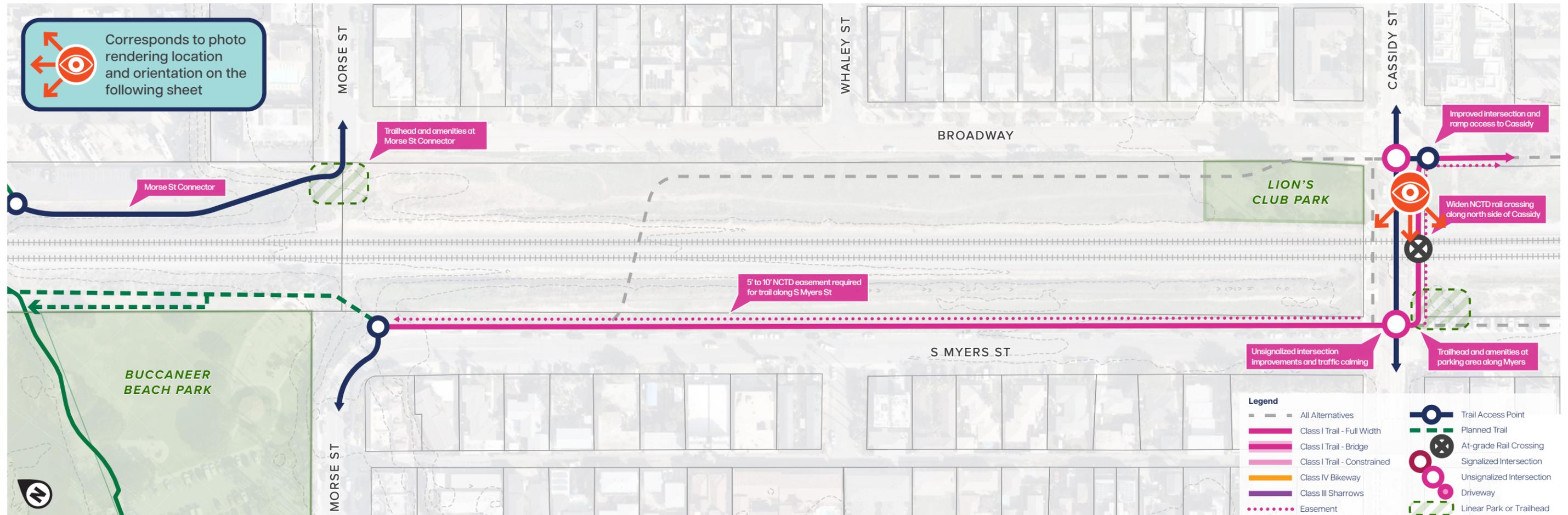
**Description:** N3 features a Class I trail along Myers Street that connects to the planned Coastal Rail Trail segment between Oceanside Boulevard and Morse Street. Continuing south, the alternative replaces the existing trail alignment along Myers Street to Cassidy Street. The alternative crosses Cassidy Street along Myers Street with a raised crossing. The alternative widens and improves the railroad crossing on the south side of Cassidy Street before continuing the Class I trail to Broadway Street.

### What differentiates the north-side alternatives?

<b>Cost</b>	Lower cost compared to N1 and N4 with only at-grade trail and intersection improvements
<b>Coordination + Permitting</b>	Less coordination due to a consistent 5' to 10' NCTD easement the entire length
<b>Priority of Railroad Crossing</b>	Railroad crossing is at-grade and the width may be constrained by railroad utilities
<b>Access + Connectivity</b>	Average access due to a direct connection to Cassidy Street on both sides of the railroad
<b>Linear Park + Trail Amenities</b>	Less opportunity for trail amenities with easement required to create trailhead at Cassidy Street and Myers Street

### How does the alternative perform to the project goals?

Feasibility + Timeline	★★★★
Equity + Community	★
Safety	★★
Access + Mobility	★★★★
Trail Experience	★★
<b>Overall</b>	★★





South-side Cassidy Street crossing - looking west

# N4

## MYERS CONTINUATION TO SOUTH-SIDE RAILROAD OVERCROSSING

**Cost:** \$1,478,300\*

**Description:** N4 features a Class I trail along Myers Street that connects to the planned Coastal Rail Trail segment between Oceanside Boulevard and Morse Street. Continuing south, the alternative replaces the existing trail alignment along Myers Street to Cassidy Street. The alternative crosses Cassidy Street along Myers Street with a raised crossing. The alternative continues south of Cassidy Street along Myers Street.

\*This alternative can only be paired with S4, which features a railroad bridge overcrossing between Vista Way and Eaton Street.

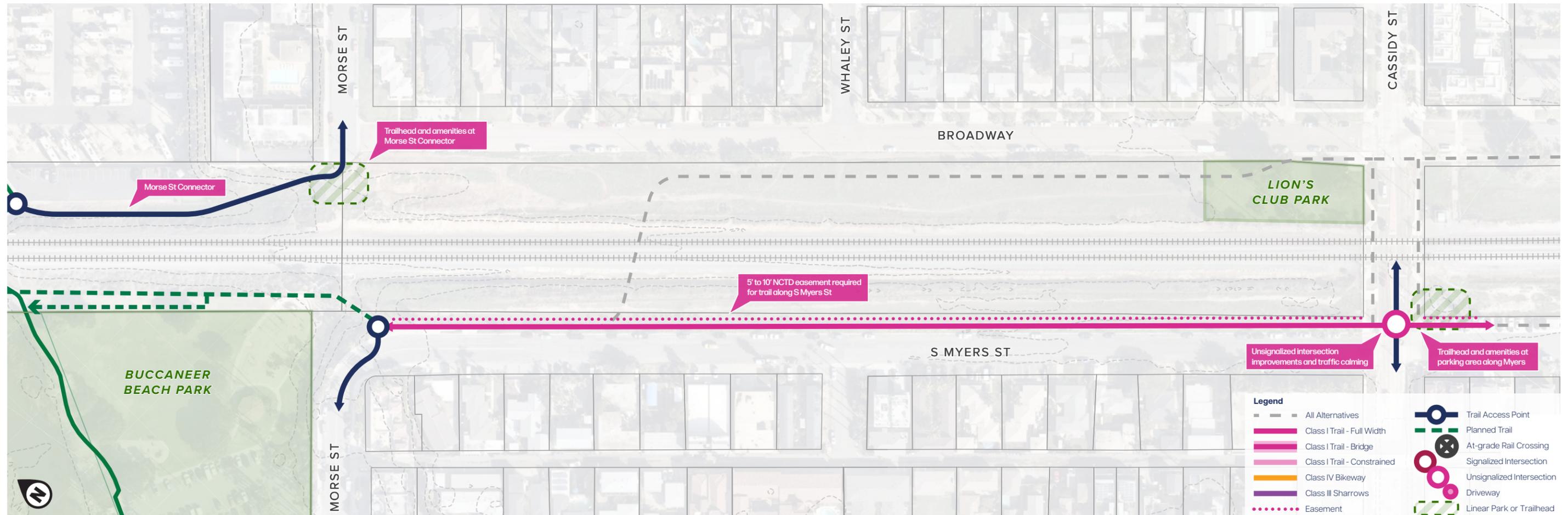
### What differentiates the north-side alternatives?

<b>Cost</b>	Lower cost compared to N1, N2, and N3; however, it aligns only with S4, which is the highest cost option
<b>Coordination + Permitting</b>	Lowest coordination due to no railroad crossing in the north-side section
<b>Priority of Railroad Crossing</b>	Highest priority with grade-separated bridge overcrossing of railroad in south-side section
<b>Access + Connectivity</b>	Lower access due to a connection only to Cassidy Street on the west side of the railroad
<b>Linear Park + Trail Amenities</b>	Less opportunity for trail amenities with easement required to create trailhead at Cassidy Street and Myers Street

Note that despite a lower cost for north-side section, N4 requires a bridge overcrossing further south

### How does the alternative perform to the project goals?

Feasibility + Timeline	★★★★
Equity + Community	★★
Safety	★★★★
Access + Mobility	★★
Trail Experience	★★
<b>Overall</b>	★★



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# S1

## BROADWAY TO VISTA/COAST HIGHWAY

**Cost:** \$2,448,600

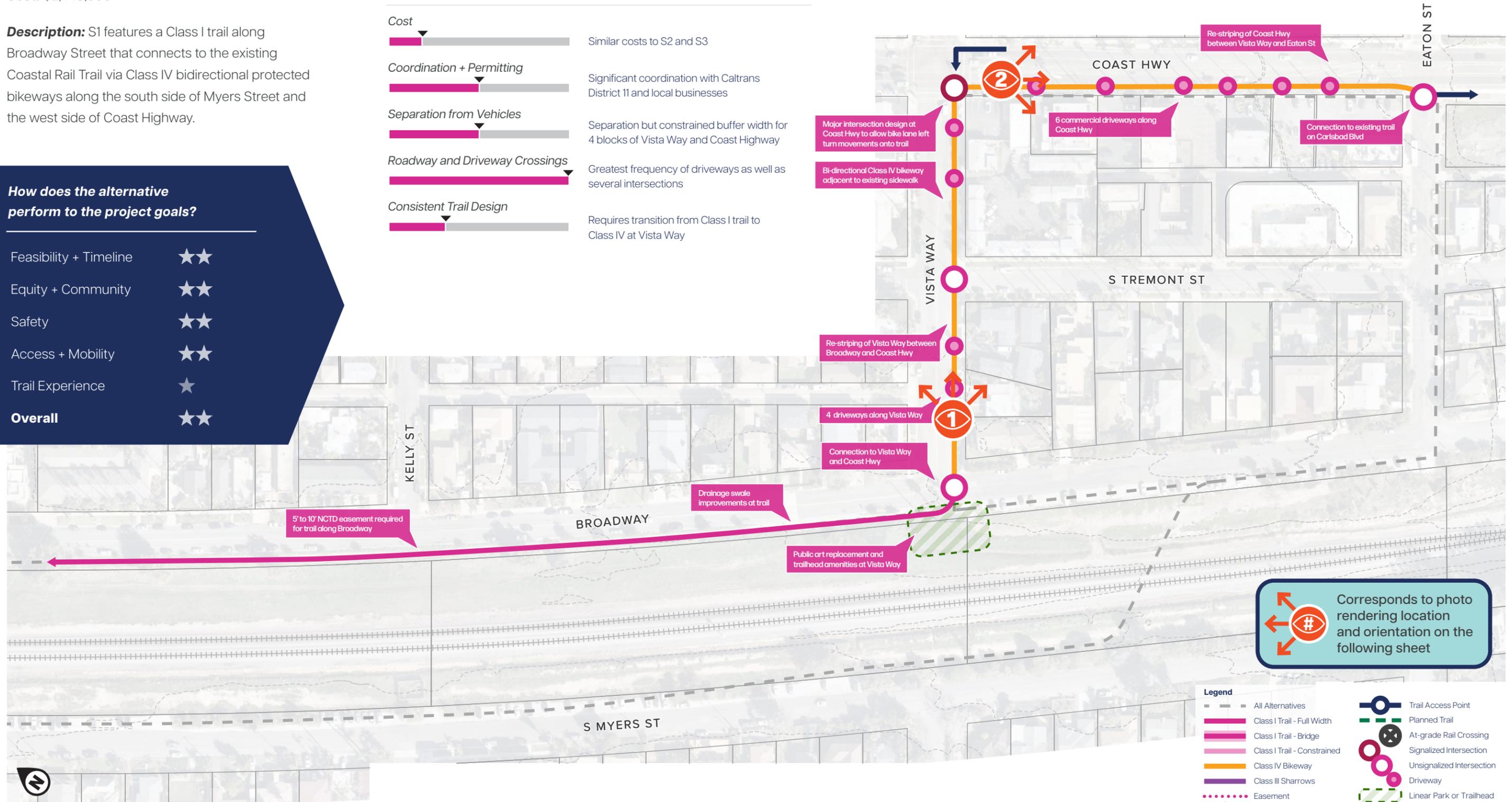
**Description:** S1 features a Class I trail along Broadway Street that connects to the existing Coastal Rail Trail via Class IV bidirectional protected bikeways along the south side of Myers Street and the west side of Coast Highway.

### How does the alternative perform to the project goals?

- Feasibility + Timeline ★★
- Equity + Community ★★
- Safety ★★
- Access + Mobility ★★
- Trail Experience ★
- Overall** ★★

### What differentiates the south-side alternatives?

<b>Cost</b>	Similar costs to S2 and S3
<b>Coordination + Permitting</b>	Significant coordination with Caltrans District 11 and local businesses
<b>Separation from Vehicles</b>	Separation but constrained buffer width for 4 blocks of Vista Way and Coast Highway
<b>Roadway and Driveway Crossings</b>	Greatest frequency of driveways as well as several intersections
<b>Consistent Trail Design</b>	Requires transition from Class I trail to Class IV at Vista Way



Corresponds to photo rendering location and orientation on the following sheet

- Legend**
- All Alternatives
  - Class I Trail - Full Width
  - Class I Trail - Bridge
  - Class I Trail - Constrained
  - Class IV Bikeway
  - Class III Sharrows
  - ..... Easement
  - Trail Access Point
  - Planned Trail
  - ⊗ At-grade Rail Crossing
  - ⊙ Signalized Intersection
  - Unsignalized Intersection
  - Driveway
  - ▨ Linear Park or Trailhead

1



South-side Vista Way - looking east

2



West-side S Coast Highway - looking south

# S2

## BROADWAY TO EATON SHARED-USE TRAIL

**Cost:** \$2,428,000

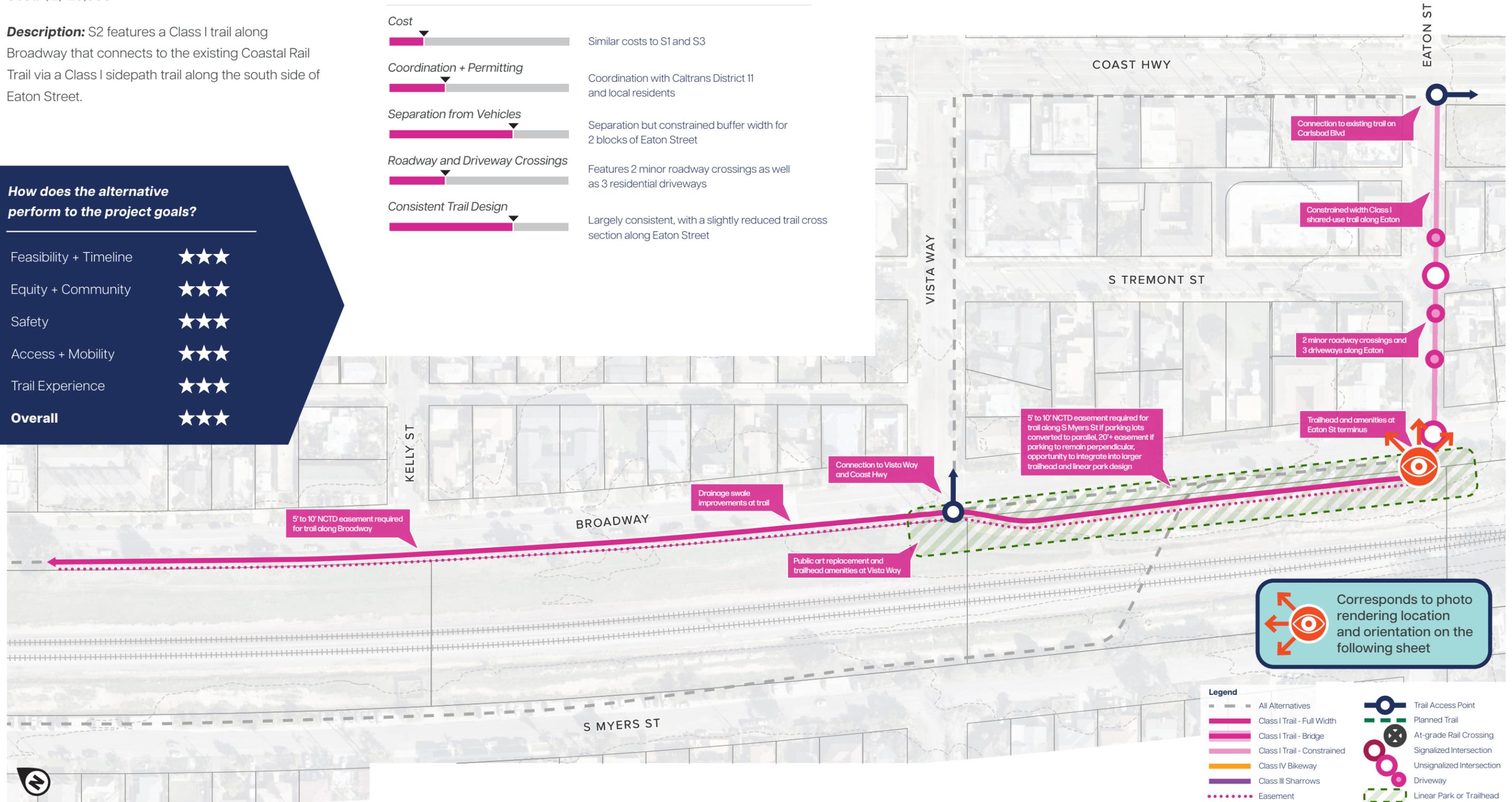
**Description:** S2 features a Class I trail along Broadway that connects to the existing Coastal Rail Trail via a Class I sidepath trail along the south side of Eaton Street.

### What differentiates the north-side alternatives?

<b>Cost</b>	Similar costs to S1 and S3
<b>Coordination + Permitting</b>	Coordination with Caltrans District 11 and local residents
<b>Separation from Vehicles</b>	Separation but constrained buffer width for 2 blocks of Eaton Street
<b>Roadway and Driveway Crossings</b>	Features 2 minor roadway crossings as well as 3 residential driveways
<b>Consistent Trail Design</b>	Largely consistent, with a slightly reduced trail cross section along Eaton Street

### How does the alternative perform to the project goals?

- Feasibility + Timeline ★★★★★
- Equity + Community ★★★★★
- Safety ★★★★★
- Access + Mobility ★★★★★
- Trail Experience ★★★★★
- Overall** ★★★★★



Corresponds to photo rendering location and orientation on the following sheet



Eaton Street - looking east

# S3

## BROADWAY TO EATON SHARROW AND SIDEWALK

**Cost:** \$2,316,400

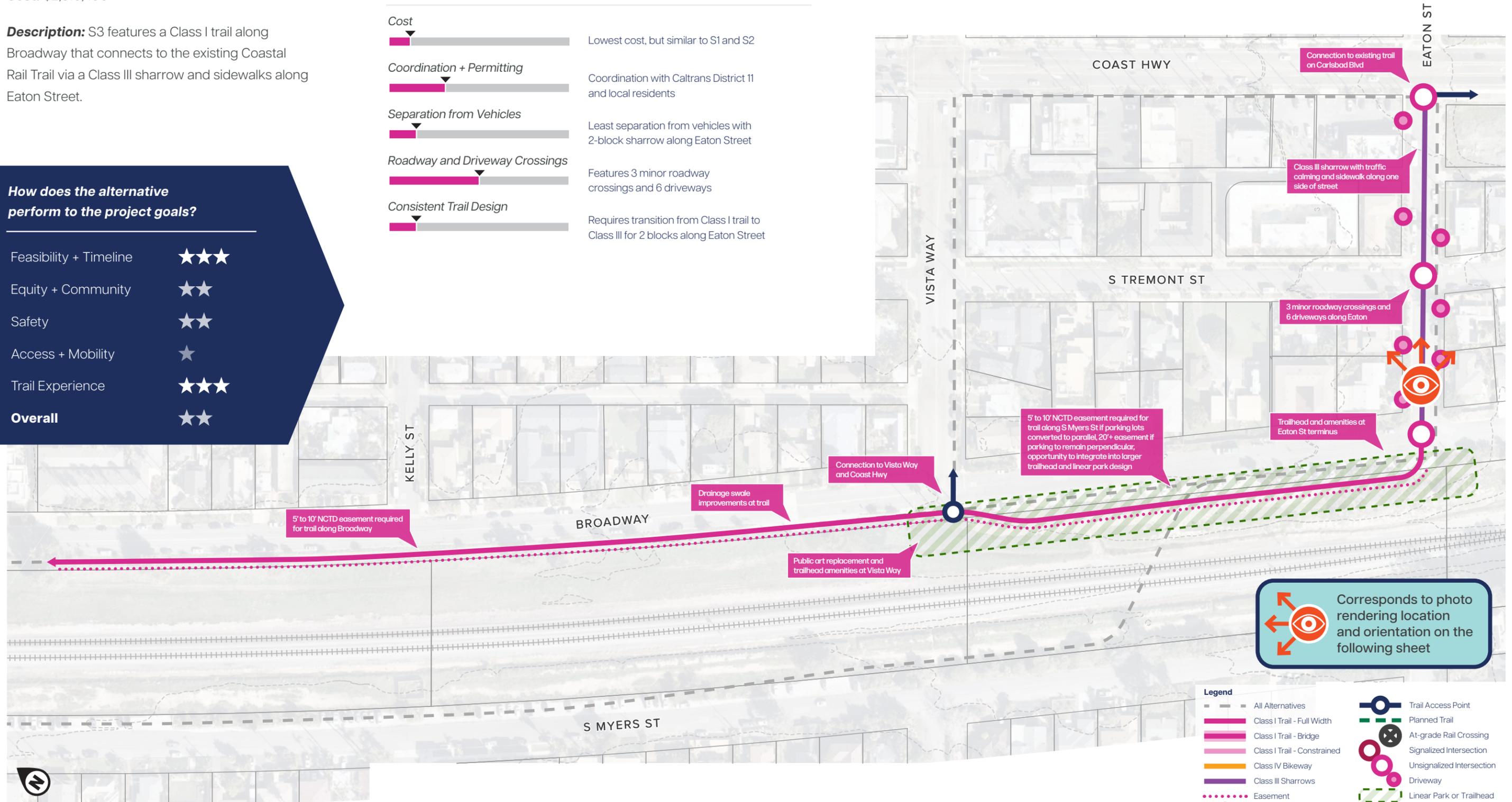
**Description:** S3 features a Class I trail along Broadway that connects to the existing Coastal Rail Trail via a Class III sharrow and sidewalks along Eaton Street.

### What differentiates the south-side alternatives?

Cost	Lowest cost, but similar to S1 and S2
Coordination + Permitting	Coordination with Caltrans District 11 and local residents
Separation from Vehicles	Least separation from vehicles with 2-block sharrow along Eaton Street
Roadway and Driveway Crossings	Features 3 minor roadway crossings and 6 driveways
Consistent Trail Design	Requires transition from Class I trail to Class III for 2 blocks along Eaton Street

### How does the alternative perform to the project goals?

- Feasibility + Timeline ★★★★★
- Equity + Community ★★★
- Safety ★★
- Access + Mobility ★
- Trail Experience ★★★★★
- Overall** ★★





Eaton Street - looking east

# S4

## MYERS TO EATON VIA SOUTH RAILROAD OVERCROSSING

**Cost:** \$9,387,100

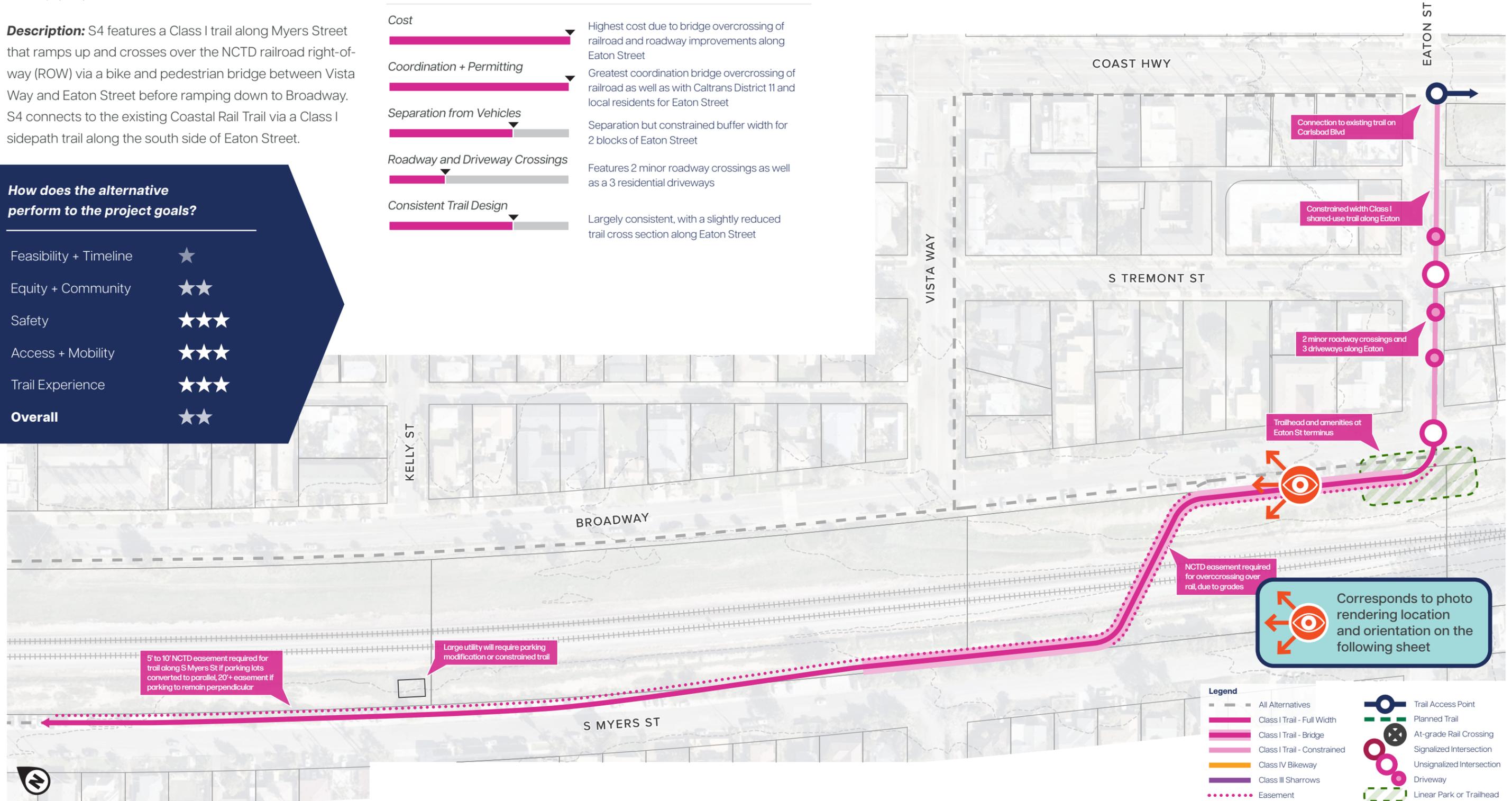
**Description:** S4 features a Class I trail along Myers Street that ramps up and crosses over the NCTD railroad right-of-way (ROW) via a bike and pedestrian bridge between Vista Way and Eaton Street before ramping down to Broadway. S4 connects to the existing Coastal Rail Trail via a Class I sidepath trail along the south side of Eaton Street.

### How does the alternative perform to the project goals?

- Feasibility + Timeline ★
- Equity + Community ★★
- Safety ★★★★★
- Access + Mobility ★★★★★
- Trail Experience ★★★★★
- Overall** ★★

### What differentiates the north-side alternatives?

<b>Cost</b>	Highest cost due to bridge overcrossing of railroad and roadway improvements along Eaton Street
<b>Coordination + Permitting</b>	Greatest coordination bridge overcrossing of railroad as well as with Caltrans District 11 and local residents for Eaton Street
<b>Separation from Vehicles</b>	Separation but constrained buffer width for 2 blocks of Eaton Street
<b>Roadway and Driveway Crossings</b>	Features 2 minor roadway crossings as well as a 3 residential driveways
<b>Consistent Trail Design</b>	Largely consistent, with a slightly reduced trail cross section along Eaton Street



Corresponds to photo rendering location and orientation on the following sheet

**Legend**

- All Alternatives
- Class I Trail - Full Width
- Class I Trail - Bridge
- Class I Trail - Constrained
- Class IV Bikeway
- Class III Sharrows
- ... Easement
- Trail Access Point
- Planned Trail
- ⊗ At-grade Rail Crossing
- ⊙ Signalized Intersection
- Unsignalized Intersection
- Driveway
- ▨ Linear Park or Trailhead



Broadway Street (south of Cassidy Street) - looking north

# Evaluation Criteria

## OVERVIEW

Alternatives analysis evaluation criteria were developed and organized by project goal, detailed in Table 2. Metrics were developed to measure how well each alternative performed against each criterion, with thresholds for higher performing versus lower performing scores. "Top tier" criteria that are considered critical to project success were identified by the TAC and therefore given greater weight. Metric scoring scales are detailed on the following pages.

**Table 2:** Alternatives analysis criteria and metrics

Goal	Criteria	Metric	Top Tier
 <b>Feasibility + Timeline</b>	Cost	Cost to construct	
	Coordination + Permitting	Impact of coordination, permitting, and easements required	
	Impact to Roadways	Impact to existing roadway configuration required to implement	
 <b>Equity + Community</b>	Community Preference	Community support via community outreach	★
 <b>Safety</b>	Separation from Vehicles	Separation and buffers between vehicles and trail users	★
	Conflict Points with Vehicles	Frequency of at-grade crossings of roadways and train tracks	
	Priority of Railroad Crossing	Trail user priority at railroad crossing	★
	Quality of Coast Highway Access	Ability to easily get on or off the trail at Coast Highway	★
 <b>Access + Mobility</b>	Bike Network Connectivity	Frequency of connections to the surrounding low-stress bike network	★
	Consistent Trail Design	Ability to maintain a consistent trail-like experience from beginning to end	
	Full Width Facility	The amount of space available to fit the preferred cross-section	
 <b>Trail Experience</b>	Linear Park + Trail Amenities	Opportunity for trail amenities and/or linear park space	★
	Shade	Existing shade trees or available ROW to add consistent shade trees	★
	Opportunity for Native Landscape	Opportunity to implement native landscaping	

# Feasibility + Timeline

## COST

The alternative should reduce costs to construct.

**Quantitative Metric:**

Score based on cost estimate for alternative

**HIGHER PERFORMING** →

Alternative would have lower costs, relative to other alternatives

Alternative would have average costs, relative to other alternatives

**LOWER PERFORMING**

Alternative would have higher costs, relative to other alternatives

---

## COORDINATION + PERMITTING

The alternative should reduce complex coordination and permitting.

**Quantitative Metric:**

Score based on the number of coordinating agencies, scale of potential impact, and need for private residence coordination

**HIGHER PERFORMING** →

Alternative requires a typical NCTD easement or minor roadway modifications

Alternative requires NCTD railroad crossing modifications or moderate roadway impacts

**LOWER PERFORMING**

Alternative requires a bridge over NCTD ROW or major roadway impacts

---

## IMPACT TO ROADWAYS

The alternative should minimize impacts to existing roadways.

**Quantitative Metric:**

Score based on extent of design impacts to roadway design and function

**HIGHER PERFORMING** →

Alternative requires functional or physical modification of 1 block of roadway or less

Alternative requires functional or physical modification of 2 blocks of roadway

**LOWER PERFORMING**

Alternative requires functional or physical modification of more than 2 blocks of roadway

# Equity + Community

## COMMUNITY PREFERENCE

The alternative should be supported by the community.

### Quantitative Metric:

Score based on percentage of community support for alternative as the result of engagement in Winter/Spring 2024

### HIGHER PERFORMING

Alternative has greater than 40% support

Alternative has between 25% - 40% support

### LOWER PERFORMING

Alternative has less than 25% support

# Safety

## SEPARATION FROM VEHICLES

The alternative should have separation from vehicles.

### Quantitative Metric:

Score based on the width of proposed buffer to roadways.

### HIGHER PERFORMING

Alternative has a consistent buffer width of 5 or more feet

Alternative has a buffer width of 2 to 5 feet for more than 1 block

### LOWER PERFORMING

Alternative has no buffer for more than 1 block

# Safety *(continued)*

## CONFLICT POINTS WITH VEHICLES

The alternative should minimize the number of crossings and conflict points with vehicles.

### Quantitative Metric:

Score based on the number of road and driveway crossings

### HIGHER PERFORMING

Alternative has 1 conflict point

Alternative has fewer than 6 conflict points

### LOWER PERFORMING

Alternative has greater than 6 conflict points

## PRIORITY OF RAILROAD CROSSING

The alternative should prioritize trail users at the crossing of NCTD railroad corridor.

### Quantitative Metric:

Score based on condition of railroad crossing

### HIGHER PERFORMING

Alternative features grade separated crossing with railroad

### LOWER PERFORMING

Alternative crosses railroad at-grade

## QUALITY OF COAST HIGHWAY ACCESS

The alternative improves access to Coast Highway. All alternatives score similarly for this metric as the result of proposed crossing improvements south of the study area.

### Quantitative Metric:

Score based on the provision on crossing improvements to Coast Highway

### HIGHER PERFORMING

Alternative would provide direct access to Coast Highway with crossing improvements

Alternative would connect to proposed crossing improvements to Coast Highway

### LOWER PERFORMING

Alternative does not connect to crossing improvements along Coast Highway

# Access + Mobility

## BIKE NETWORK CONNECTIVITY

The alternative should increase access to the Coastal Rail Trail.

### Quantitative Metric:

Score based on direct or convenient access to adjoining bike routes or neighborhood access points

### HIGHER PERFORMING

Alternative connects to more than 2 directions of community access

Alternative connects to 2 directions of community access

### LOWER PERFORMING

Alternative connects to less than 2 directions of community access

## CONSISTENT TRAIL DESIGN

The alternative should be a Class I trail.

### Quantitative Metric:

Score based on type of trail facility

### HIGHER PERFORMING

The alternative is a continuous Class I trail

The alternative is mostly Class I trail with up to 2 blocks of Class IV

### LOWER PERFORMING

The alternative is mostly Class I trail with up to 2 blocks of Class III

## FULL WIDTH FACILITY

The alternative should maintain a full width that matches the existing trail north of Oceanside Boulevard.

### Quantitative Metric:

Score based on trail facility width

### HIGHER PERFORMING

The alternative features a continuous full-width facility (10ft with 3ft shoulders)

The alternative features up to 2 blocks of constrained width facility

### LOWER PERFORMING

The alternative features up to 4 blocks of constrained width facility

# Trail Experience

## LINEAR PARK + TRAIL AMENITIES

The alternative should create opportunities for linear parks or trail amenities.

### Quantitative Metric:

Score based on area of potential linear park or trailhead

### HIGHER PERFORMING

Alternative creates opportunity for significant linear park

Alternative creates opportunity for small linear park or large trailhead

### LOWER PERFORMING

Alternative creates opportunity for small trailhead or less

## SHADE

The alternative should have opportunities for shade trees.

### Quantitative Metric:

Score based on number of proposed shade trees along alternative

### HIGHER PERFORMING

Alternative has continuous opportunity for shade, with no gap greater than 1 block

Alternative has a gap in shade trees greater than 1 block

### LOWER PERFORMING

Alternative has a gap in shade trees greater than 2 blocks

## OPPORTUNITY FOR LANDSCAPE

The alternative should create opportunities to implement native landscaping.

### Quantitative Metric:

Score based on potential SF of adjacent landscape

### HIGHER PERFORMING

Alternative has continuous opportunity for landscape with no gap greater than 1 block

Alternative has a gap in landscape greater than 1 block

### LOWER PERFORMING

Alternative has a gap in landscape greater than 2 blocks

# Cost Estimates

Cost estimates were developed to inform the alternatives analysis, shown in Table 3. The cost estimate includes hard costs for the trail and pavement, intersection improvements, and standard trail amenities such as shade trees, fencing, and landscape. Soft costs including contingencies were applied. A row "cost above min" identifies how much each alternative costs in relation to the least expensive alternative, within the north-side or south-side segments. The base costs (the blue section of the table) quantify the cost for building the trail and essential trail amenities.

Linear park costs were calculated as an additional element not included in the base cost of the alternatives. By separating out these costs, it allows these elements to be quantified without disproportionately penalizing the alternatives with greater linear park opportunity. For example, N1 has the greatest north-side linear park opportunity in the flat NCTD right-of-way (ROW) along Broadway north of Lion's Club Park, which could cost upwards of \$1,000,000. While this expense would provide great value to the community, it is not essential for constructing the trail itself.

**Table 3:** Cost estimates by alternative, with base costs for constructing the trail (blue) and additional costs for including linear park improvements (pink)

Cost Category	North-side Alternatives				South-side Alternatives			
	N1	N2	N3	N4	S1	S2	S3	S4
Trail + Pavement	\$5,464,700	\$236,300	\$227,300	\$195,000	\$656,700	\$407,600	\$393,500	\$5,678,800
Intersections	\$317,700	\$367,700	\$189,300	\$139,300	\$163,800	\$60,500	\$77,500	\$60,500
Amenities	\$428,600	\$797,000	\$797,000	\$721,700	\$928,600	\$1,266,300	\$1,183,600	\$965,900
<b>Hard Costs Base</b>	<b>\$6,211,000</b>	<b>\$1,400,900</b>	<b>\$1,213,500</b>	<b>\$1,055,900</b>	<b>\$1,749,000</b>	<b>\$1,734,300</b>	<b>\$1,654,600</b>	<b>\$6,705,100</b>
<b>Soft Costs Base</b>	<b>\$2,484,400</b>	<b>\$560,400</b>	<b>\$485,400</b>	<b>\$422,400</b>	<b>\$699,600</b>	<b>\$693,800</b>	<b>\$661,900</b>	<b>\$2,682,100</b>
<b>Total Base</b>	<b>\$8,695,400</b>	<b>\$1,961,300</b>	<b>\$1,698,800</b>	<b>\$1,478,300</b>	<b>\$2,448,600</b>	<b>\$2,428,000</b>	<b>\$2,316,400</b>	<b>\$9,387,100</b>
<b>Cost above min</b>	<b>+\$7,217,100</b>	<b>+\$483,000</b>	<b>+\$220,500</b>	<b>\$0</b>	<b>+\$132,200</b>	<b>+\$111,600</b>	<b>\$0</b>	<b>+\$7,070,700</b>
<b>Escalation Base</b>	<b>\$10,080,400</b>	<b>\$2,273,600</b>	<b>\$1,969,400</b>	<b>\$1,713,800</b>	<b>\$2,838,600</b>	<b>\$2,814,700</b>	<b>\$2,685,300</b>	<b>\$10,882,200</b>
Add: Linear Park	\$1,050,000	\$987,400	\$949,900	\$860,100	\$1,083,800	\$1,986,300	\$1,874,500	\$1,212,800
<b>Hard Costs Add</b>	<b>\$7,261,000</b>	<b>\$2,388,200</b>	<b>\$2,163,300</b>	<b>\$1,916,000</b>	<b>\$2,832,800</b>	<b>\$3,720,500</b>	<b>\$3,529,000</b>	<b>\$7,917,800</b>
<b>Soft Costs Add</b>	<b>\$2,904,400</b>	<b>\$955,300</b>	<b>\$865,300</b>	<b>\$766,400</b>	<b>\$1,133,100</b>	<b>\$1,488,200</b>	<b>\$1,411,600</b>	<b>\$3,167,200</b>
<b>Total Add</b>	<b>\$10,165,400</b>	<b>\$3,343,500</b>	<b>\$3,028,500</b>	<b>\$2,682,400</b>	<b>\$3,965,900</b>	<b>\$5,208,700</b>	<b>\$4,940,600</b>	<b>\$11,084,900</b>
<b>Escalation Add</b>	<b>\$11,784,500</b>	<b>\$3,876,000</b>	<b>\$3,510,900</b>	<b>\$3,109,600</b>	<b>\$4,597,500</b>	<b>\$6,038,300</b>	<b>\$5,727,500</b>	<b>\$12,850,500</b>

## AGGREGATED COSTS

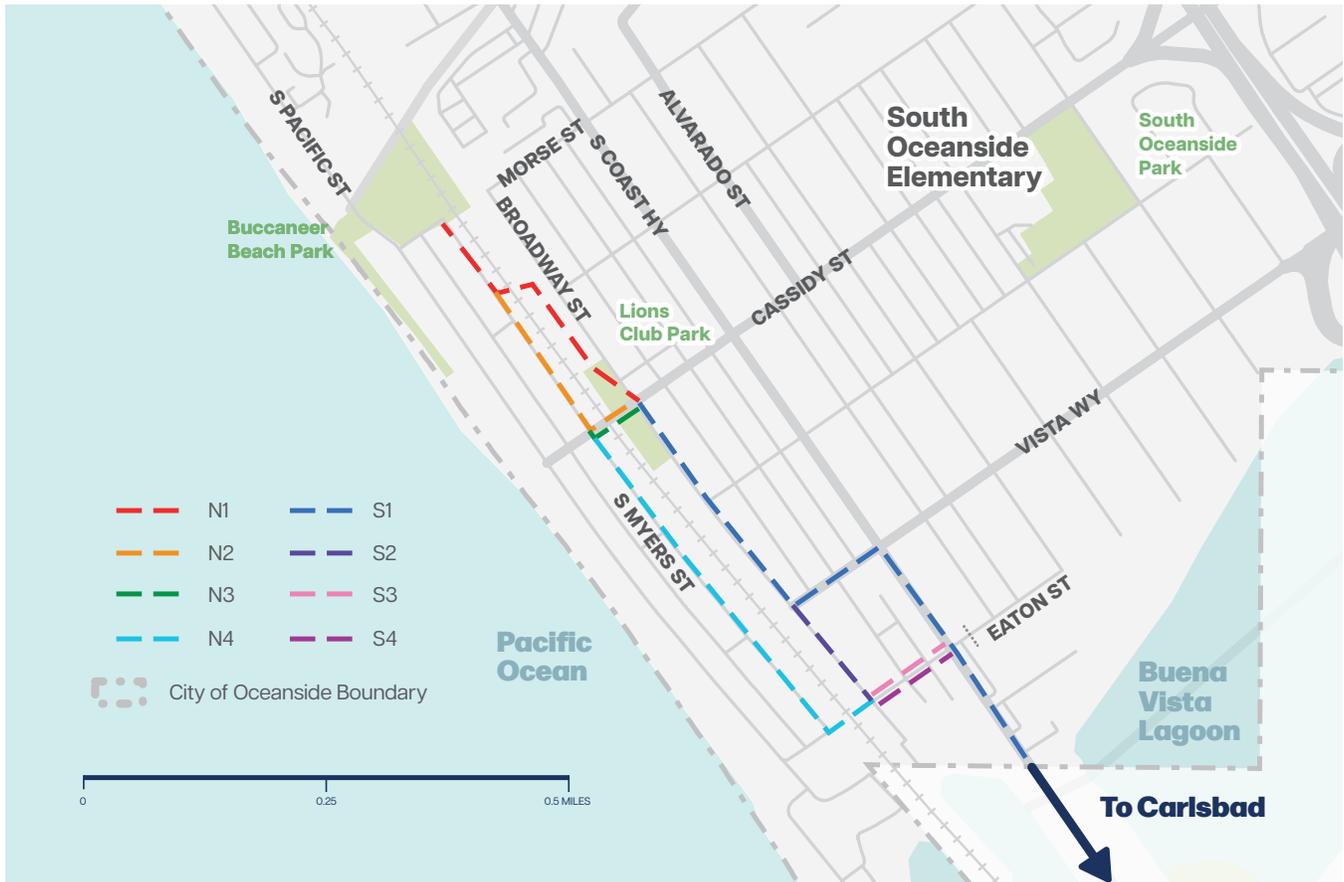
The costs of north-side and south-side alternatives need to be understood in combination in order to properly assess total costs, as illustrated in Table 4. The total costs for the entire Oceanside Coastal Rail Trail range from **\$4,015,200 to \$11,144,000**.

Due to the cost associated with constructing a railroad overcrossing structure, alternative combinations including N1 or S4 are by far the most expensive. Alternative combinations with N2 and N3 are the lowest cost. The differences in cost between

S1, S2, and S3 are relatively minor, with S1 being slightly more costly than the others. While N4 is the least costly north-side alternative, it only pairs with S4 which is the most costly south-side alternative.

**Table 4:** Aggregated cost estimates of different north- and south-side alternative combination base costs

	S1	S2	S3	S4
N1	\$11,144,000	\$11,123,400	\$11,011,800	-
N2	\$4,409,900	\$4,389,300	\$4,277,700	-
N3	\$4,147,400	\$4,126,800	\$4,015,200	-
N4	-	-	-	\$10,865,400



# Summary of Results

The criteria in Table 2 were measured for each alternative. The summary of the alternatives analysis is shown in Table 5, with alternatives along the columns and goals and criteria along the rows. Each alternative received a "Higher" or "Lower" score for each criteria. Criteria scores were rolled up into goals, with top performing alternatives noted as "Exceeds Goal" and lower performing alternatives as "Meets Goal" based on the criteria scores.

## Legend

- ★★★★ Preferred Alternative
- ★★★★ Exceeds Goal
- ★★
- ★ Meets Goal
- Higher Score
- Lower Score

**Table 5:** Alternatives analysis summary

Criteria	North-side Alternatives				South-side Alternatives			
	N1	N2	N3	N4	S1	S2	S3	S4
Cost								
Coordination + Permitting								
Impact to Roadways								
<b>Feasibility + Timeline Goal</b>	★★	★★★★	★★★★	★★★★	★★	★★★★	★★★★	★
Community Preference								
<b>Equity + Community Goal</b>	★★★★	★	★	★	★	★★★★	★	★
Separation from Vehicles								
Minimize Conflict Points								
Priority of Railroad Crossing				N/A	N/A	N/A	N/A	
Quality of Coast Highway Intersection	N/A	N/A	N/A	N/A				
<b>Safety Goal</b>	★★★★	★★	★★	★★★★	★★	★★★★	★★	★★★★
Bike Network Connectivity								
Consistent Trail Design								
Full Width Facility								
<b>Access + Mobility Goal</b>	★★★★	★★★★	★★★★	★★	★★	★★★★	★	★★★★
Linear Park + Trail Amenities								
Shade								
Opportunity for Native Landscape								
<b>Trail Experience Goal</b>	★★★★	★★★★	★★	★★	★	★★★★	★★★★	★★★★
<b>Overall</b>	★★★★	★★	★★	★★	★	★★★★	★★	★★

## KEY TAKEAWAYS

N1 and S2 were the highest performing alternatives. This combination performs best overall for the safety, access and mobility, and trail experience goals, and provides a consistent trail experience with a grade-separated railroad crossing and extensive linear park opportunities.

While N1 had higher costs and coordination, it received top marks for the safety, access and mobility, and trail experience goals. This is due to providing a grade-separated railroad crossing, increased access to Morse Street, and a significant linear park opportunity along Broadway Street north of Cassidy Street. N2 was the next best performing north-side alternative, with lower costs than N1 and significant park improvement and trailhead opportunities at Lion's Club Park.

S2 received average or high scores for all criteria and exceeded all goals. In particular, S2 provided the most consistent and full width-facility by providing a shared-use trail along Eaton Street. It also presented the greatest linear park and shade tree opportunities among south-side alternatives. S3 was very similar to S2, but by virtue of having a sharrow and sidewalk along Eaton Street it did not perform as well for the safety or access and mobility goals. S4 features the same design as S2 along Eaton Street, but performs worse overall due to the significant costs of coordination of the railroad overcrossing between Vista Way and Eaton Street.

*S2 was the preferred alternative in the southern portion of the study area, however, it was determined that this alternative would have large impacts on private property (due to private encroachment into the public right-of-way) and roadway function. Ultimately **S3: Broadway Street to Eaton Street via sharrows and sidewalk** was selected as the preferred south-side alternative as it limits the impact to private property and roadway function while creating a safe connection for trail users between Broadway Street and South Coast Highway.*

# 5

# Trail Design Guide



# Trailheads + Amenities

## OVERVIEW

Beautifully designed trailheads create inviting spaces that draw in trail users and members of the community. Strategically located at key access points along the trail, trailheads provide surrounding neighborhoods with additional amenities and opportunities for programming. Features like art installations, seating, wayfinding, and shaded areas make the trail more appealing and accessible to a broader range of users. The 30% Concept Plans, developed alongside the study document, designate areas for the implementation of trailheads and amenities along the Coastal Rail Trail.

## Amenities

### PUBLIC ART

Public art installations and murals enhance a community's identity and character, contributing to a strong "sense of place" and branding. These visual elements signal that the space is "owned" and cared for by the community. Beyond aesthetics, art can

encourage play, function as interpretive aids, or serve as a trail's primary attraction. Long-term installations, such as public pianos or interactive features, can further draw users to the trail. From a Crime Prevention Through Environmental Design (CPTED) standpoint, public art is an effective "target hardening" strategy. It can deter graffiti, define path edges, improve the overall appearance, and discourage unwanted behaviors.



*Public art along the Coastal Rail Trail in Solana Beach*

## **INTERPRETIVE ELEMENTS**

Interpretive elements can enhance the trail’s “sense of place” and create a more meaningful experience for both locals and visitors. With the area’s rich coastal history and unique ecology, educational features that integrate with trail amenities and placemaking strategies can showcase the beauty, biodiversity, and heritage of Oceanside. Potential themes for exploration include the history of the railroad corridor and Oceanside’s coastal development, native coastal wildlife and plant species, as well as the health benefits of active transportation and recreation along the trail.

## **SITE FURNISHINGS**

Site furnishings help to ensure comfort along the trail, providing places for people to pause and rest, and for activity and shared experiences.

### ***Seating***

Public seating contributes to the user experience by making walkways and open space an enjoyable place to rest, congregate, or contemplate. Seating opportunities along the trail provide a short relief and also promote an added enjoyment of the scenic environment.

### ***Trash + Recycling***

Providing places to dispose of trash and recycling may help to encourage stewardship of the trail.

### ***Bicycle Tools + Parking***

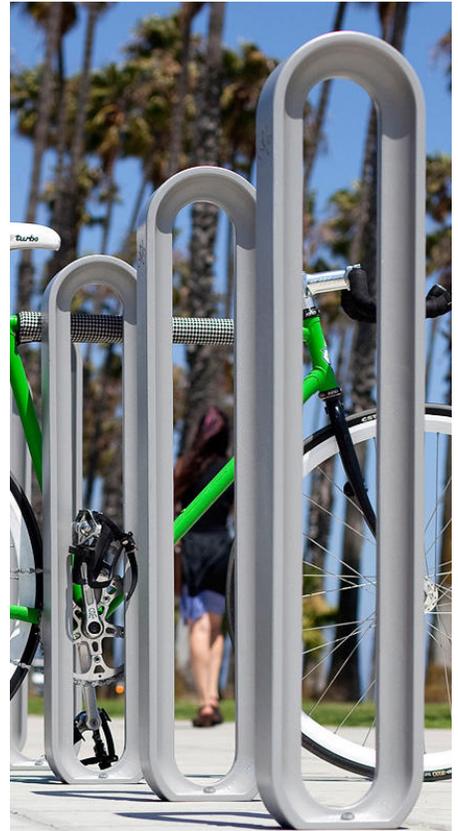
Clearly delineated and secure places to lock bicycles should be placed at access points that provide connections to community destinations. Bicycle fix-it stations typically provide tools for minor repairs.

### ***Electric Charging Stations***

Charging stations for privately owned e-scooters and e-bikes can provide micromobility users with an additional amenity along the trail.

### ***Green Infrastructure + Shade Trees***

Green infrastructure along the Coastal Rail Trail in Oceanside can effectively manage and treat runoff from the adjacent trail surface. Bioswales, in particular, can help manage water runoff from paved surfaces, mitigating erosion and flood risks to nearby habitats. Additionally, strategically placed trees can offer shade, manage runoff, sequester carbon, and contribute to the enhancement of urban habitats along the trail.



The images above are provided for inspiration and do not represent exact recommendations

## LIGHTING

Properly designed lighting along the Coastal Rail Trail can enhance visibility and natural surveillance, improve safety, and encourage trail use during evening hours. Well-lit trails provide a greater sense of security and can extend trail accessibility during shorter days, reducing the risk of bicycle and pedestrian collisions at night.

Lighting should be analyzed segment by segment, considering factors such as safety, wildlife habitat, trail function, cost-benefit analysis, and ongoing maintenance needs. At road crossings, street lighting can improve the visibility of both vehicles and trail users.

Lighting options can include both wired and solar solutions. Wired lighting is typically recommended, except in areas where utility connections are not feasible or where alternative energy sources, like solar, are preferred.

All decisions about trail lighting should be made in coordination with local agencies and community input to ensure the solutions align with community needs, environmental considerations, and operational requirements.

### *Lighting Guidelines*

- Lighting should be at pedestrian scale. Placement, spacing, and other finish specifications depend on the fixture and optical needs/conditions.
- Lighting fixture types include bollard lights, pole mounted lights and integrated lighting (i.e. within architectural or wayfinding elements, planting beds, handrails, etc.).
- Lighting should minimize energy usage, operating costs, light trespass, light pollution and glare.
- Consider timers, sensors, and remote-control technology that can enhance the sense of security and conserve energy.
- Illuminate only the intended targeted areas and use cut-off fixtures that aim lights down instead of above or behind the fixture, which causes light pollution and trespass.
- Lighting should avoid trees and be placed outside of canopy edge.
- Consider Crime Prevention Through Environmental Design (CPTED) principles whenever lighting is introduced, such as color rendering, areas of concealment, and abstracted illumination.
- Use energy efficient lamps that comply with environmental guidelines, and that provide supreme color rendering, such as white lights.
- Solar powered lighting should be considered only where utility connection is not feasible or when alternative energy sources are desired. Daylight hours should be analyzed per season prior to specifying solar lighting.
- Avoid light fixtures at eye level that could cause glare and impair visibility.



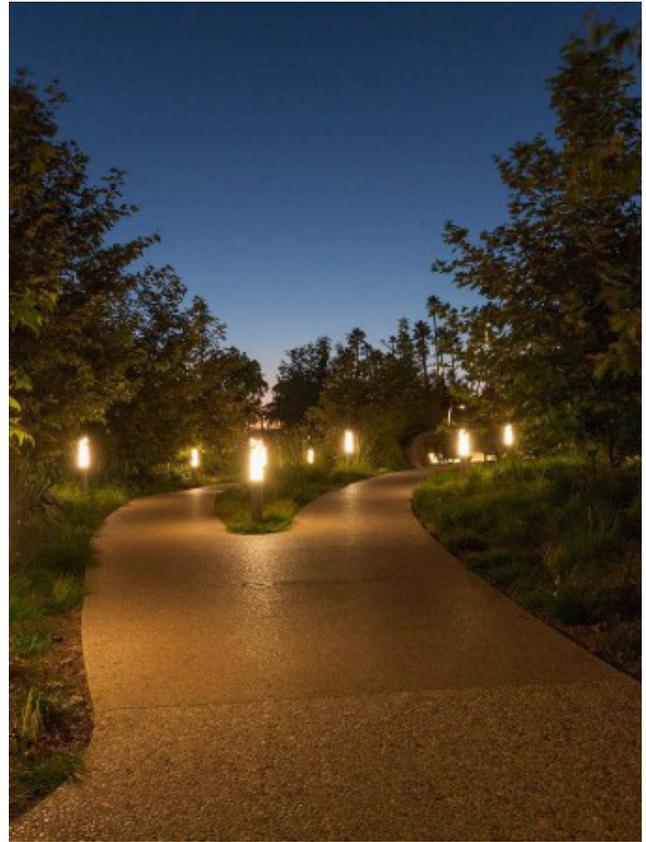
Example of solar light fixture

### **Benefits of Solar Lighting**

- No electrical grid connection cost
- Avoid trenching costs
- Reduce site disruption and restoration
- Faster installation
- No power outages
- Sustainable light

### **Constraints of Solar Lighting**

- Higher upfront investment
- Solar battery lifespan, need periodic replacement
- Indirect or variable sunlight conditions
- Limited aesthetic



Example of bollard lighting along trail

### **Benefits of Conventional Lighting**

- Higher level of dependability for safety lighting
- Market availability/competitiveness; lower fixture cost
- Wider range of fixture styles and finishes
- Flexibility in color temperature
- Lower maintenance cost

### **Constraints of Conventional Lighting**

- Trenching requirement
- Availability of power source
- Operating cost

# Wayfinding for Active Mobility

The results of the public outreach survey conducted for the project found that 40% of respondents want new wayfinding and directional signs along the Coastal Rail Trail. Wayfinding will act as an important element to draw more people to use the Coastal Rail Trail and orient users to destinations along the trail.

Well-crafted wayfinding systems foster a sense of place and encourage people walking and bicycling to go that extra mile and explore new areas.

The “legibility” of a place describes how easy it is to understand. Places that are arranged intuitively so users can see obvious destinations from a distance, determine pathways, and recognize areas of different character are more legible.

## **Legible wayfinding systems enable individuals to:**

- Easily and successfully find their destination
- Understand where they are with respect to other key locations
- Orient themselves in an appropriate direction with little misunderstanding or stress
- Discover new places and services
- Feel safe (enhance the sense of safety)

The following six core principles aim to guide the placement and design of a wayfinding system in order to create a clear wayfinding experience and achieve a more navigable trail.



## **1. CONNECT PLACES**

Effective wayfinding information should enable local residents as well as visitors to travel between destinations and discover new destinations and services. Wayfinding should help improve local economic well-being by encouraging people to utilize services along the Coastal Rail Trail. Wayfinding should enhance connections within the region and to neighboring communities and expand the active transportation network.



## **2. PROMOTE ACTIVE TRAVEL**

Wayfinding should encourage increased walking and rolling by revealing a clear and attractive system that is easy to understand and navigate. The presence of wayfinding signs should validate walking and rolling as transportation options, as well as reduce fear amongst those interested in making more trips by walking or rolling. Wayfinding should expand the awareness and use of active transportation facilities.



### 3. MAINTAIN MOTION

Walking and rolling require physical effort, and frequent stopping and starting to check directions may lead to frustration and discouragement. Consistent, clear, and visible wayfinding elements allow people walking and rolling to navigate while maintaining their state of motion. To help users maintain motion, wayfinding information also needs to be presented so that it can be quickly read and easily comprehended.



### 4. BE PREDICTABLE

Effective wayfinding systems are predictable. When information is predictable, patterns emerge, and users of the network will be able to rely on the system to provide information when they expect it. Predictability also helps users to understand new situations quickly, whether it be navigating a new intersection or traveling to a destination for the first time.

Predictability should relate to all aspects of wayfinding placement and design (i.e., sign materials, dimensions, colors, forms, and placement). Similarly, maps should employ consistent symbology, fonts, colors, and style. The system should be designed in accordance with local, state, and federal guidelines.



### 5. KEEP INFORMATION SIMPLE

For a wayfinding network to be effective, information needs to be presented clearly and logically. It is important to provide information in manageable amounts. Too much information can be difficult to understand; too little and decision-making becomes difficult.

The placement of signs and the information provided at each placement are also critical. Information should be provided in advance of where major changes in direction occur and confirmed when the maneuver is complete.



### 6. MAKE IT ACCESSIBLE

Wayfinding signage should be accessible and be designed to be comprehensible by a wide range of users, including people of all ages and ability levels. As wayfinding systems often relate to accessible routes or pedestrian circulation, it is important to consider technical guidance from the Americans with Disabilities Act (ADA) to implement wayfinding signs and other elements that do not impede travel or create unsafe situations for pedestrians, bicyclists, and/or those with disabilities.

# Overcrossing Design

## OVERVIEW

As detailed in Chapter 4 (Alternatives Analysis), the preferred Coastal Rail Trail alignment features an overcrossing bridge structure to navigate across the railroad corridor. The proposed overcrossing structure is a vital component of the Coastal Rail Trail in Oceanside. It serves as a functional connection across the railroad corridor, eliminating the need for at-grade railroad crossings while also acting as a landmark within the community. The structure is envisioned not only to ensure the safety of trail users but also to contribute to the aesthetic and cultural identity of the area. The following section provides recommendations and guidance relating to the implementation of the overcrossing structure.

## Recommendations

### DESIGN CHARACTERISTICS

The serpentine configuration of the railroad overcrossing, as shown in Appendix A has been carefully designed to enhance trail user experience in two significant ways:

- **Slope of Ramp Approaches:** The serpentine design extends the length of the overcrossing structure, which in turn reduces the overall slope required to clear the railroad corridor. By lengthening the ramps, this design minimizes the physical effort needed by cyclists and pedestrians to ascend and descend, creating a more accessible and comfortable crossing.
- **Angle of Entry and Exit Points:** The curving shape of the overcrossing also improves the angle of entry and exit for trail users who are continuing along the Coastal Rail Trail. By avoiding sharp 90-degree turns, the design facilitates a smoother, more intuitive transition on and off the overcrossing, enhancing flow and safety for all trail users.

This thoughtful configuration supports both ease of use and continuity for trail users, aligning with the overall goal of a more accessible and enjoyable trail experience.



The image above is provided for inspiration and do not represent exact recommendations

## SAFETY CONSIDERATIONS

Safety is a primary concern for any trail infrastructure, especially overcrossing structures. To protect trail users, the following safety measures are recommended:

- **Artistic Fencing Treatment**
  - ▶ The fencing should not only serve as a safety barrier but also an artistic feature. The City of Oceanside may engage local artists to design a dynamic visual experience along the overcrossing. These designs should evoke the area's natural beauty while ensuring that the integrity and transparency of the fencing are maintained for safety.
  - ▶ Fencing designs must be compliant with North County Transit District (NCTD) standard plans.
- **Viewing Deck as a Destination**
  - ▶ The overcrossing will feature a viewing deck, providing users with panoramic views of the coast, the railroad corridor, and surrounding neighborhoods. This deck can be enhanced with interpretive signage and artistic elements making it a community gathering space. Art installations could reflect the city's heritage, such as murals that tell stories of the local landscape, indigenous history, or the development of the railroad system.
  - ▶ Appropriate measures should be integrated into the viewing deck design to prevent unintended uses.
- **Lighting as a Design Feature**
  - ▶ In addition to providing safety, lighting should be designed as a core visual element. Integrated LED lighting within the handrails or under the deck could create a stunning nighttime display, illuminating the structure in a way that celebrates the surrounding environment.

## NEXT STEPS + IMPLEMENTATION

While the 30% concept plan in Appendix A provides a general footprint for the overcrossing structure, it is clear that additional study phases are necessary to refine the design. Specifically, the following steps are recommended:

- **Community Outreach**
  - ▶ Engaging the local community will be essential in developing the overcrossing's final design. Public input should be sought on the artistic elements of the structure to ensure that the project reflects the desires and cultural identity of Oceanside residents. Focus groups, workshops, or open houses could be conducted to gather feedback on potential themes, art styles, and cultural references to integrate into the design.
- **Survey and Detailed Engineering**
  - ▶ A detailed survey of the overcrossing site is necessary to inform the engineering and final design. This study should focus on structural integrity, accessibility, and ADA compliance, as well as optimizing the position and height of the viewing deck to maximize coastal views.
- **Phased Implementation**
  - ▶ The overcrossing project is likely to be implemented in phases, with early phases focusing on detailed design, community engagement, and engineering studies. Later phases will focus on construction, final installation of art elements, and landscaping around the structure to integrate it seamlessly into the existing trail network.

By combining safety with art, the overcrossing structure will serve as a functional, aesthetically pleasing, and iconic element of the Coastal Rail Trail. It will enhance the experience for trail users and act as a landmark that strengthens the identity of Oceanside and the Coastal Rail Trail system.

## ADDITIONAL CONSIDERATIONS

- The bridge overcrossing will be considered a new track crossing. Due to this, a formal application process with the California Public Utilities Commission (CPUC) will be required.
  - ▶ <https://www.cpuc.ca.gov/industries-and-topics/railroad-safety/railroad-crossings-and-engineering>
- The overcrossing structure design must consider NCTD's access to railroad infrastructure for maintenance purposes and impacts to storm water drainage patterns. Special consideration should be given to the locations of underground utilities including but not limited to fiber optic cables, railroad signal cables, and high-pressure gas pipes that may be affected by this concept.
- Drainage design in support of the overcrossing should avoid point discharges towards tracks where practicable. Where point discharges cannot be avoided, drainage improvements to protect tracks from increased erosion risk will be required.



The images above are provided for inspiration and do not represent exact recommendations

# Transitions + Mixing Zones

## OVERVIEW

Throughout the Coastal Rail Trail corridor there are locations that demand special attention and consideration. These include locations where cyclists and pedestrians are able to enter or exit the trail and at intersections with roadways such as at Whaley Street, Cassidy Street, Vista Way, and Eaton Street.

## Mixing Zones

At points along the Coastal Rail Trail where users are able to enter or exit, it is important to provide trail users with advance warning of the changing conditions and guidance on how to move through the mixing zone. Mixing zones are locations where users will be required to interact cautiously through the space. The transition between the trail and the mixing zone where the advance warning is located may be between 50 and 100 ft long.

The design of mixing zones should clearly communicate yield priority, user positioning, and safe speeds. Interactions between users should be clearly managed with yield markings and materials to indicate the degree of yielding or mixing expected of trail users.

## OPTICAL SPEED BARS

Optical speed bars are pavement markings used to increase user awareness of an upcoming change to the physical environment and caution the user to decrease their speed. The speed bars are a series of white or colored rectangular pavement markings, 2 feet wide, placed inside both edges of the trail travel area. The markings are progressively spaced more closely together to visually narrow the lane and increase awareness of an upcoming change.

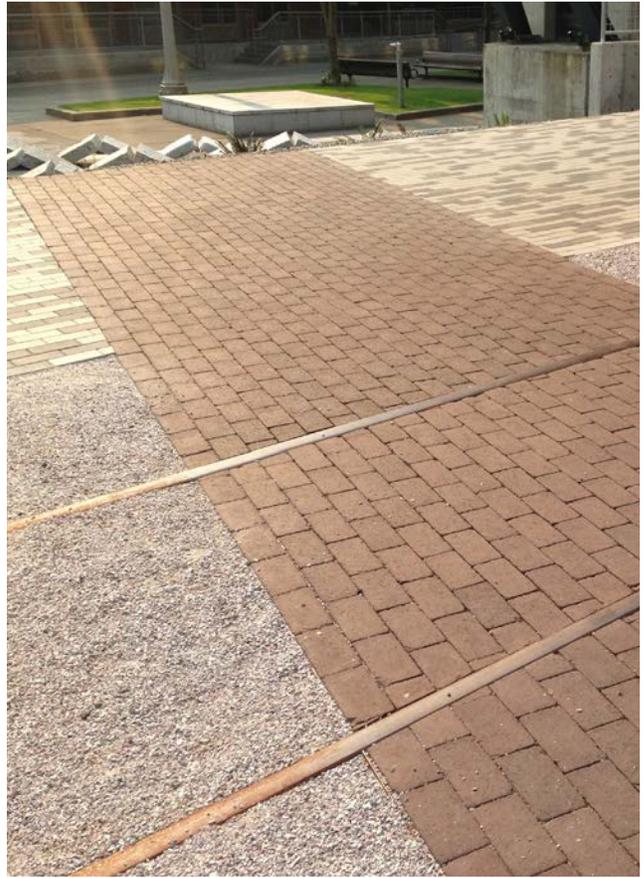
## MATERIALS

Path materials may be used to indicate a change in operating conditions. Crossing areas, mixing zones, and tactile paving have all been used for this purpose. Thermoplastic rumble strips may be used in advance of transition areas or crosswalks. A change in paving materials, such as transitioning from asphalt to brick, can also warn users of an upcoming change. The use of different or contrasting materials can also differentiate use, such as constructing a soft surface pedestrian path and an asphalt bike path.

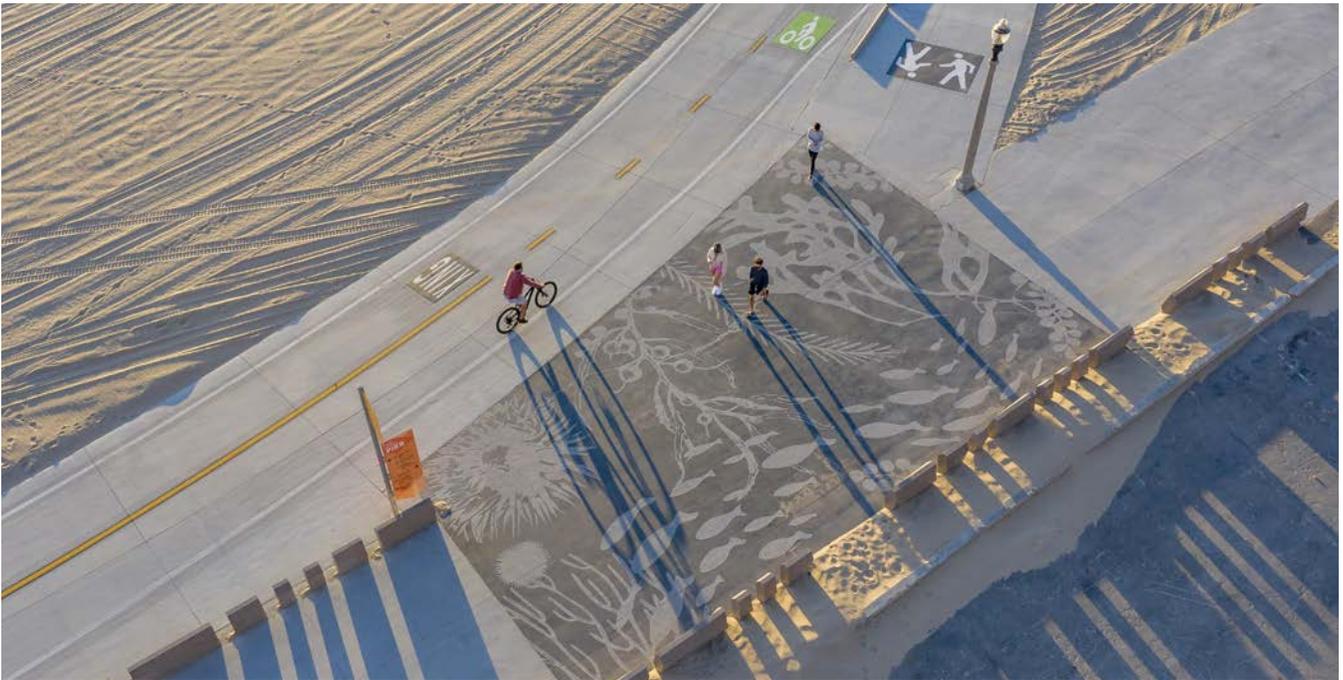
Pavement markings may include bicycle lane markings, high-visibility crosswalks, and colored concrete crosswalks. Other options include inlays or paving surface changes to signal critical areas.



Example of optical speed bars along multi-use trail



Example of surface material change



Example of artistic surface treatment at trail mixing zone

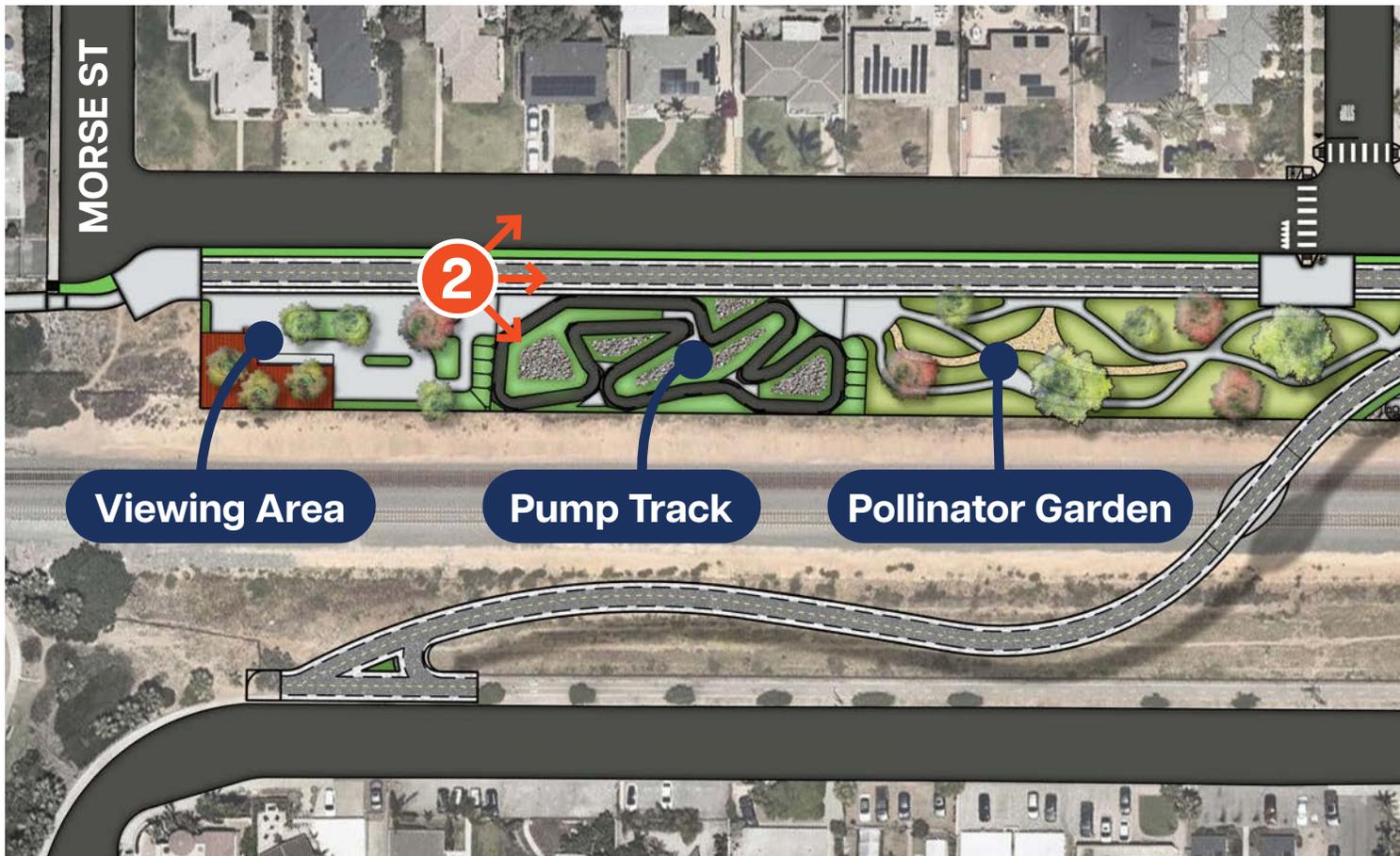
# Linear Park Concept

## OVERVIEW

A linear park concept was explored as an exciting future opportunity due to the significant open space alongside the railroad corridor between Cassidy Street and Morse Street. Although the design of the park was not included in the scope of this study, the concept was developed to visualize how this space could potentially be utilized for various programming options (Figure 25), highlighting the potential for a future linear park.

During the second community workshop, the project team solicited feedback from the community on potential features for the linear park. Community members expressed preferences for more planting and trees, programmable spaces, green stormwater infrastructure, native plants and landscapes, as well as features like a community garden or pollinator garden, public art, a pump track, footpaths, and seating. These preferences helped guide the exploration of how the space could serve as a functional and attractive community asset.

**Figure 25:** *Linear Park Conceptual Site Plan*



# Programming

The proposed Linear Park Concept spans the open space between Morse Street and Cassidy Street, including a crosswalk at Whaley Street midway. Beginning at Lion's Club Park, the design incorporates a variety of spaces aimed at enhancing the recreational and ecological value of the area for local residents and visitors. Below is a breakdown of the key features and programming elements.

## PLAYGROUND AREA

At the southern end of the park, adjacent to Lion's Club Park, a playground is envisioned to serve the local community. The design could feature ocean-themed play structures to reflect the park's coastal setting. Positioned with the bridge behind it, the playground ensures a safe, visible play area for children, easily monitored from all angles. The space would include shaded seating, ample landscaping, and safe surfacing materials to create a welcoming and functional play environment. This playground would provide a vibrant focal point, drawing attention with colorful and playful design elements, making it an exciting addition to the neighborhood.



1



## LAWN AND PLAZA AREA

Northwest of the playground, the design proposes a smaller-format plaza or grassy lawn area. This flexible space could host a variety of activities, such as picnics, train-watching, and small-scale events like music concerts. The shaded area beneath the bridge offers an opportunity for seating and additional amenities, creating a natural transition between different sections of the park. This area is designed to be multifunctional, providing both relaxation and space for community gatherings.

## COASTAL POLLINATOR GARDEN

Beyond the lawn, the concept introduces a densely planted coastal pollinator garden featuring native plants that thrive in the coastal environment, withstanding sun exposure and salt-spray. This garden would support local pollinators, such as bees and butterflies, and offer educational opportunities for visitors to learn about coastal ecology. The garden could also incorporate public art, with installations like kinetic sculptures or vibrant, colorful plant arrangements, creating a sensory-rich environment where visitors can enjoy the scent of coastal rosemary and other native flora.

2



## PUMP TRACK

Further along the park, a pump track is proposed as a recreational feature for cyclists. Currently, an informal pump track exists between the tracks and Broadway Street, which sees moderate use. The proposed design formalizes this space into a more structured and safer facility, suitable for riders of all skill levels. The track would feature jumps and turns, constructed with durable asphalt to ensure minimal maintenance. Gravel-lined basins at the track's center would help manage drainage during rainy conditions, making this an all-weather facility that encourages repeated use.

## VIEWING PLATFORM

At the northernmost section of the park, near the corner of Morse Street and Broadway Street, a formalized viewing platform is proposed. This platform builds on an existing informal viewing area used by residents. Elevated to minimize obstruction of views from nearby homes, the platform would offer seating and surrounding plantings, providing visitors with a perfect spot to enjoy views of Buccaneer's Park, the passing trains, or Oceanside's famous sunsets. The platform would serve as a peaceful conclusion to the park experience, allowing residents to relax before continuing on the Coastal Rail Trail or connecting to the Loma Alta Creek Footpath.

**6**

# Implementation



# Operations + Maintenance

## OVERVIEW

Once implemented, the Coastal Rail Trail will require a long-term operations and maintenance plan to ensure the trail remains a safe and comfortable experience for trail users. Tasks that fall under operations are related to trail management, safety, and security; Maintenance tasks are related to routine repairs, upkeep, and inspections of the physical elements of the trail, such as pavement, amenities, irrigation, and landscaping.

## Trail Operations

There are a number of operational considerations for the Coastal Rail Trail including elements such as management, public safety, and security. Table 6 identifies potential operations tasks that may be required for the Coastal Rail Trail.

### MANAGEMENT / COORDINATION / COMMUNICATION

The Coastal Rail Trail will serve several types of users of all ages and abilities, including walkers, runners, wheelchair users, casual and new cyclists, and experienced cyclists using the corridor for utilitarian and recreational purposes. Certain micromobility devices such as e-scooters and e-bicycles may be allowed for users on the trail. These micromobility devices can offer an efficient commute mode for users, and can serve an important first-last mile trip function to and from transit stations. Active transportation corridors that serve as transportation facilities are open 24 hours per day.

**Table 6:** *Operations Tasks*

Operations Task	Skill/Expertise	Suggested Frequency
Management/ coordination/ communication*	Public Works	Daily
Public Safety	Local Law Enforcement	Daily
Emergency response services	Police Department and Public Works	As needed

\*The public should be encouraged to report maintenance concerns through City-specific applications, or a phone hotline.

## **PUBLIC SAFETY AND SECURITY**

A holistic and sensitive approach to maintenance, public safety enforcement, and programming will help reduce the opportunity for crime and create a safe and welcoming atmosphere along the trail corridor. The local police departments will be primarily responsible for enforcement. A safety and security plan should be developed and may include measures such as:

- Coordination procedures and interagency coordination
- Risk management and liability
- Conflict resolution/reduction
- Emergency access and response
- Emergency procedures
- Maintenance workers and employees should be provided with a flow chart and regular training on response procedures
- Incident reporting system and analysis

### **TEMPORARY TRAIL CLOSURE + DETOURS**

In the event of a temporary trail closure due to flooding or maintenance work, a formal detour route should be provided to allow trail users to safely navigate around the impasse.

## **Maintenance**

Required maintenance may be routine or remedial, and will vary depending on context, user demand, and the types of amenities present.

### **ROUTINE**

Routine maintenance refers to the day-to-day regimen of litter pick-up, trash and debris removal, weed and dust control, sweeping, vegetation trimming, and other regularly scheduled activities. Some routine maintenance may be conducted on a seasonal basis.

### **REMEDIAL**

Remedial maintenance refers to repairing, replacing, or restoring major components that have been destroyed, damaged, or significantly deteriorated from normal usage and old age. Some items (“minor repairs”) may occur on a five to ten-year cycle, such as repainting or replacing signage.

### **INSPECTIONS**

Inspections are important for monitoring the maintenance needs of the bike and pedestrian ways and its associated amenities. Routine inspections such as monitoring surface conditions, signs, and lighting can be carried out by maintenance staff. A 311 System could serve as a way for the public to report necessary inspections and repairs.

## MAINTENANCE TASKS

Table 7 identifies typical maintenance tasks that can be expected for the Coastal Rail Trail, along with the suggested frequency with which they should be completed.

The corridor should be maintained, free of debris and other obstacles, and designed to permit sweeping equipment to access sidewalks and separated bikeways. Pavement along trails should meet a pavement condition index (PCI) of 80 or higher, indicating adequate quality for bicycling. Contractors should be informed that all asphalt repairs must be carried out so that there are no noticeable edges or differences in level to the existing asphalt.

It is recommended that trails be swept systematically according to the existing street maintenance hierarchy or twice a month to once every two months. In addition, extra sweeping is necessary during fall. It is also recommended that dangerous objects and broken glass be removed immediately, outside from regularly scheduled cleaning.

Some of the amenities under consideration for the Coastal Rail Trail include, but are not limited to:

- Pedestrian-scale lighting
- Wayfinding signage
- Shade trees
- Green infrastructure
- Hydration stations
- Short term bike parking

**Table 7:** *Maintenance Tasks + Timelines*

Maintenance Task	Type	Suggested Frequency
Landscape irrigation	Routine	Weekly
Pavement sweeping*	Routine	Once per month
Wayfinding sign inspection	Inspection	Monthly; after rain events
Basic site furnishings repair/replacement	Routine	As needed
Safety lighting repair	Routine	As needed
Sign repair/replacement	Routine	1-3 years
Pavement markings repair/replacement	Routine	1-3 years
Pavement resurfacing	Remedial	10-15 years
Plant trimming/vegetation management	Remedial	Bi-annual
Art maintenance*	Routine	Yearly
DG replenishment	Remedial	Bi-annual with inspection after rain events

\*May require special equipment

- Bike fix it stations
- Seating
- Public art
- Interpretive signage

Several of these amenities would have their own specific maintenance needs. For example, public art may require special maintenance expertise. When possible, art should be integrated into the infrastructure of the trail or rest stops to ensure it has similar maintenance considerations to other design features.

# Funding Opportunities + Strategies

## WHERE WILL THE MONEY COME FROM?

**N1: Myers Street to Broadway Street via a north-side railroad overcrossing** and **S3: Broadway Street to Eaton Street sharrow and sidewalk** together form the selected preferred alternative. This combination ranks highly in terms of safety, access and mobility, and overall trail experience, while minimizing impacts on private property owners. It offers a cohesive trail experience featuring a grade-separated railroad crossing and ample opportunities for a linear park.

This section outlines potential funding sources to bring the Coastal Rail Trail in Oceanside to fruition. Table 8 details a range of federal, state, regional, and local funding options available for both the construction and long-term maintenance of the trail. These include competitive grant programs, as well as local measures the City might consider to generate revenue for the project.

## “Best fit” funding opportunities

The following are considered “best fit” funding sources for this trail. These include sources that have a large amount of available funding, a history of funding similar projects, and/or that include scoring criteria that are in particularly close alignment with the goals of this trail. A full list of candidate funding sources that includes additional funding programs can be found in Table 8, and descriptions of all funding sources from that table are included in Appendix C of this document.

### ACTIVE TRANSPORTATION PROJECTS IN OCEANSIDE

Typically, active transportation projects within the City of Oceanside are funded through Caltrans' Active Transportation Program. The City anticipates applying for ATP funding in 2026.

### ACTIVE TRANSPORTATION PROGRAM

California's Active Transportation Program (ATP) funds infrastructure and programmatic projects that support the program goals of shifting trips to walking and bicycling, reducing greenhouse gas (GHG) emissions, and improving public health. Competitive application cycles occur every two years, typically in the spring or early summer. Eligible projects include design and construction of bicycling and walking facilities, new or expanded programmatic activities, or projects that include a combination of infrastructure and non-infrastructure components. Typically no local match is required, though extra points are awarded to applicants who do identify matching funds.

*Funds are programmed by Caltrans and the California Transportation Commission (CTC). The existing Coastal Rail Trail segment from Oceanside Boulevard connecting to the Oceanside Transit Center was partially funded through ATP.*

*Typical Funding Cycle: Annual (NOFO February; Deadline Summer)*

<https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/active-transportation-program>

## **SANDAG'S ATGP**

SANDAG's Active Transportation Grant Program (ATGP) provides funding to local jurisdictions and community organizations within the San Diego County region to support the planning and development of active transportation infrastructure. This program aims to increase the use of walking, biking, and other non-motorized transportation options, promoting safer and more sustainable mobility choices. The grants are awarded in two categories: capital projects, which fund the construction of infrastructure like bike lanes and pedestrian improvements, and non-capital projects, which support planning, education, and encouragement activities. Funded through TransNet, a voter-approved transportation sales tax, the ATGP focuses on creating more connected, safe, and accessible active transportation networks throughout the region, aligning with broader regional goals of reducing greenhouse gas emissions and improving public health.

*The existing Coastal Rail Trail segment from Oceanside Boulevard connecting to the Oceanside Transit Center was partially funded through SANDAG ATGP.*

<https://www.sandag.org/funding/grant-programs/active-transportation/transnet-active-transportation-grant-program>

## **RAISE PROGRAM**

The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program, administered by the U.S. Department of Transportation, provides competitive funding for surface transportation projects that promote sustainability, resilience, and equity. Launched as a successor to the BUILD program, RAISE supports projects that enhance safety, accessibility, and mobility in both rural and urban areas. It emphasizes investments in climate-friendly infrastructure, multimodal transportation options, and projects that improve economic opportunity and quality of life, particularly in underserved communities. RAISE grants are highly sought after, with a broad focus on improving transportation while addressing environmental and social impacts.

*Funds are programmed by the U.S. Department of Transportation.*

<https://www.transportation.gov/RAISEgrants>

## **TA SET-ASIDE PROGRAM**

The Transportation Alternatives (TA) Set-Aside program is a federal funding initiative managed by the Federal Highway Administration (FHWA) that aims to enhance transportation options for non-motorized users. It supports various projects, including the construction of pedestrian and bicycle facilities, multi-use paths, and safe routes to school initiatives, while also allowing for the rehabilitation of existing infrastructure. Eligible applicants include state and local governments, regional transportation authorities, and nonprofit organizations, all of which must demonstrate how their projects improve transportation accessibility and promote sustainable modes of transport. The program emphasizes community engagement and seeks to enhance public health and safety by making active transportation more viable and attractive.

*Funds are programmed by the Federal Highway Administration (FHWA).*

[https://www.fhwa.dot.gov/environment/transportation\\_alternatives/](https://www.fhwa.dot.gov/environment/transportation_alternatives/)

## **RECREATIONAL TRAILS PROGRAM**

The Recreational Trails Program helps provide recreational trails for both motorized and non-motorized trail use. Eligible projects include: trail maintenance and restoration; trailside and trailhead facilities; equipment for maintenance; new trail construction; and more.

*Funds are programmed by the California Department of Parks and Recreation.*

[https://www.parks.ca.gov/?page\\_id=24324](https://www.parks.ca.gov/?page_id=24324)

# Competitive Grants: Strategies for Success

Competitive grant programs are just that - competitive! Typically grant makers select recipients based upon a detailed scoring rubric and points value for different aspects of the application. To make the City's application stand out, and to make sure the application scores the maximum points available, consider the following:

- **Choose the right program:** Funding programs typically issue detailed descriptions of eligible project types and expenses. For example, some funding opportunities will fund only projects related to transportation, others only recreation. Eligible expenses may include trees and green infrastructure for some programs, while others may only cover hardscape. Refer to Table 8 for a detailed breakdown.
- **Demonstrate support and collaborate:** Documenting community support and coordination with key stakeholders is critical. Often grant-makers will award additional points for multi-jurisdictional applications. Consider joint applications with the City of Carlsbad who is interested in building/improving their own segments of the trail.
- **Leverage funds and coordinate timing:** Multiple grants may be needed to fully realize the Coastal Rail Trail in Oceanside. Understanding the submission deadlines, and deadlines for completion of work will allow the City to leverage multiple funding sources.
- **Get Creative:** The Coastal Rail Trail is a true multibenefit project – providing sustainable transportation, recreation, greening, and urban cooling opportunities. Paint a vivid picture of the benefits the project will provide to the community and region.

**Table 8:** Funding Sources and Eligible Project Expenses

	Planning + Design	Acquisition	Construction	Maintenance	Other
<b>Federal + State</b>					
Active Transportation Program	●		●		
RAISE Program	●		●		
Highway Safety Improvement Program	●	●	●		
Safe Streets and Roads for All (SS4A) Grant Program	●		●		
Congestion Mitigation and Air Quality (CMAQ) Improvement Program	●		●	●	
California State Parks' Recreational Trails Program (RTP)	●	●	●	●	
Affordable Housing and Sustainable Communities Program (AHSC)		●	●		
Urban Greening Program		●	●		
Local Partnership Program		●	●		
Road Maintenance and Rehabilitation Program				●	
Regional Surface Transportation Program			●		

**Summaries of all funding programs are included in Appendix C**

Planning + Design
Acquisition
Construction
Maintenance
Other

**Federal + State, cont.**

Coastal Conservancy Proposition 1 Grants	●	●	●		
Wildlife Conservation Board Public Access Program	●		●		
Habitat Conservation Fund			●		
Environmental Enhancement and Mitigation (EEM) Grant Program	●	●	●		
Grants for Arts Projects					●
Our Town					●
Creative California Communities (CCC)					●

**Nonprofits/Foundations/Donations**

Doppelt Family Trail Development Fund	●		●	●	
Corporate Donations	●	●	●	●	

**Local Programs**

TransNet Active Transportation Grant Program (ATGP)	●		●	●	
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# Appendix A

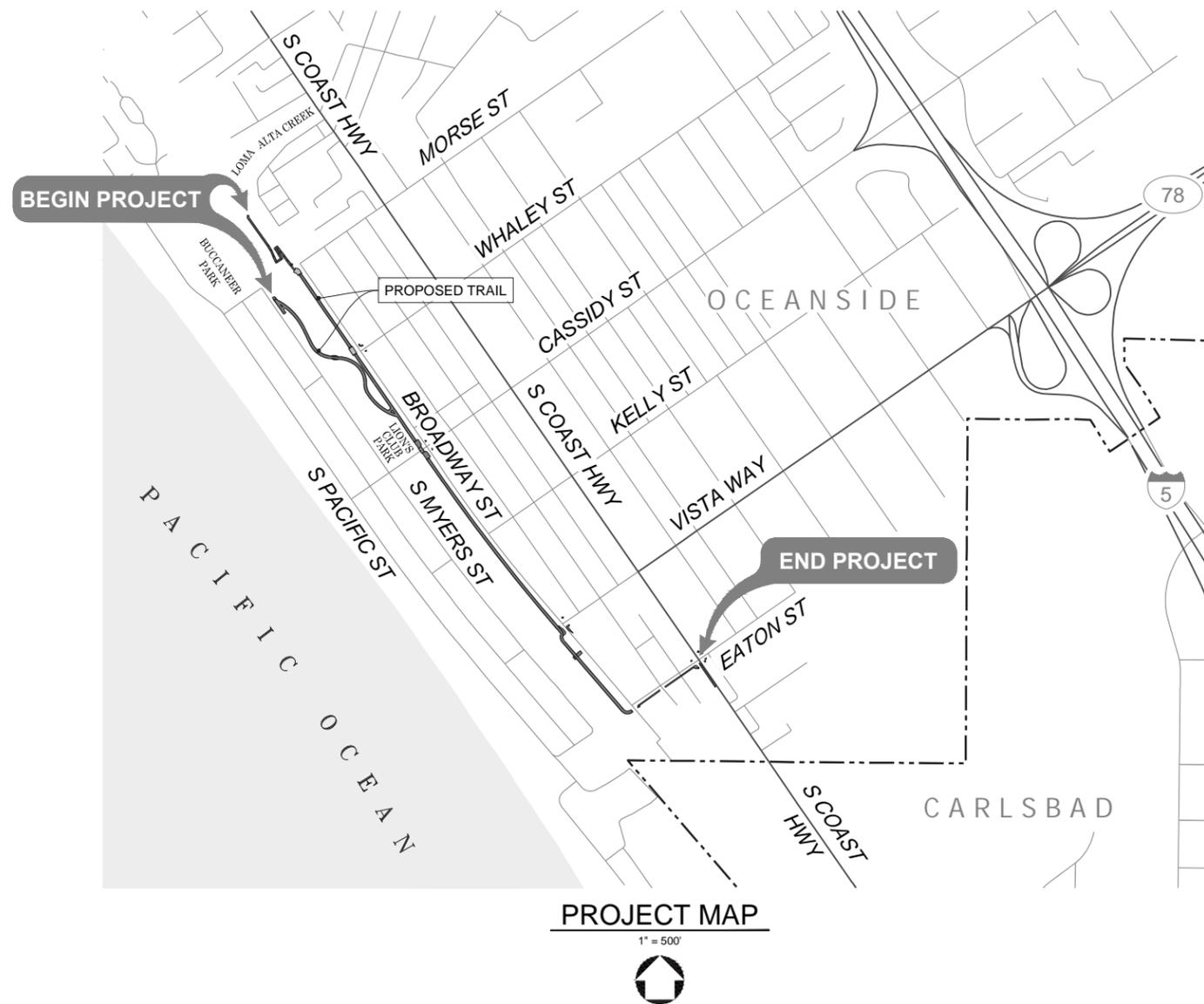
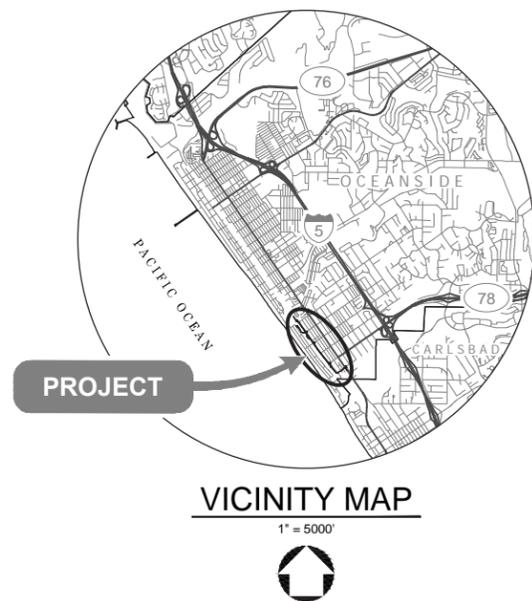
30% Concept Plans



# OCEANSIDE COASTAL RAIL TRAIL

## FROM BUCCANEER PARK TO S. COAST HIGHWAY 30% SET

### 30% DESIGN PLAN SET



#### SHEET INDEX

DESCRIPTION	SHT NO.
1 COVER SHEET	G001
2 SECTIONS	G002
3 KEY PLAN	C100
4 PLAN - CENTERLINE 'A': BEGIN TO STA 24+00	C101
5 PLAN - CENTERLINE 'A': STA 24+00 TO 28+00	C102
6 PLAN - CENTERLINE 'A': STA 28+00 TO 32+00	C103
7 PLAN - CENTERLINE 'A': STA 32+00 TO 36+00	C104
8 PLAN - CENTERLINE 'A': STA 36+00 TO 40+00	C105
9 PLAN - CENTERLINE 'A': STA 40+00 TO 44+00	C106
10 PLAN - CENTERLINE 'A': STA 24+00 TO 47+50	C107
11 PLAN - CENTERLINE 'A': STA 47+50 TO 51+50	C108
12 PLAN - CENTERLINE 'A': STA 51+50 TO END	C109
13 PLAN - CENTERLINE 'B': BEGIN TO STA 3+10	C110
14 PLAN - CENTERLINE 'B': STA 3+10 TO 8+10	C111
15 PLAN - CENTERLINE 'B': STA 8+10 TO 12+00	C112
16 PLAN - CENTERLINE 'B': STA 12+00 TO 16+00	C113
17 PLAN - CENTERLINE 'B': STA 16+00 TO END	C114
18 PLAN - EASTON ST - BROADWAY ST TO S COAST HWY	C115

**DIGALERT**

**UNDERGROUND SERVICE ALERT**

ATTENTION IS DIRECTED TO THE POSSIBLE EXISTENCE OF UNDERGROUND FACILITIES NOT KNOWN OR IN A LOCATION DIFFERENT FROM THAT WHICH IS SHOWN ON THE PLANS OR IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF ALL UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICE.

BEFORE EXCAVATING, THE CONTRACTOR SHALL VERIFY THE LOCATION OF UNDERGROUND UTILITIES BY CONTACTING UNDERGROUND SERVICE ALERT AT 1-(800)-422-4133.

PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



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213-489-7443 | allago.com



OCEANSIDE COASTAL RAIL TRAIL  
00-2022-258  
300 N COAST HWY  
OCEANSIDE, CA 92054

SHEET TITLE  
OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY

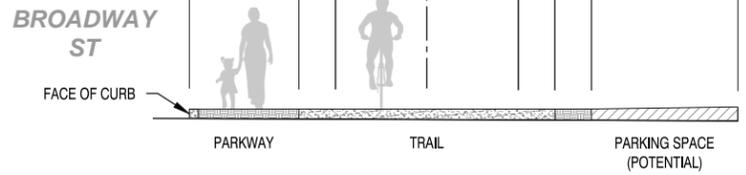
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**G001**

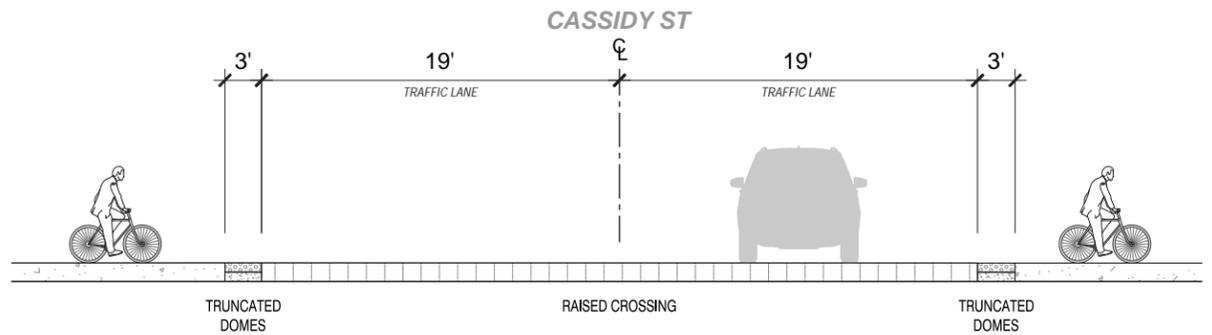
**COVER SHEET**

Funding Opportunities + Strategies

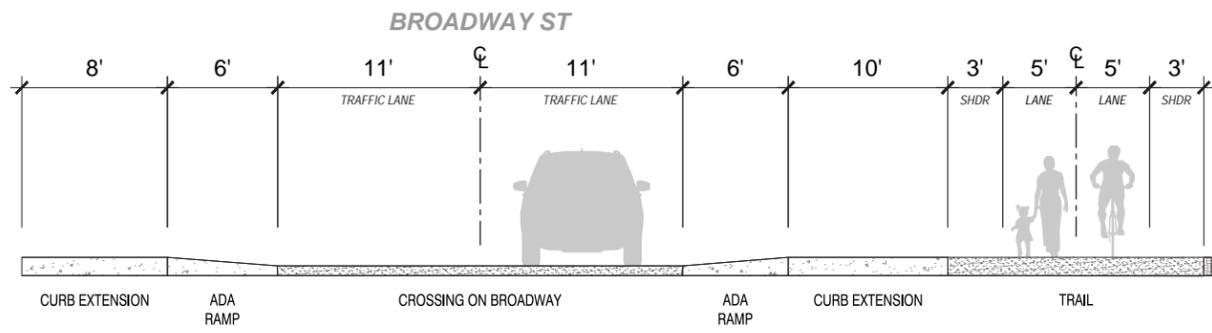
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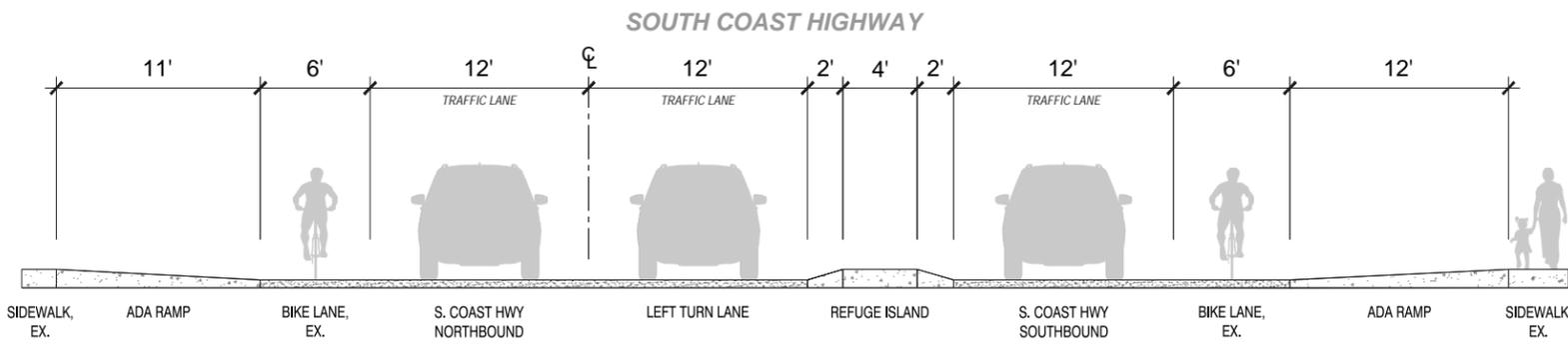
**A SECTION - BROADWAY ST**  
SCALE: 1" = 5' SHT C104-C109, C112, C113: STA 21+00 TO STA 45+00



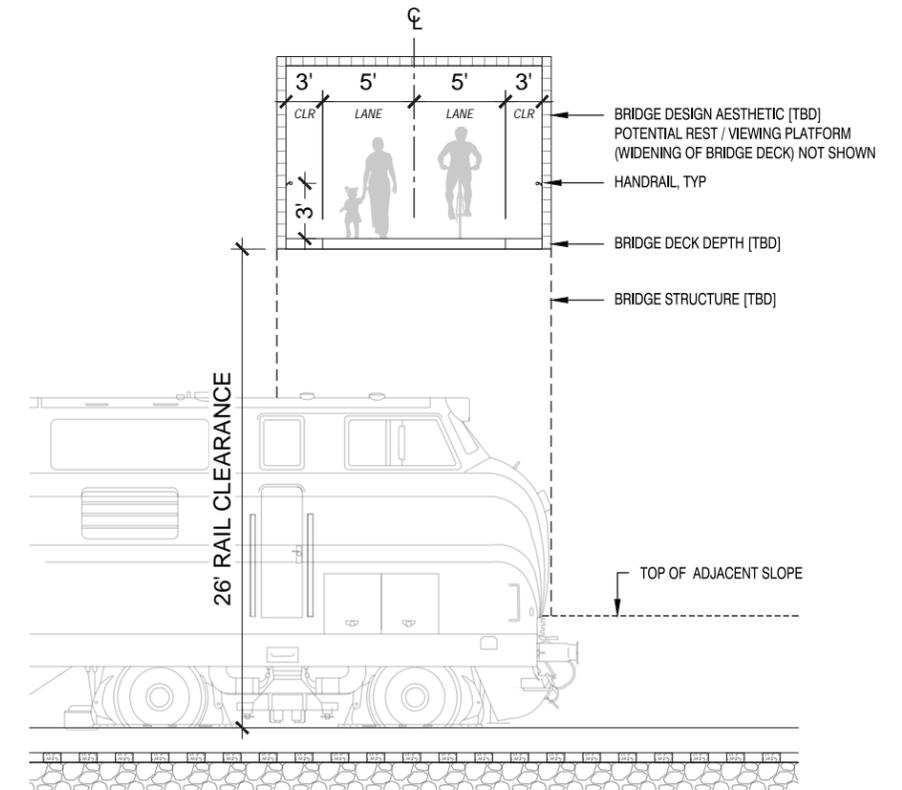
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SCALE: 1" = 5' SHT C104



**C CROSSING - BROADWAY ST**  
SCALE: 1" = 5' SHT C108



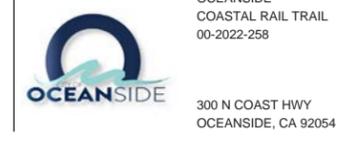
**D CROSSING - SOUTH COAST HIGHWAY**  
SCALE: 1" = 5' SHT C115



**E CROSSING - RAIL**  
SCALE: 1" = 5' SHT C102

MARK	DESCRIPTION	ISSUE	DATE	INITIAL

PROJECT NO: ...  
DESIGNED BY: ...  
DRAWN BY: SRB  
REVIEWED BY: ...  
DATE: 10.18.2024



SHEET TITLE: OCEANSIDE - CALIFORNIA BUCCANEER PARK TO S. COAST HIGHWAY

**SECTIONS**

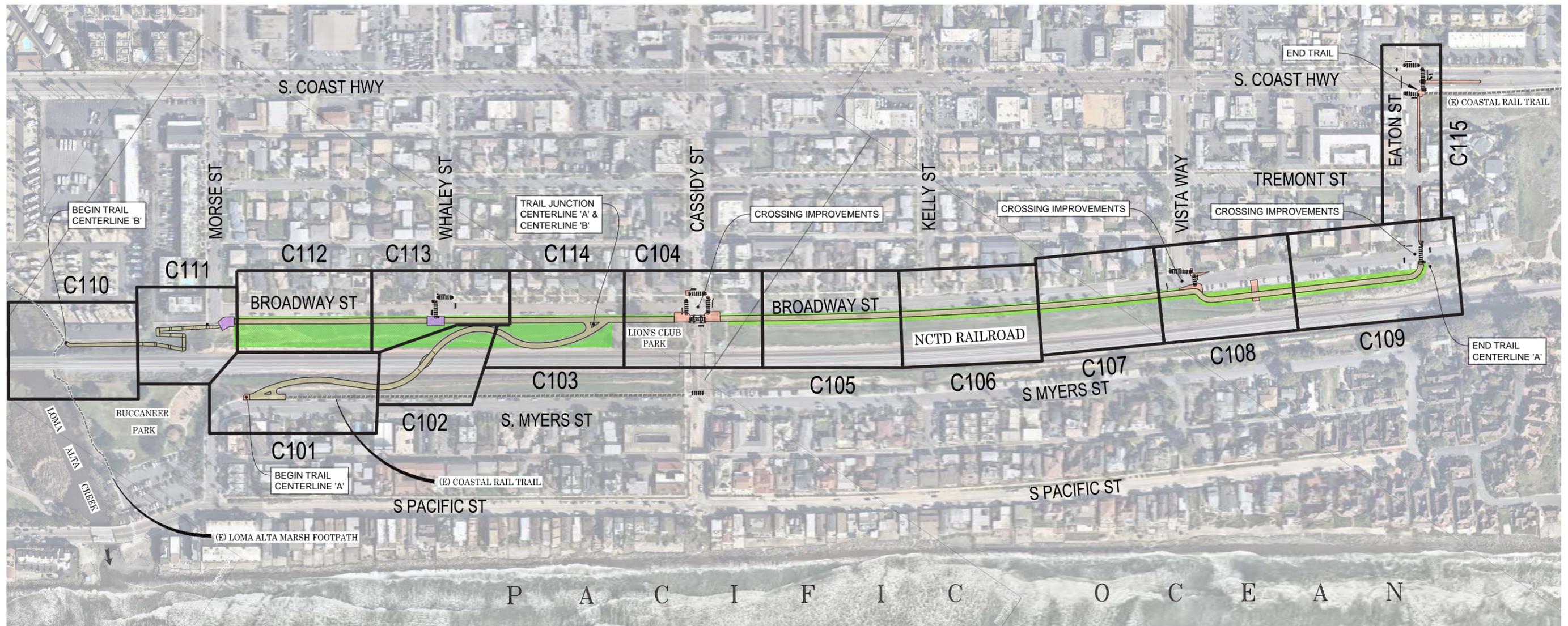
**G002**

Funding Opportunities + Strategies

NOT FOR CONSTRUCTION - 30% DESIGN

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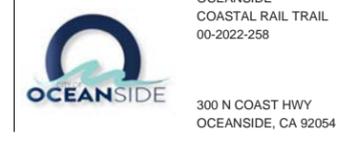


**1 PLAN**  
SCALE: 1" = 150'



LEGEND	
	TRAIL PAVEMENT
	CONCRETE PAVING
	MIXING ZONE / ACCESS AREA (TBD)
	LANDSCAPE AREA
	LINEAR PARK (TBD)
<b>C101</b>	
	PLAN SHEET: 1" = 20'

PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



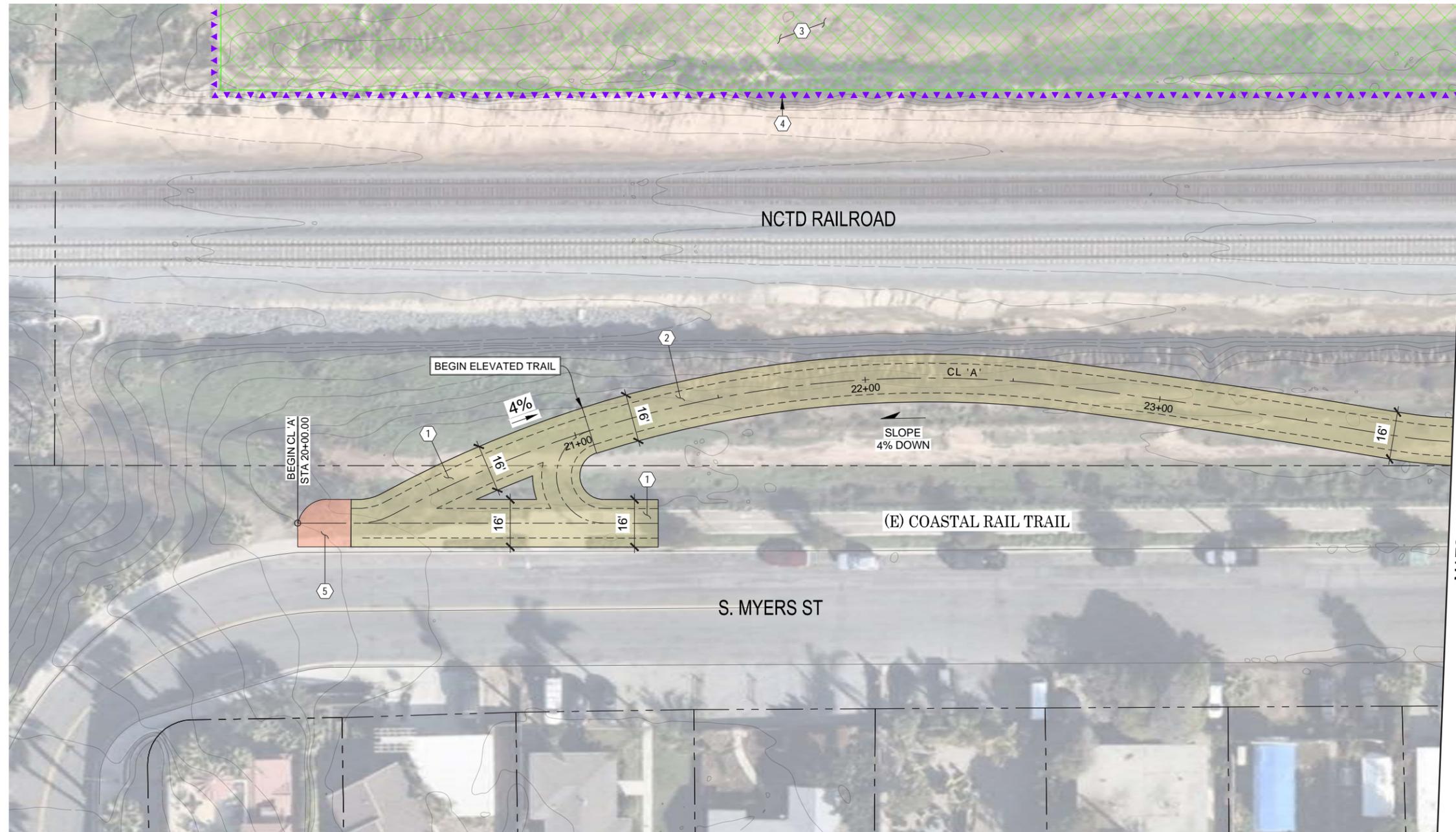
SHEET TITLE: OCEANSIDE - CALIFORNIA

SHEET NO. **C100**

**KEY PLAN**

Funding Opportunities + Strategies

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**GENERAL SHEET NOTES**

- PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
- PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

- PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
- PROPOSED ELEVATED 10 FT WIDE PATH WITH 3 FT WIDE SHOULDERS.
- PROPOSED LINEAR PARK.
- PROPOSED FENCE.
- PROPOSED CONCRETE SIDEWALK CONNECTION.

**LEGEND**

- TRAIL PAVEMENT
  - CONCRETE PAVING
  - MIXING ZONE / ACCESS AREA [TBD]
  - LANDSCAPE AREA
  - LINEAR PARK [TBD]
  - FENCE
  - SHOULDER / CLEAR ZONE
  - PARCEL / RIGHT-OF-WAY
  - CONTOUR - 2 FT INTERVAL
- NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



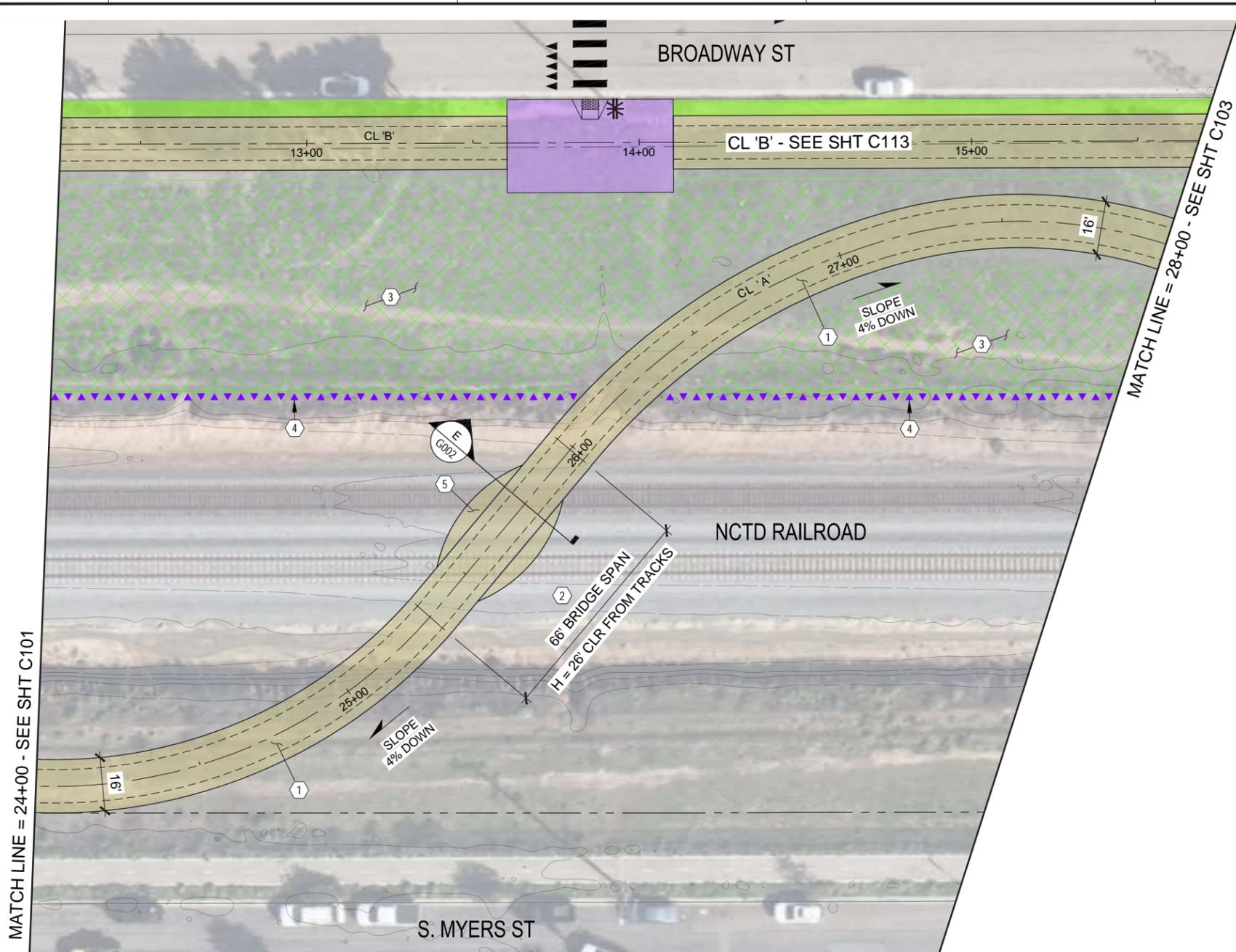
OCEANSIDE COASTAL RAIL TRAIL 00-2022-258

SHEET TITLE: OCEANSIDE - CALIFORNIA BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN CENTERLINE 'A'**

BEGIN T Funding Opportunities + Strategies

SHEET NO. **C101**



**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

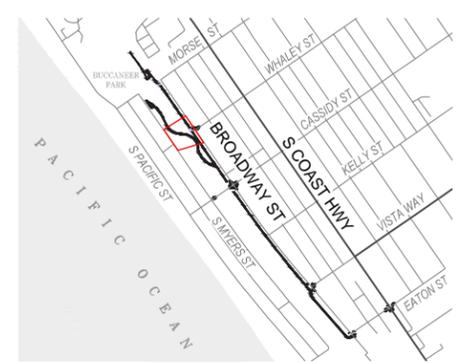
1. PROPOSED ELEVATED 10 FT WIDE PATH WITH 3 FT WIDE SHOULDERS.
2. PROPOSED BRIDGE CLEAR-SPAN OVER RAIL TRACKS.
3. PROPOSED LINEAR PARK.
4. PROPOSED FENCE.
5. PROPOSED REST / VIEWING AREA (EXPANDED BRIDGE DECK AREA), CONCEPT SHOWN.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
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REVIEWED BY: ---					
DATE: 7.15.2024					



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OCEANSIDE, CA 92054

SHEET TITLE  
OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN  
CENTERLINE 'A'**

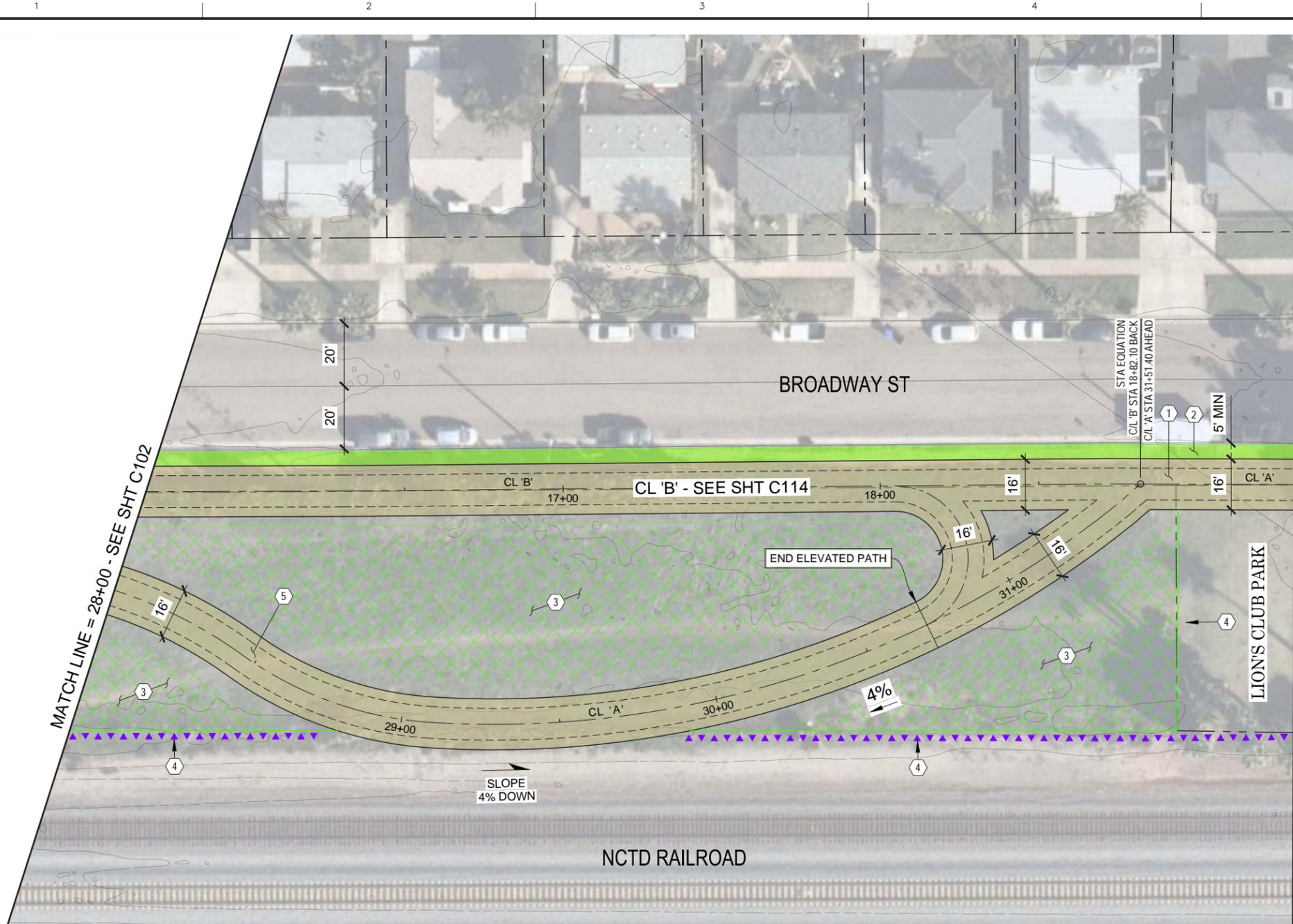
STA 24+ Funding Opportunities + Strategies

**C102**

SHEET NO.

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**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

1. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
2. PROPOSED LANDSCAPE BUFFER AREA.
3. PROPOSED LINEAR PARK.
4. PROPOSED FENCE.
5. PROPOSED ELEVATED 10 FT WIDE PATH WITH 3 FT WIDE SHOULDERS.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA (TBD)
- LANDSCAPE AREA
- LINEAR PARK (TBD)
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 10.18.2024					



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OCEANSIDE COASTAL RAIL TRAIL  
00-2022-258

300 N COAST HWY  
OCEANSIDE, CA 92054

SHEET TITLE  
OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN  
CENTERLINE 'A'**

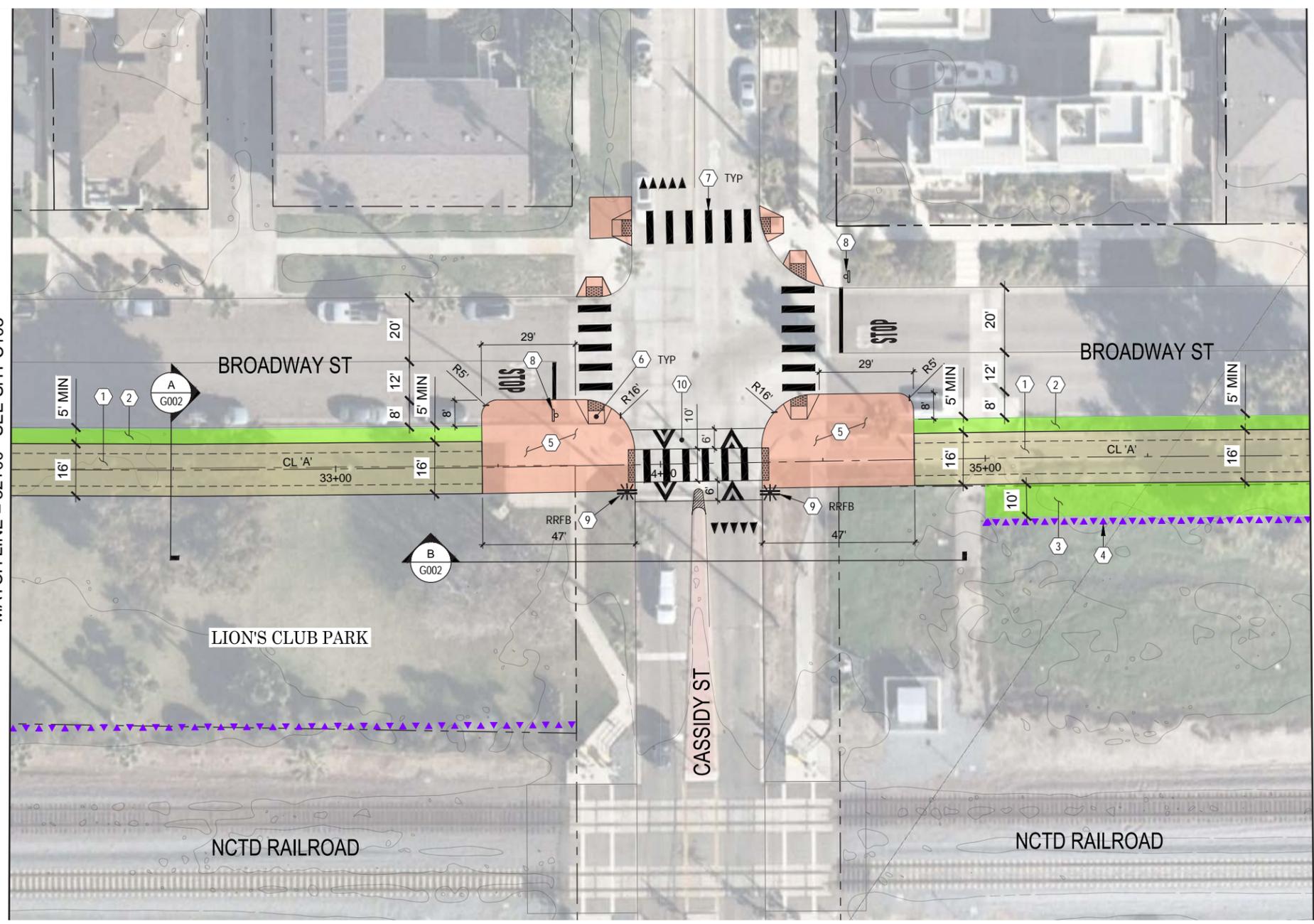
STA 28+ Funding Opportunities + Strategies

SHEET NO.

**C103**

NOT FOR CONSTRUCTION - 30% DESIGN

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MATCH LINE = 32+00 - SEE SHT C103

MATCH LINE = 36+00 - SEE SHT C105

**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

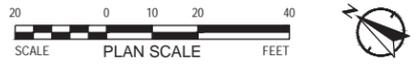
1. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
2. PROPOSED LANDSCAPE BUFFER AREA.
3. PROPOSED LANDSCAPE AREA.
4. PROPOSED FENCE.
5. PROPOSED CONCRETE CURB EXTENSION
6. PROPOSED ADA CURB RAMP.
7. PROPOSED CONTINENTAL CROSSWALK.
8. PROPOSED STOP SIGN (R-1), POST, AND STANDARD STOP BAR.
9. PROPOSED (RRFB) RECTANGULAR RAPID-FLASHING BEACON.
10. PROPOSED RAISED PEDESTRIAN CROSSING.

**LEGEND**

	TRAIL PAVEMENT
	CONCRETE PAVING
	MIXING ZONE / ACCESS AREA [TBD]
	LANDSCAPE AREA
	LINEAR PARK [TBD]
	FENCE
	SHOULDER / CLEAR ZONE
	PARCEL / RIGHT-OF-WAY
	CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 10.18.2024					



OCEANSIDE COASTAL RAIL TRAIL 00-2022-258

SHEET TITLE: OCEANSIDE - CALIFORNIA BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN CENTERLINE 'A'**

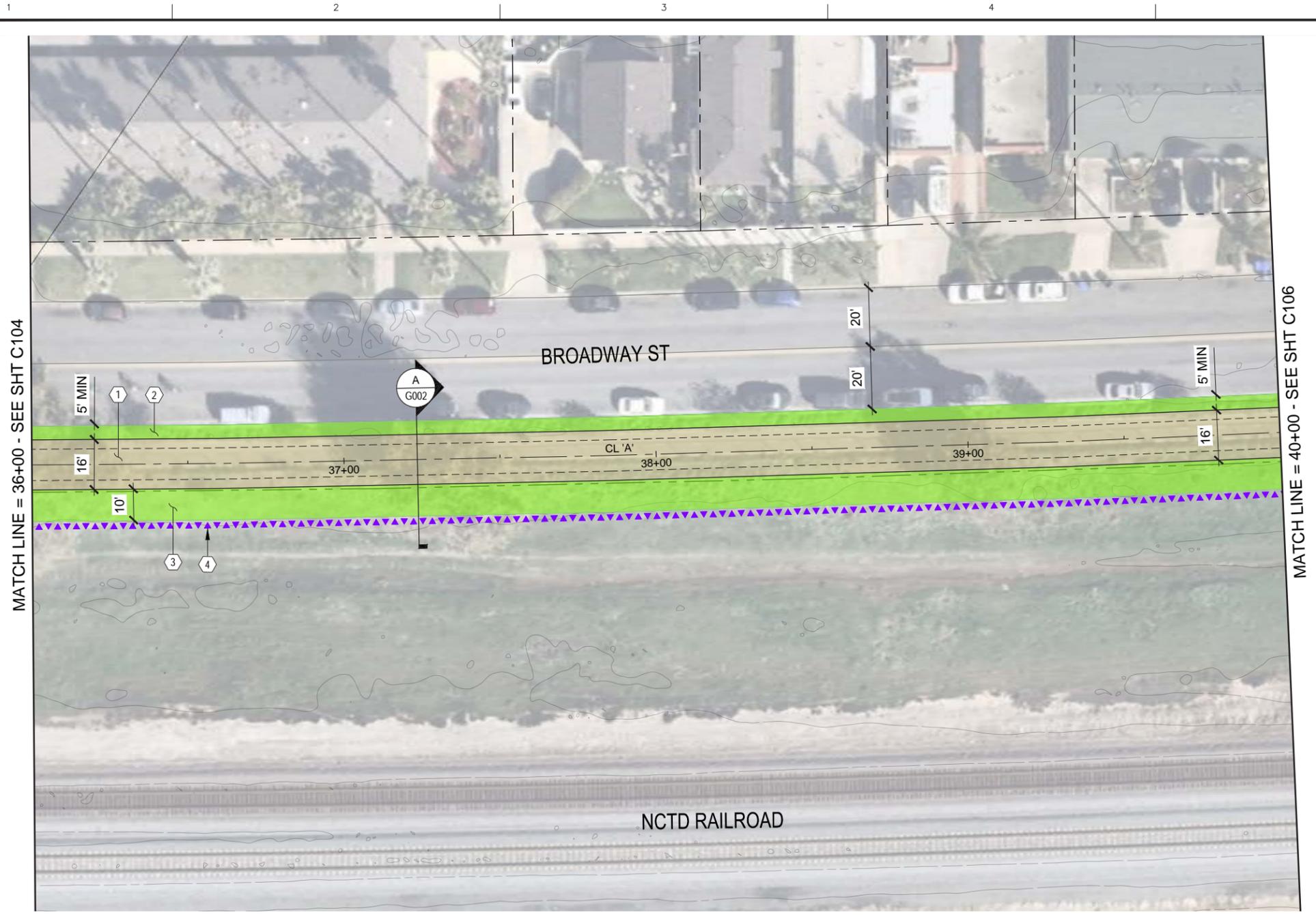
STA 32+ Funding Opportunities + Strategies 18

**C104**

NOT FOR CONSTRUCTION - 30% DESIGN

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MATCH LINE = 36+00 - SEE SHT C104

MATCH LINE = 40+00 - SEE SHT C106

**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

1. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
2. PROPOSED LANDSCAPE BUFFER AREA.
3. PROPOSED LANDSCAPE AREA.
4. PROPOSED FENCE.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



OCEANSIDE COASTAL RAIL TRAIL 00-2022-258

SHEET TITLE: OCEANSIDE - CALIFORNIA BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN CENTERLINE 'A'**

STA 36+ Funding Opportunities + Strategies 18

**C105**

NOT FOR CONSTRUCTION - 30% DESIGN



MATCH LINE = 40+00 - SEE SHT C105

MATCH LINE = 44+00 - SEE SHT C107

**GENERAL SHEET NOTES**

- PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
- PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

- PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
- PROPOSED LANDSCAPE BUFFER AREA.
- PROPOSED LANDSCAPE AREA.
- PROPOSED FENCE.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



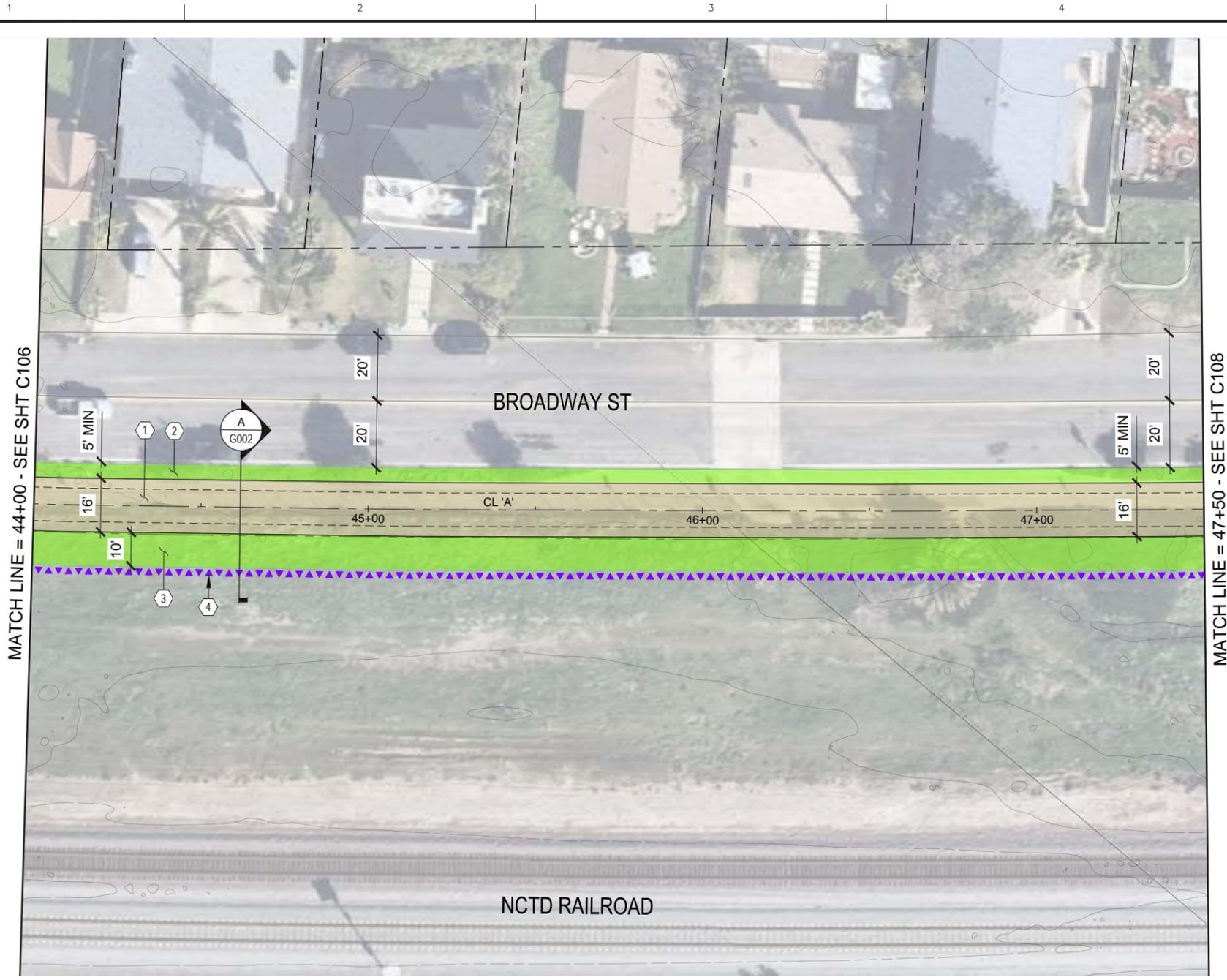
OCEANSIDE COASTAL RAIL TRAIL 00-2022-258

SHEET TITLE OCEANSIDE - CALIFORNIA BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN CENTERLINE 'A'**

STA 40+ Funding Opportunities + Strategies **C106**

NOT FOR CONSTRUCTION - 30% DESIGN



MATCH LINE = 44+00 - SEE SHT C106

MATCH LINE = 47+50 - SEE SHT C108

**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

1. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
2. PROPOSED LANDSCAPE BUFFER AREA.
3. PROPOSED LANDSCAPE AREA.
4. PROPOSED FENCE.

**LEGEND**

- TRAIL PAVEMENT
  - CONCRETE PAVING
  - MIXING ZONE / ACCESS AREA [TBD]
  - LANDSCAPE AREA
  - LINEAR PARK [TBD]
  - FENCE
  - SHOULDER / CLEAR ZONE
  - PARCEL / RIGHT-OF-WAY
  - CONTOUR - 2 FT INTERVAL
- NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					

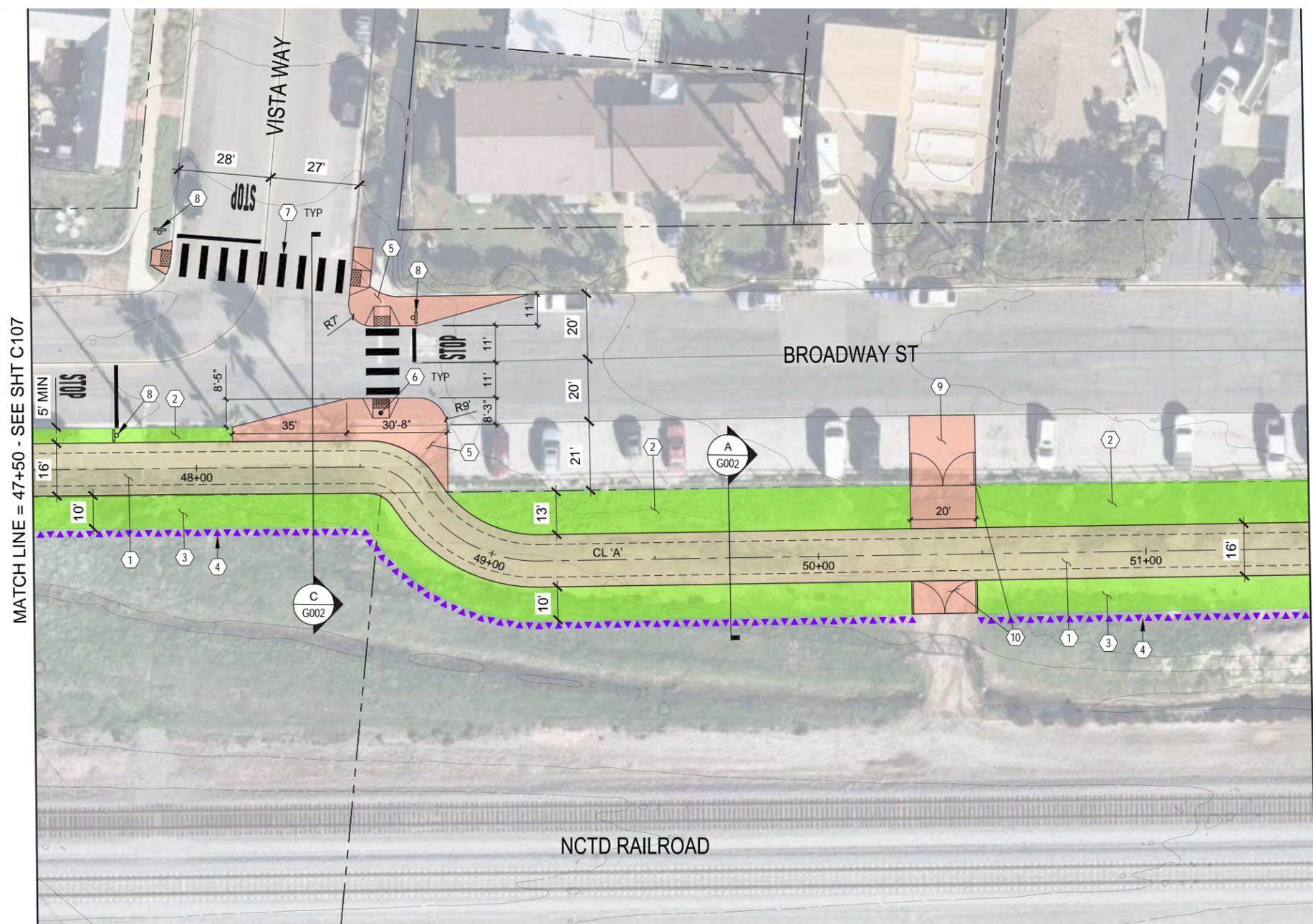


OCEANSIDE  
COASTAL RAIL TRAIL  
00-2022-258

SHEET TITLE: OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY  
**PLAN CENTERLINE 'A'**  
STA 44+ Funding Opportunities + Strategies

SHEET NO. **C107**

Dwg filename: N:\Shared\PROJECTS\2022-258 Oceanside, CA Rail Trail Study\CAD\01\_Plan\2022-258-03-PLAN.dwg Last saved by: sachinarkhurj Plot date: 7/15/2024 10:23 AM Plot style table: ALTA MCS Standard.stb



**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

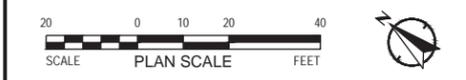
1. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
2. PROPOSED LANDSCAPE BUFFER AREA.
3. PROPOSED LANDSCAPE AREA.
4. PROPOSED FENCE.
5. PROPOSED CONCRETE CURB EXTENSION
6. PROPOSED ADA CURB RAMP.
7. PROPOSED CONTINENTAL CROSSWALK.
8. PROPOSED STOP SIGN (R-1), POST, AND STANDARD STOP BAR.
9. PROPOSED DRIVEWAY / ACCESS ROAD.
10. PROPOSED MAINTENANCE ACCESS GATE ON BOTH SIDES OF RAIL TRAIL

**LEGEND**

	TRAIL PAVEMENT
	CONCRETE PAVING
	MIXING ZONE / ACCESS AREA [TBD]
	LANDSCAPE AREA
	LINEAR PARK [TBD]
	FENCE
	SHOULDER / CLEAR ZONE
	PARCEL / RIGHT-OF-WAY
	CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 10.18.2024					



OCEANSIDE COASTAL RAIL TRAIL 00-2022-258

SHEET TITLE: OCEANSIDE - CALIFORNIA BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN CENTERLINE 'A'**

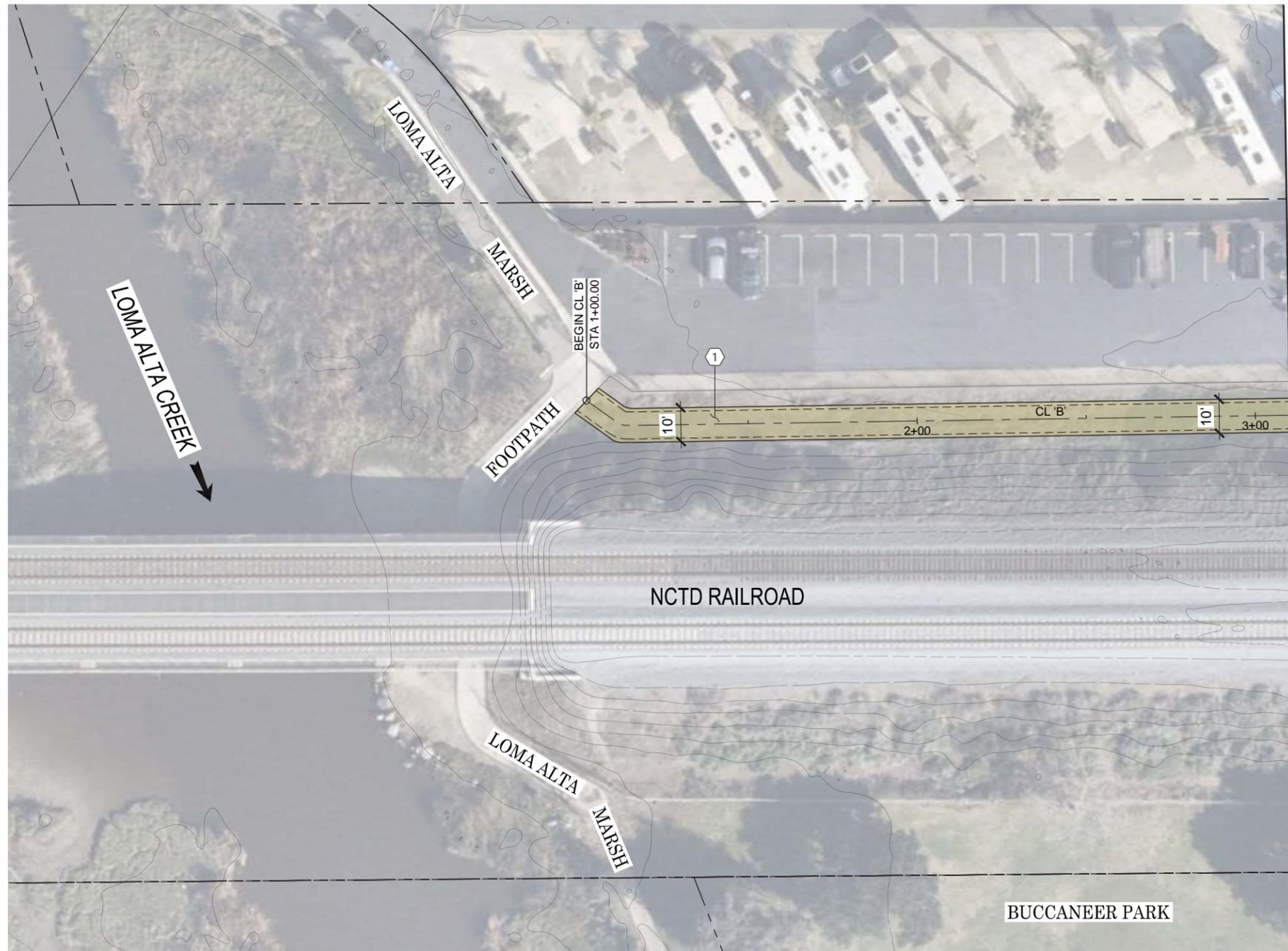
STA 47+ Funding Opportunities + Strategies

SHEET NO. **C108**

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**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

1. PROPOSED 10 FT WIDE PATH WITH 1 FT WIDE PAVED SHOULDERS.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



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COASTAL RAIL TRAIL  
00-2022-258

300 N COAST HWY  
OCEANSIDE, CA 92054

SHEET TITLE  
OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN  
CENTERLINE 'B'**

BEGIN Funding Opportunities + Strategies

**C110**

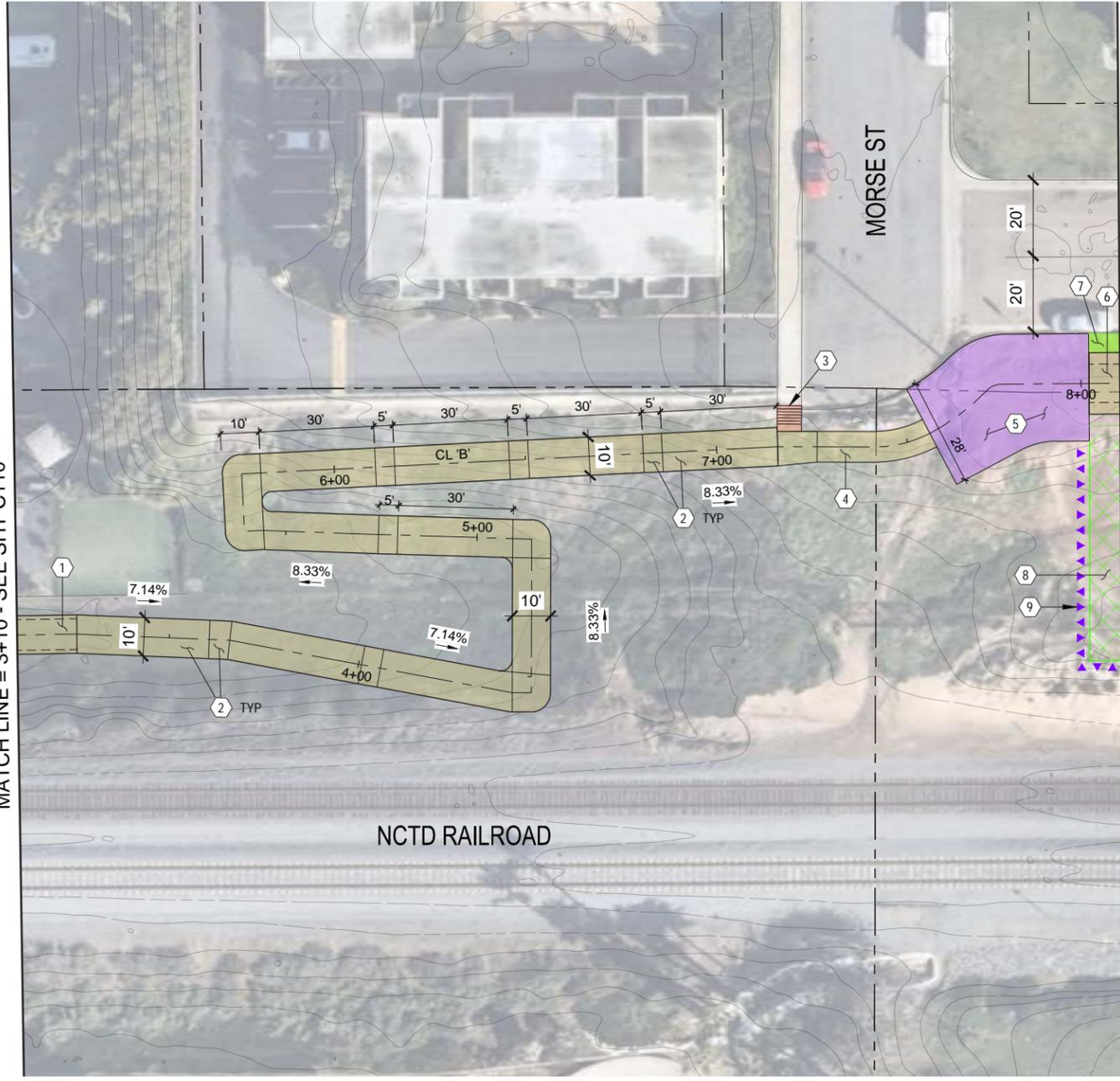
SHEET NO.

NOT FOR CONSTRUCTION - 30% DESIGN

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MATCH LINE = 3+10 - SEE SHT C110

MATCH LINE = 8+10 - SEE SHT C112



**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

1. PROPOSED 10 FT WIDE PATH WITH 1 FT WIDE PAVED SHOULDERS.
2. PROPOSED SWITCHBACK PATH, 10 FT WIDE PATH WITH 5 FT LONG LANDINGS SPACED @ MAX 30 FT RAMP RUN LENGTH. RAILINGS NOT SHOWN FOR CLARITY.
3. PROPOSED CONCRETE STAIRS.
4. PROPOSED 8 FT WIDE CONCRETE CONNECTION.
5. PROPOSED MIXING ZONE & ACCESS AREA [TBD].
6. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
7. PROPOSED LANDSCAPE BUFFER AREA.
8. PROPOSED LINEAR PARK.
9. PROPOSED FENCE.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



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OCEANSIDE, CA 92054

SHEET TITLE  
OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN  
CENTERLINE 'B'**

STA 3+ Funding Opportunities + Strategies

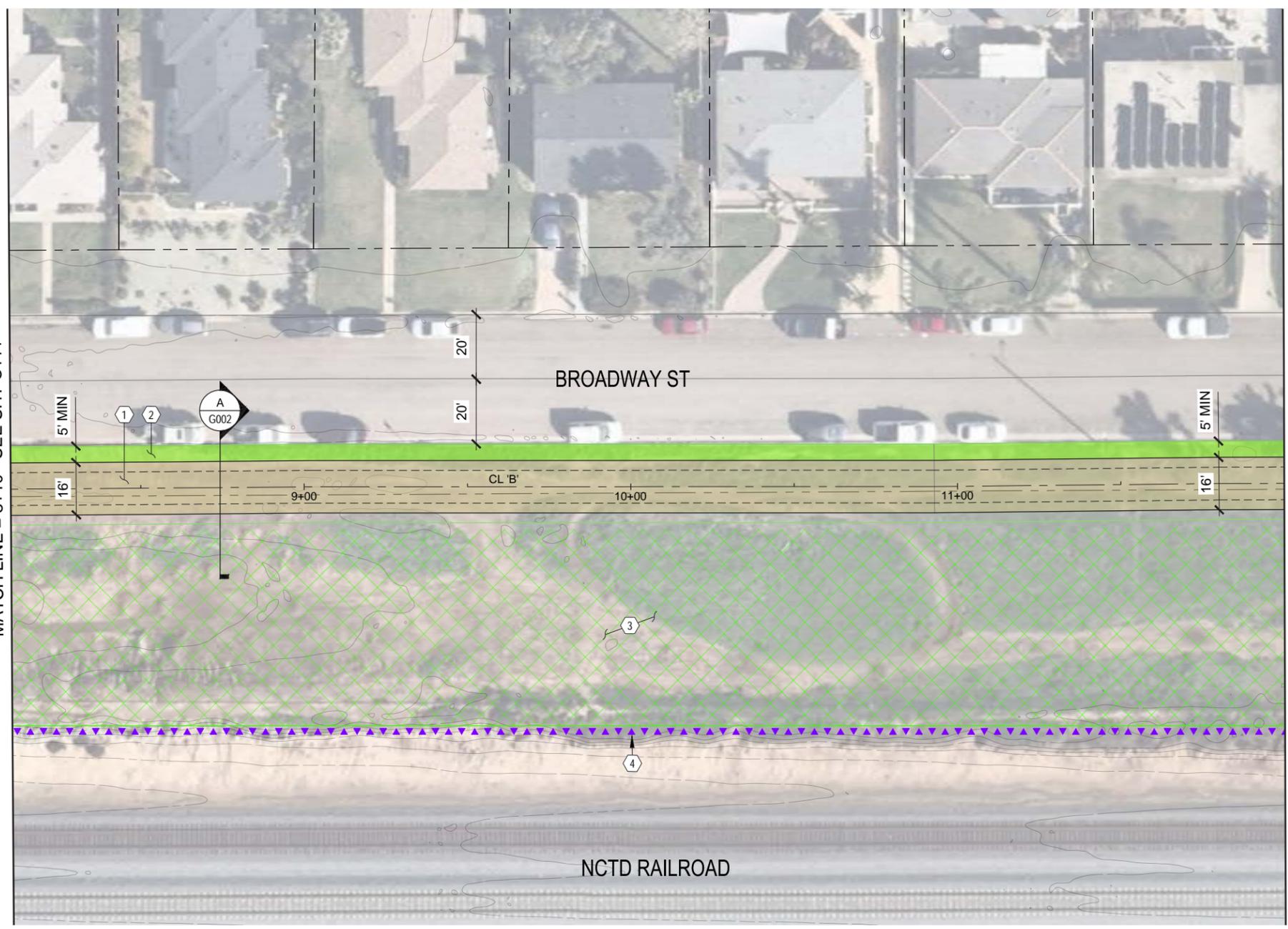
SHEET NO.

**C111**

NOT FOR CONSTRUCTION - 30% DESIGN

MATCH LINE = 8+10 - SEE SHT C111

MATCH LINE = 12+00 - SEE SHT C113



**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

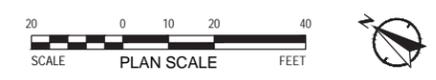
1. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
2. PROPOSED LANDSCAPE BUFFER AREA.
3. PROPOSED LINEAR PARK.
4. PROPOSED FENCE.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



OCEANSIDE COASTAL RAIL TRAIL 00-2022-258

SHEET TITLE OCEANSIDE - CALIFORNIA BUCCANEER PARK TO S. COAST HIGHWAY

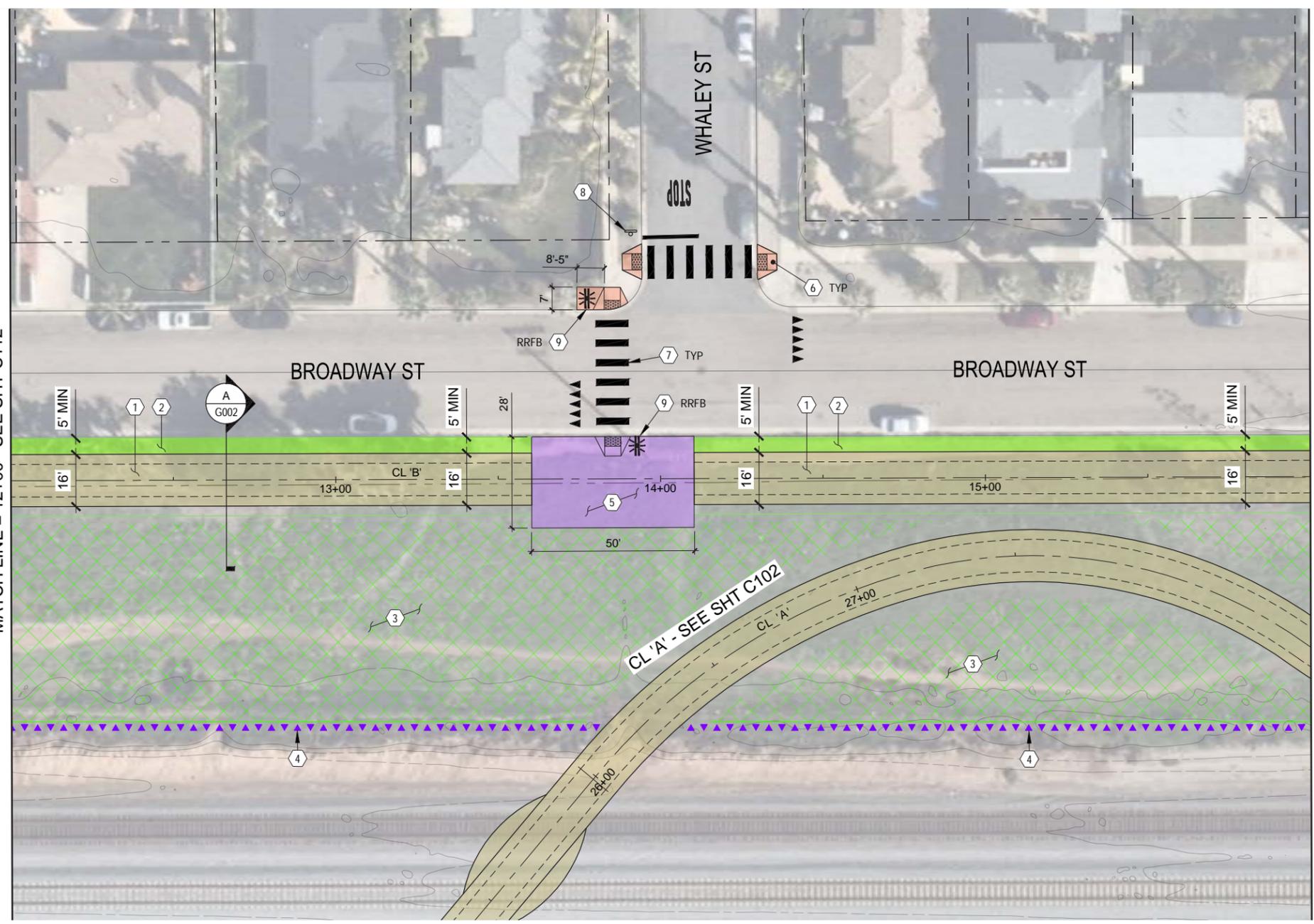
PLAN CENTERLINE 'B'

STA 8+ Funding Opportunities + Strategies

SHEET NO. C112

NOT FOR CONSTRUCTION - 30% DESIGN

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MATCH LINE = 12+00 - SEE SHT C112

MATCH LINE = 16+00 - SEE SHT C114

**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

1. PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
2. PROPOSED LANDSCAPE BUFFER AREA.
3. PROPOSED LINEAR PARK.
4. PROPOSED FENCE.
5. PROPOSED MIXING ZONE & ACCESS AREA [TBD].
6. PROPOSED ADA CURB RAMP.
7. PROPOSED CONTINENTAL CROSSWALK.
8. PROPOSED STOP SIGN (R-1), POST, AND STANDARD STOP BAR.
9. PROPOSED (RRFB) RECTANGULAR RAPID-FLASHING BEACON.

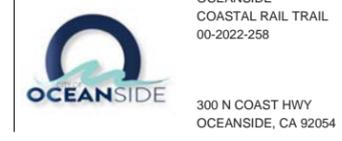
**LEGEND**

- TRAIL PAVEMENT
  - CONCRETE PAVING
  - MIXING ZONE / ACCESS AREA [TBD]
  - LANDSCAPE AREA
  - LINEAR PARK [TBD]
  - FENCE
  - SHOULDER / CLEAR ZONE
  - PARCEL / RIGHT-OF-WAY
  - CONTOUR - 2 FT INTERVAL
- NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



SHEET TITLE: OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN CENTERLINE 'B'**

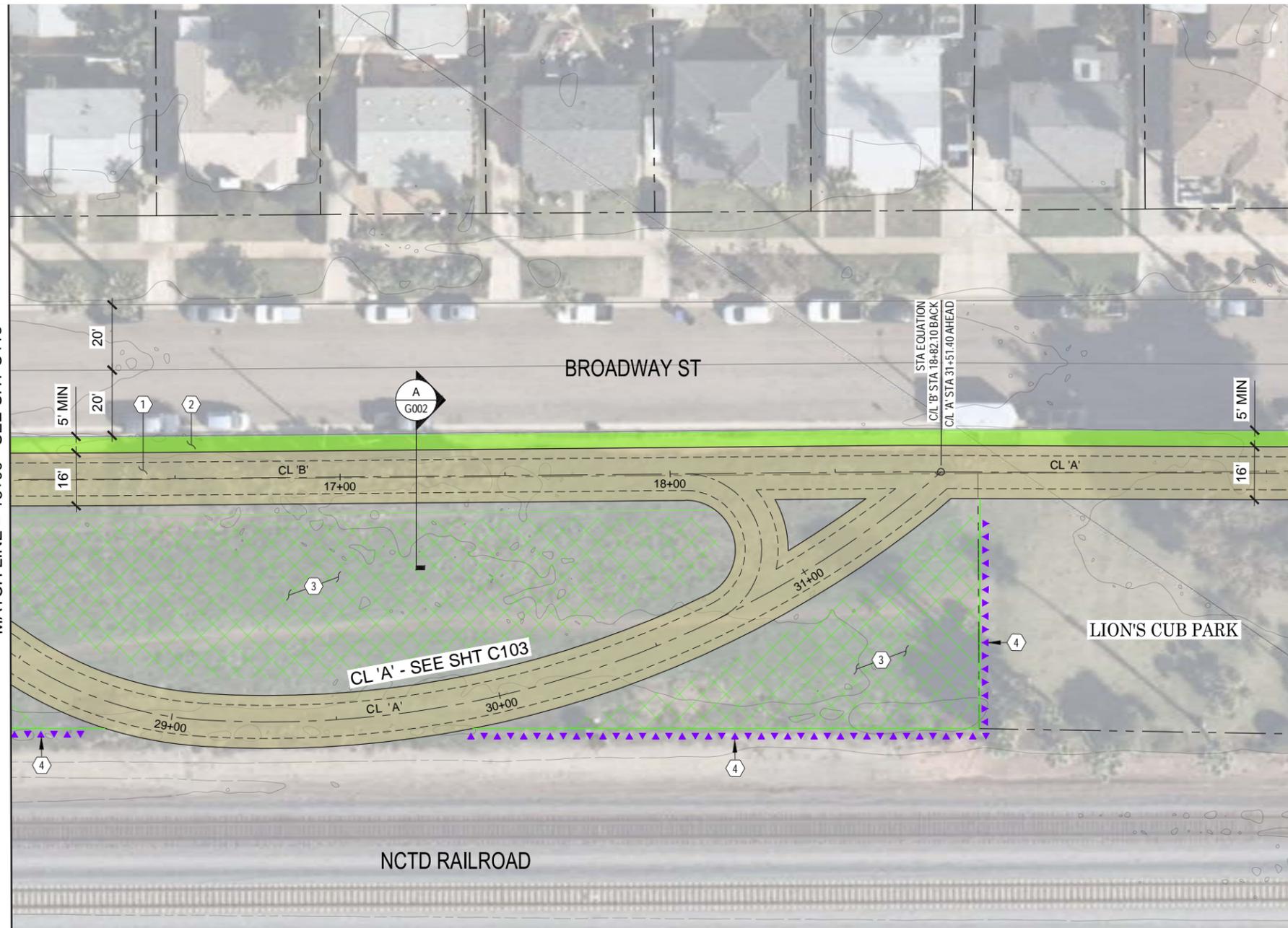
STA 12+ Funding Opportunities + Strategies

SHEET NO. **C113**

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MATCH LINE = 16+00 - SEE SHT C113



**GENERAL SHEET NOTES**

- PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
- PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

- PROPOSED 10 FT WIDE PATH WITH 3 FT WIDE PAVED SHOULDERS.
- PROPOSED LANDSCAPE BUFFER AREA.
- PROPOSED LINEAR PARK.
- PROPOSED FENCE.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



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OCEANSIDE, CA 92054

SHEET TITLE  
OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY

**PLAN  
CENTERLINE 'B'**

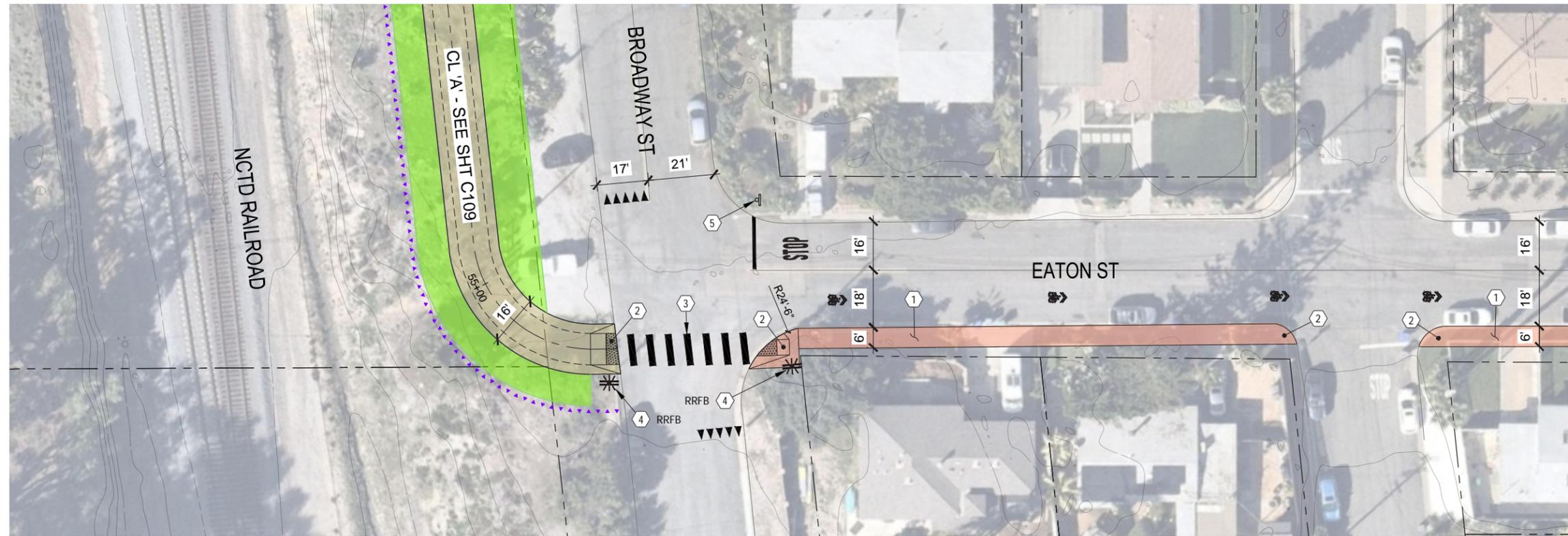
STA 16+ Funding Opportunities + Strategies

**C114**

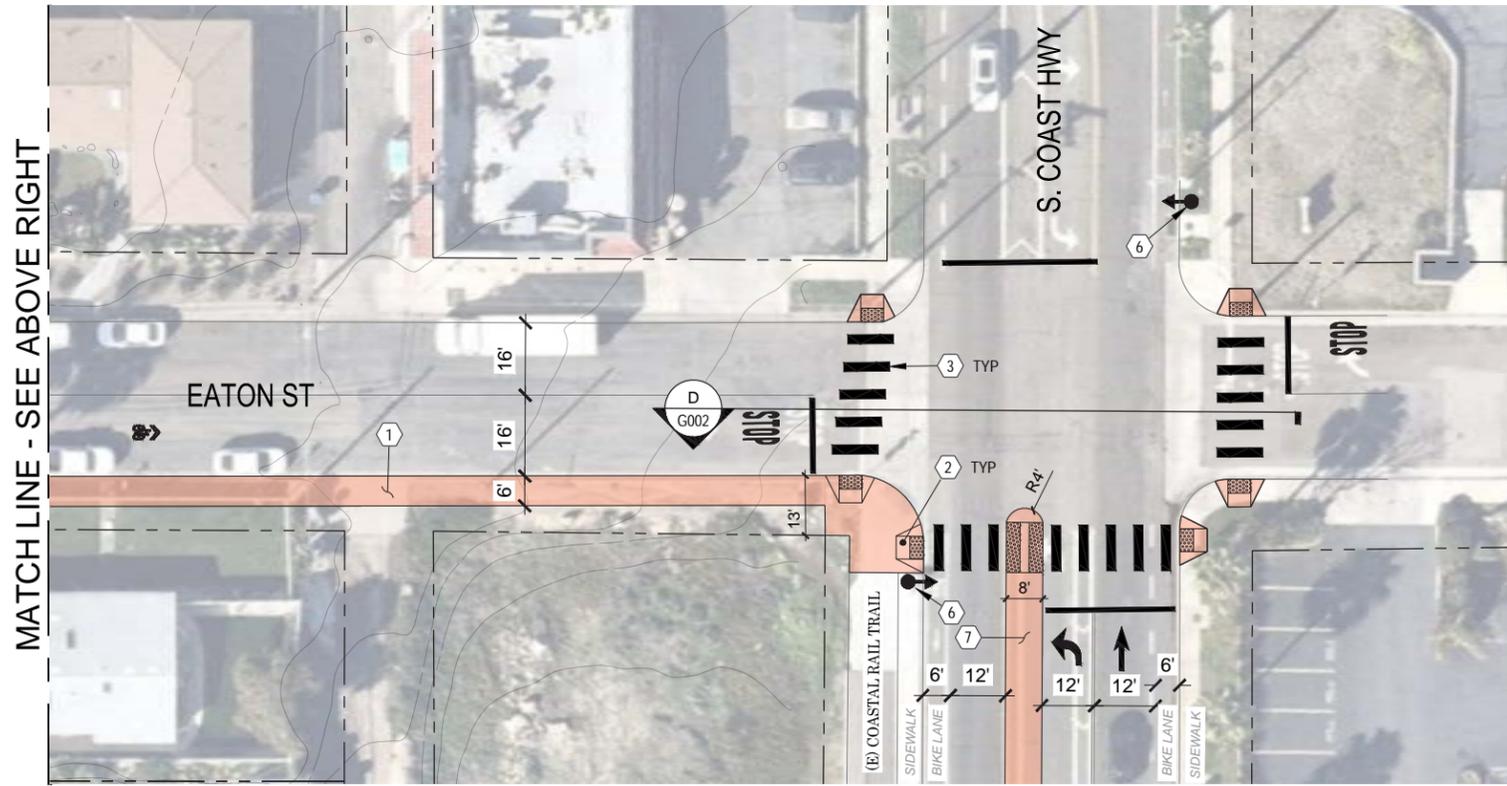
SHEET NO.

NOT FOR CONSTRUCTION - 30% DESIGN

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MATCH LINE - SEE BELOW LEFT



MATCH LINE - SEE ABOVE RIGHT

**GENERAL SHEET NOTES**

1. PRELIMINARY PLANS DO NOT INCLUDE TOPOGRAPHIC SURVEY DATA, UTILITIES, AND ADDITIONAL FEATURES.
2. PARCEL BOUNDARIES AND GROUND CONTOURS @ 2 FT INTERVAL SHOWN ARE PROVIDED FROM GIS SPATIAL DATA.

**SHEET KEYNOTES**

1. PROPOSED 6 FT WIDE SIDEWALK.
2. PROPOSED ADA CURB RAMP.
3. PROPOSED CONTINENTAL CROSSWALK.
4. PROPOSED (RRFB) RECTANGULAR RAPID-FLASHING BEACON.
5. PROPOSED STOP SIGN (R-1), POST, AND STANDARD STOP BAR.
6. PROPOSED PEDESTRIAN HYBRID BEACON.
7. PROPOSED MEDIAN REFUGE ISLAND.

**LEGEND**

- TRAIL PAVEMENT
- CONCRETE PAVING
- MIXING ZONE / ACCESS AREA [TBD]
- LANDSCAPE AREA
- LINEAR PARK [TBD]
- FENCE
- SHOULDER / CLEAR ZONE
- PARCEL / RIGHT-OF-WAY
- CONTOUR - 2 FT INTERVAL

NOTE: LEGEND IS TYPICAL, NOT ALL ITEMS APPEAR ON SHEETS.

**KEY MAP**



PROJECT NO:	MARK	DESCRIPTION	ISSUE	DATE	INITIAL
DESIGNED BY: ---					
DRAWN BY: SRB					
REVIEWED BY: ---					
DATE: 7.15.2024					



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00-2022-258  
  
300 N COAST HWY  
OCEANSIDE, CA 92054

SHEET TITLE  
OCEANSIDE - CALIFORNIA  
BUCCANEER PARK TO S. COAST HIGHWAY  
**PLAN**  
**EATON ST - BROADWAY ST**  
TO SC Funding Opportunities + Strategies

SHEET NO.  
**C115**

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# Appendix B

## Existing Conditions Maps



# Existing Conditions

## Overview

In an effort to better understand the conditions and context surrounding the Coastal Rail Trail project corridor, existing conditions mapping was conducted. The information detailed in this appendix provides an analysis of existing transportation networks, demographic characteristics, environmental conditions, and planning context.



*Along portions of the existing multi-use trail, overgrown vegetation reduces the available trail width causing trail users to walk or ride in the center of the trail.*

# Transportation + Destinations

## BICYCLE FACILITIES

There are over 112 miles of existing bicycle facilities and about 16 miles of planned facilities within the City of Oceanside. Detailed in Figure 26, a constructed segment of the Coastal Rail Trail exists between the Oceanside Transit Center and Oceanside Boulevard, and a planned/designed segment named the Coastal Rail Trail and Bridge Across Loma Alta Creek Project is located between Oceanside Boulevard and Morse Street. Once all planned segments are constructed, the Coastal Rail Trail will be a 2+ mile continuous multi-use trail.

Class III bike routes intersect the project corridor at Cassidy Street and Eaton Street. Eaton Street will be studied as an alternative route to connect from the Coastal Rail Trail along Broadway Street to the Class I separated bike facility on South Coast Highway. Class II bike lanes also exist on South Coast Highway between Vista Way and the Carlsbad city border. Cyclists frequently use the northbound bike lane facility to enter Oceanside from Carlsbad, and traverse the northbound travel lane on South Coast Highway to turn left on Eaton Street.

## COLLISIONS

Three pedestrian related collisions and nine bicyclist related collisions occurred within the project study area between 2018 and 2023, as shown in Figure 27. Three of the nine bicyclist related collisions resulted in severe injury and six resulted in minor injury. Two of the three pedestrian related collisions resulted

in severe injury and one resulted in minor injury. Of the twelve collisions, ten of the incidents occurred on South Coast Highway. A cluster of collisions is observed on South Coast Highway from Vista Way south, and concentrated collisions are observed along both parallel routes to the Coastal Rail Trail (South Coast Highway and Pacific Street). This project will provide a complete gap closure which has the potential to create a continuous bike and pedestrian corridor parallel to these facilities.

The data (2018 to 2023) does not include the 2015 fatal collision of a 12-year-old student who was struck while biking to Lincoln Middle School along Coast Highway. This collision occurred south of the intersection of Coast Highway and Godfrey Street, just north of the project study area. This collision prompted roadway improvements along Coast Highway and has continued to shape the City's active transportation plans, including the extension of the Coastal Rail Trail from Oceanside Boulevard to the south.

## TRANSIT

Two North County Transit District (NCTD) Breeze Bus System routes intersect the project study area along South Coast Highway (Route 101 and 302), as shown in Figure 28. Three bus stops are located at Vista Way and South Coast Highway, and one stop is located Eaton Street and Coast Highway. Alternative alignments can look to improve access to existing transit stops along Coast Highway in particular at Vista Way and Cassidy Street, as well as Oceanside Boulevard.

The Coastal Rail Trail, once fully completed, has the ability to connect trail users south of Oceanside to the Oceanside Transit Center. The Oceanside Transit

Center is a major transportation hub with various train services, bus connections, a secure storage facility for 26 bikes, and a public restroom. Once the Coastal Rail Trail is extended into the City of Carlsbad, South Oceanside residents will also have the ability to connect to the Carlsbad Village Transit Center.

## **TRAVEL VOLUMES**

Forecasts in traffic volumes for the years 2016, 2025, 2035, and 2050 were generated by SANDAG following the adoption of the 2021 Regional Plan + Sustainable Communities Strategy Plan. The map in Figure 29 details the projected 2025 volumes to help paint the picture for what vehicular traffic is like in Oceanside today.

Within the study area, South Coast Highway has the most significant traffic volumes ranging between 9,000 and 17,000 vehicles per day, with Vista Way east of South Coast Highway showing larger volumes on the approach to freeway entrances ranging between 13,000 and 22,000 vehicles per day. Within the study area, Cassidy Street is the highest volume road that the project corridor crosses with a range of 3,000 to 7,000 vehicles per day.

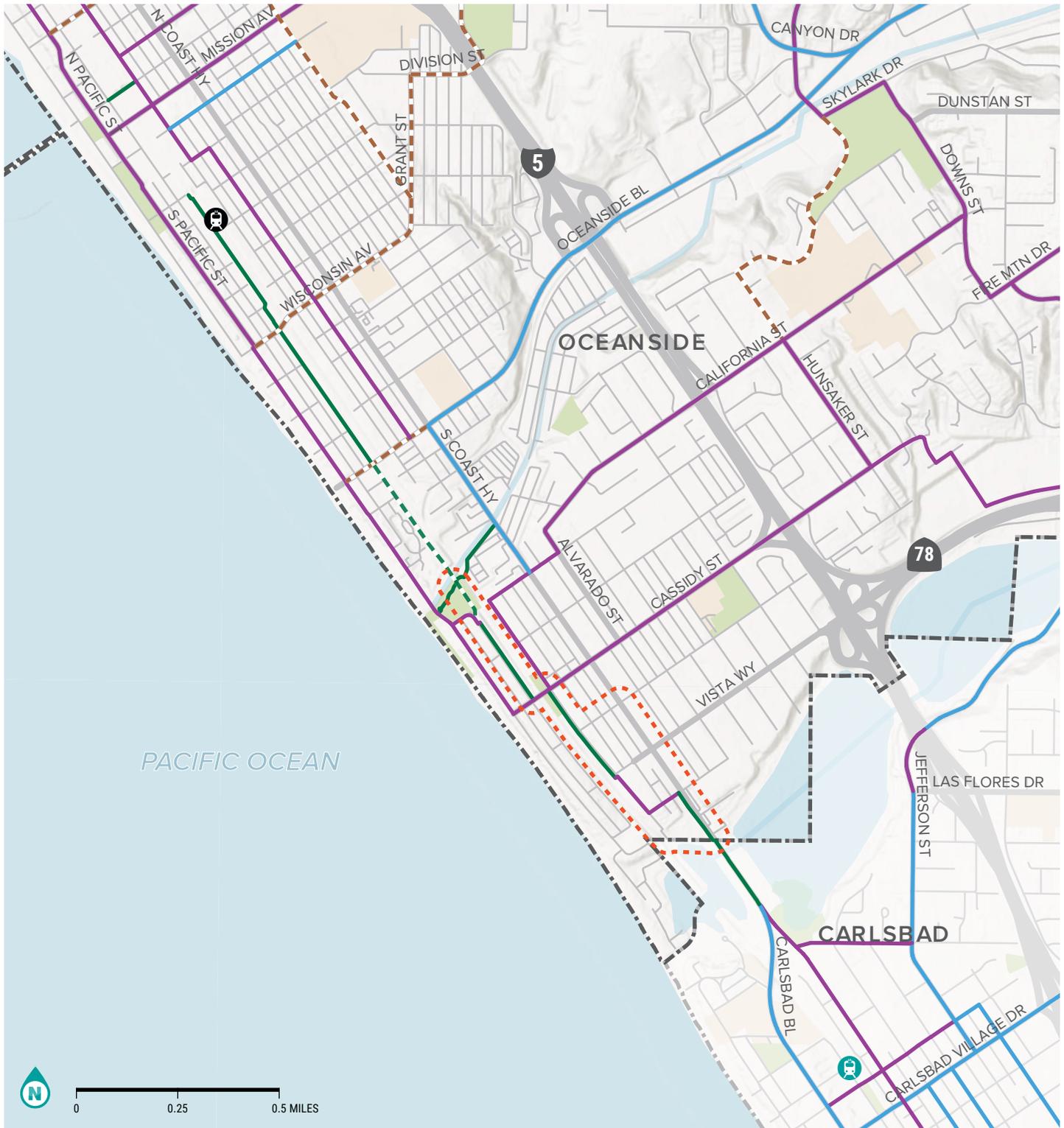
## **DESTINATIONS**

The project corridor directly connects to two parks including Buccaneer Beach Park at its northern extents and Lions Club Park around the mid point of the trail at the intersection with Cassidy Street. Beach access exists at Buccaneer Beach Park, and just to the west of the project corridor at Cassidy Street and along Pacific Street to the north and to the south of Cassidy Street, as shown in Figure 30. The study area is largely residential with commercial land use

focused along South Coast Highway and Cassidy Street between Lions Club Park and Alvarado Street. South Oceanside Elementary School is the nearest school, located on Cassidy Street several blocks to the east of South Coast Highway.

Upon completion of the Coastal Rail Trail in Oceanside, the project corridor will facilitate access for trail users from south Oceanside and Carlsbad to the center of Oceanside's downtown area and the Oceanside Transit Center.

Figure 26: Bike Facilities



BIKE FACILITIES

- Multi-Use Path
- Bike Lane
- Bike Route
- Planned Facility
- Planned Coastal Rail Trail
- Carlsbad Village Station
- Oceanside Transit Center
- City of Oceanside
- City of Carlsbad
- Study Area

Figure 27: Collisions (2018-2023)



Bicyclist Related Accidents

- Fatal Injury
- Severe Injury
- Minor Injury

Pedestrian Related Accidents

- Fatal Injury
- Severe Injury
- Minor Injury

Oceanside Transit Center

Carlsbad Village Station

Planned Coastal Rail Trail

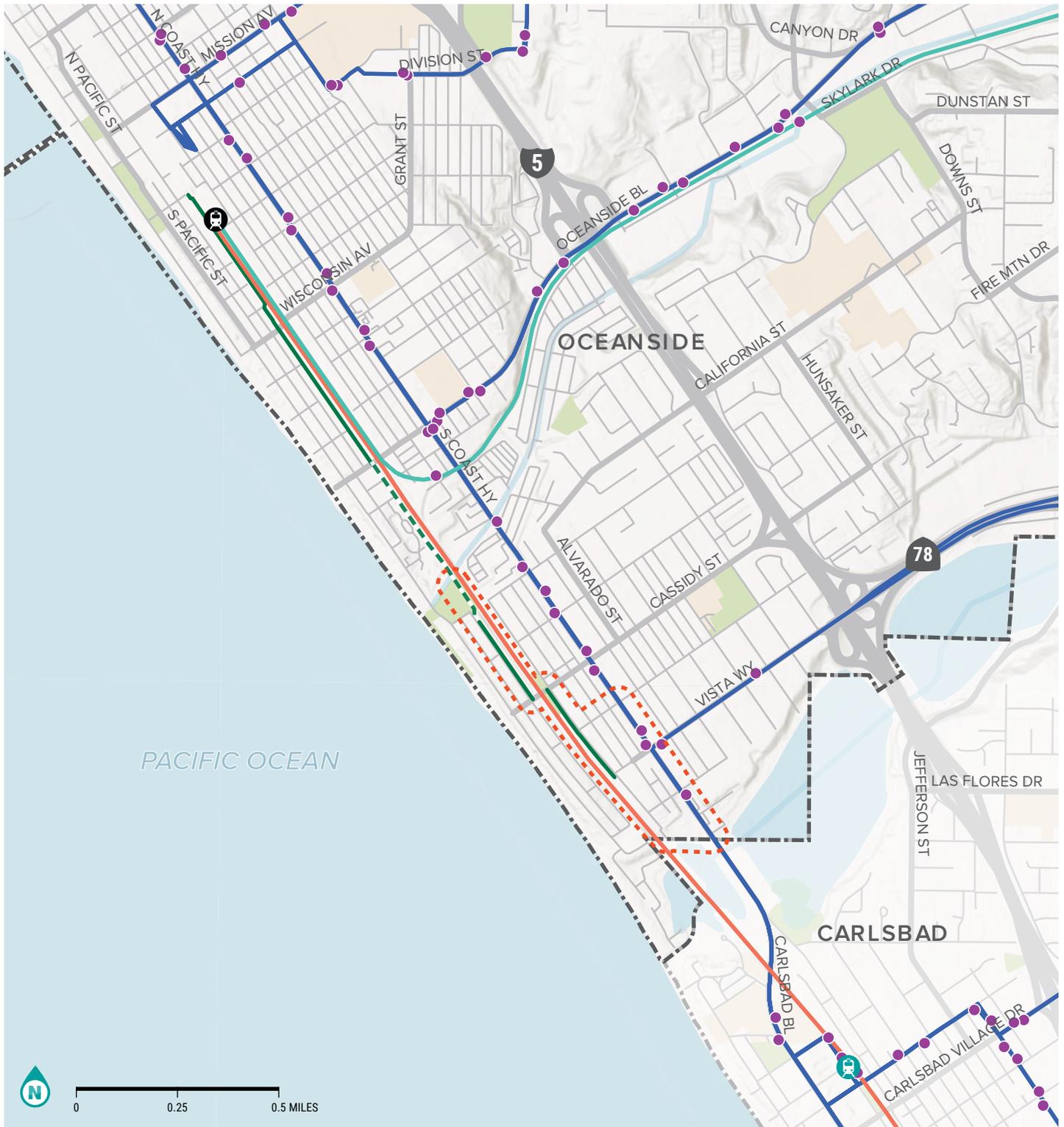
Existing Coastal Rail Trail

City of Oceanside

City of Carlsbad

Study Area

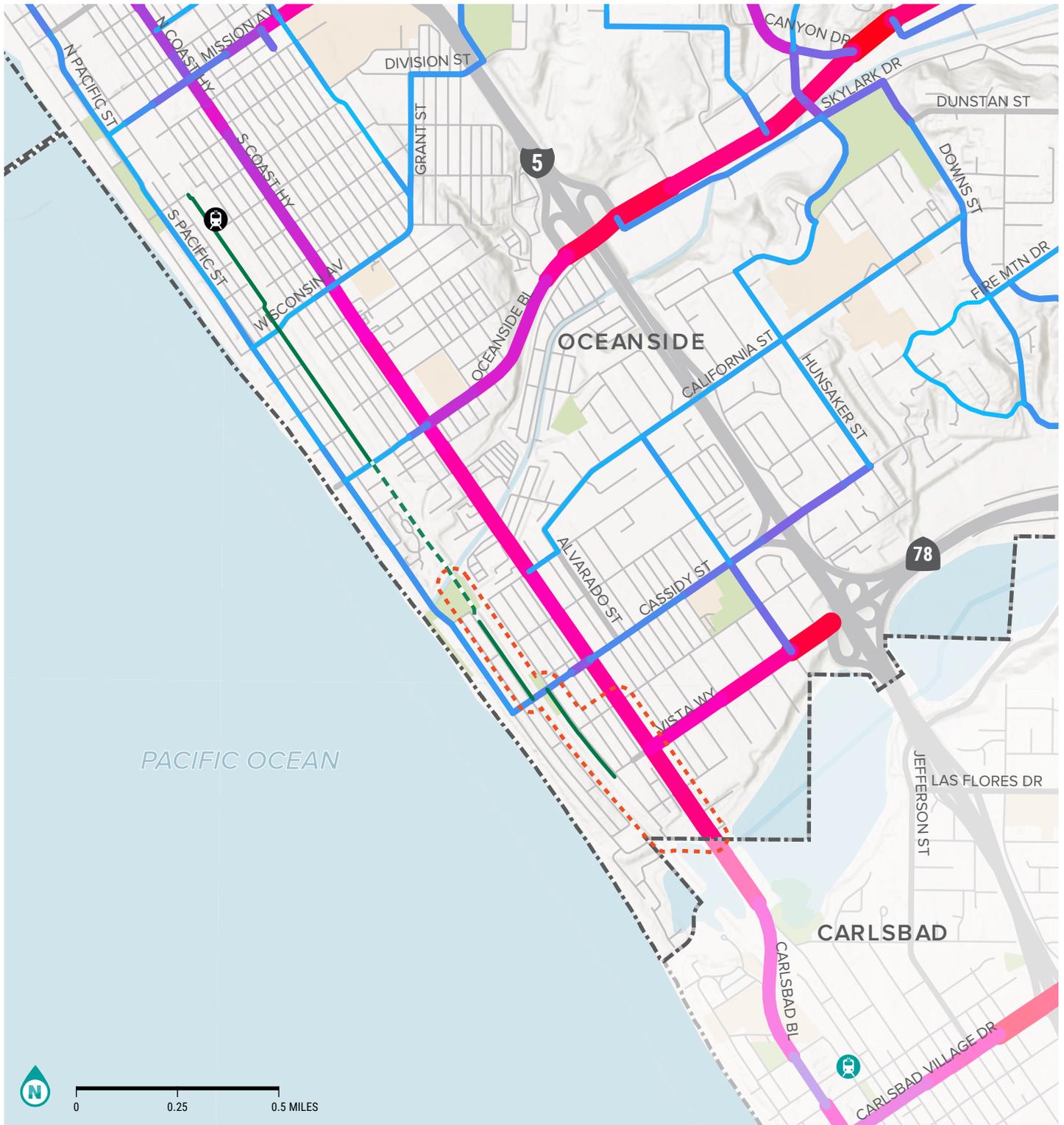
Figure 28: Transit



TRANSIT ROUTES/STOPS

- Bus
- Rail
- Tram, Streetcar, Light rail
- Transit Stops
- Oceanside Transit Center
- Carlsbad Village Station
- - - Existing Coastal Rail Trail
- - - Planned Coastal Rail Trail
- City of Oceanside
- City of Carlsbad
- - - Study Area

Figure 29: Travel Volumes



NETWORK VOLUMES (VEHICLES/DAY)



Figure 30: Destinations



-  Oceanside Transit Center
-  Schools
-  Beach Access
-  Food Marts
-  Public Art
-  Buena Vista Audubon Society
-  Study Area
-  Existing Coastal Rail Trail
-  Planned Coastal Rail Trail
-  Loma Alta Creek Path
-  Parks
-  City of Oceanside
-  City of Carlsbad

# Community + Demographics

## POPULATION DENSITY

The neighborhood surrounding the project corridor consists largely of low-density residential with some medium density housing complexes. Higher population densities are present to the north of the study area surrounding the Oceanside Transit Center and Downtown Oceanside. Figure 31 details population per square mile.

## DISADVANTAGED COMMUNITIES

A Disadvantaged Communities (DAC) is a State of California designation used specifically to target investment of proceeds from the state's Cap-and-Trade Program. To qualify as a DAC, a community must place in the top 75% of CalEnviroScreen 4.0's overall tract scoring. CalEnviroScreen considers a set of 21 environmental and socioeconomic indicators to assess community conditions, covering various aspects such as pollution exposure, health effects, socioeconomic factors, and sensitive populations.

Comparatively, the City of Oceanside scores much lower, making communities here less vulnerable, than other cities in San Diego County, especially than those in south San Diego County. Within the City of Oceanside, the most disadvantaged communities are located to the north of the study area, as shown in Figure 32.

## MEDIAN INCOME

The median household income in the community surrounding the project corridor is less than \$65,000 per year which is about \$15,000 lower than the median income for the City of Oceanside. As shown in Figure 33, communities directly adjacent to the railroad corridor have lower household incomes than other areas of Oceanside.

## SPANISH SPEAKING RESIDENTS

Seven percent of households within the communities surrounding the project corridor speak Spanish. Compared to the entire City of Oceanside, where about 25% of residents are Spanish speakers, the communities surrounding the project corridor have relatively low percentages of Spanish speaking households. As shown in Figure 34, communities both north and south towards central Oceanside and Carlsbad feature significantly higher percentages of Spanish speaking residents.

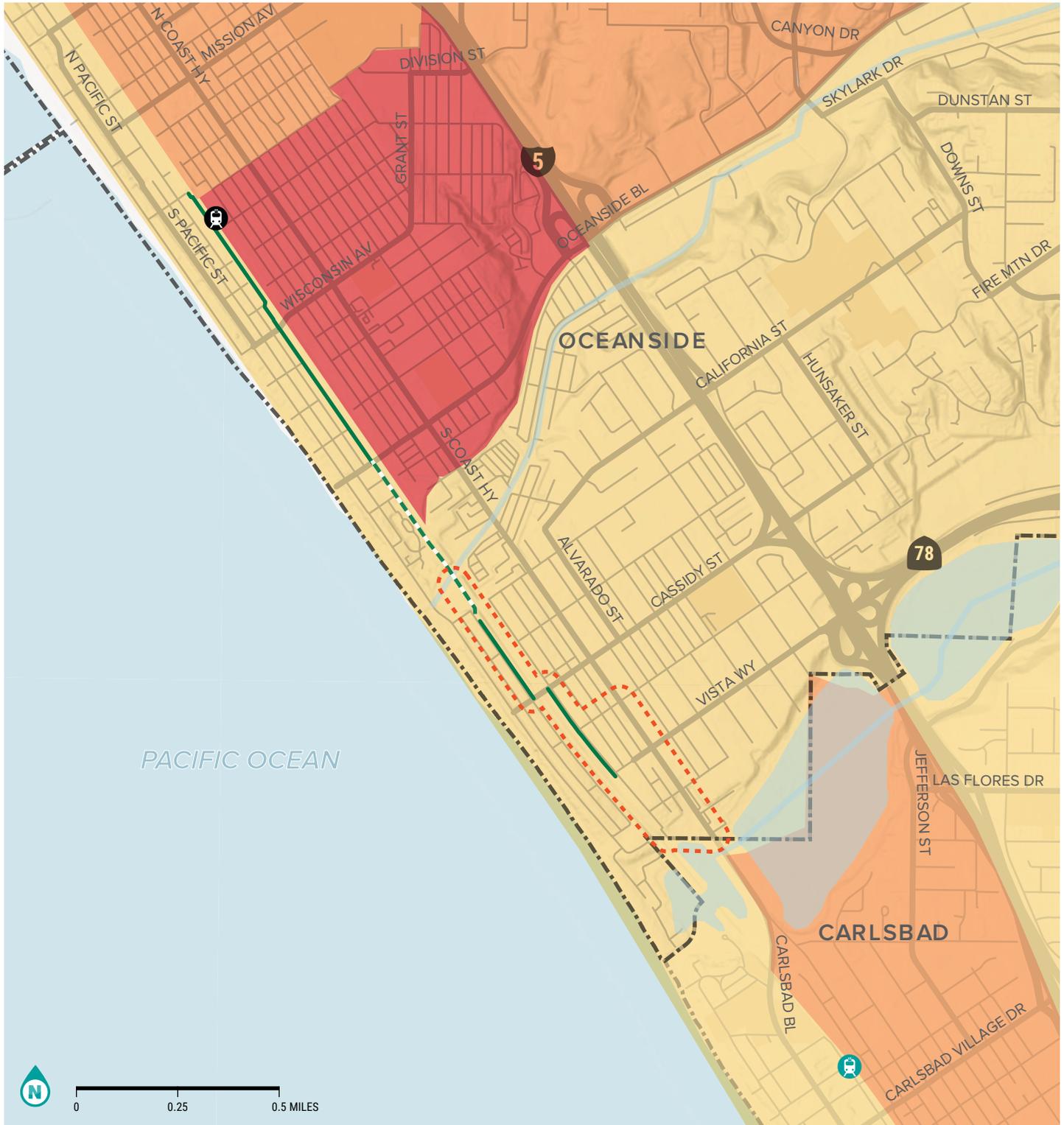
## SCHOOL-AGED CHILDREN

About 150 school-aged children, less than 18 years in age, live in the communities surrounding the project corridor, as shown in Figure 35. Once constructed, students may use the Coastal Rail Trail to access South Oceanside Elementary and other schools in the area.

## PEOPLE OVER 65

About 60 residents live in the communities directly adjacent to the project corridor that are over 65 years in age, as shown in Figure 36. Compared to the rest of the City, the communities surrounding the project corridor have relatively low numbers of seniors.

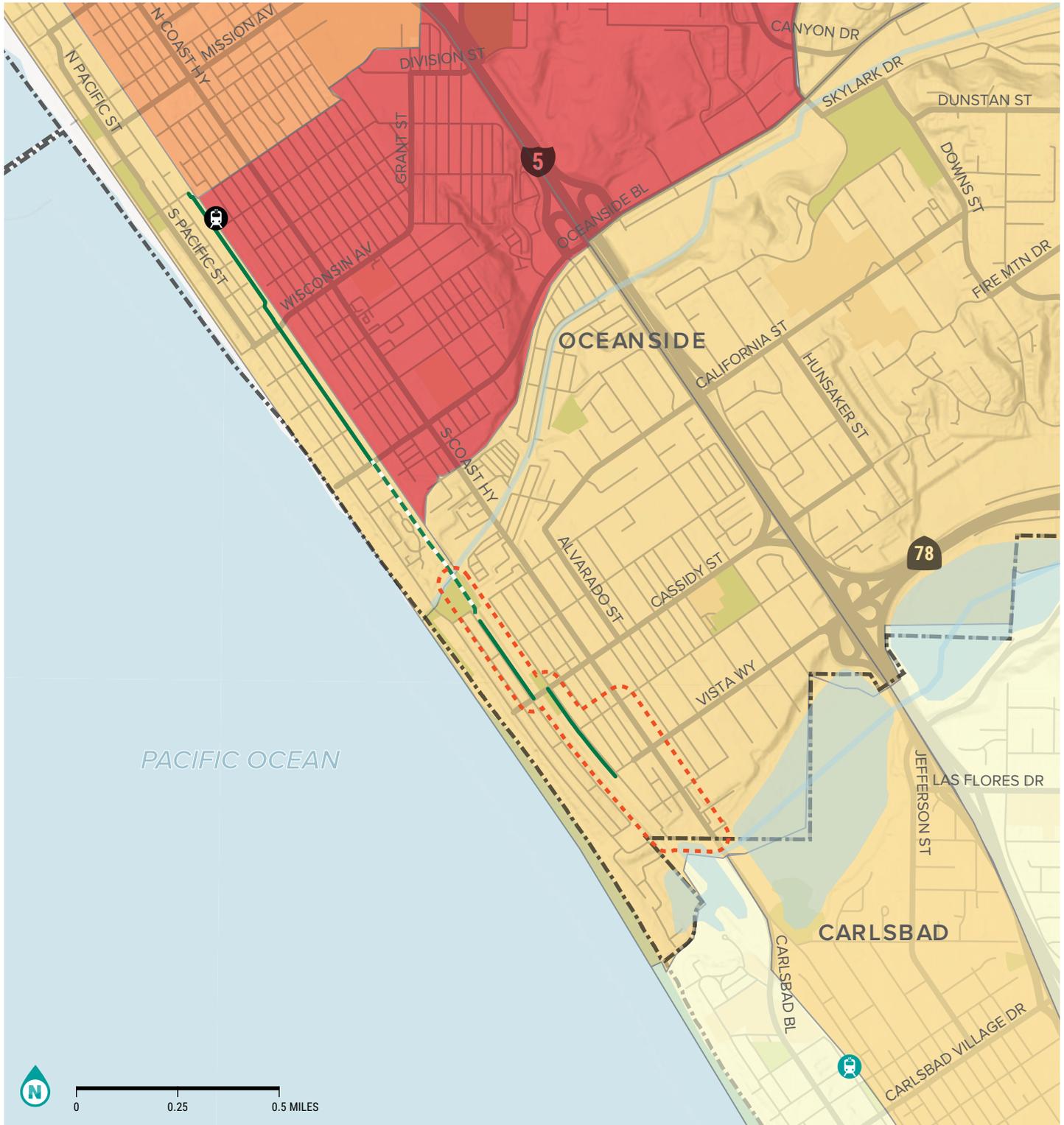
**Figure 31: Population Density**



**POPULATION DENSITY (Population/Square Mile)**

- |   |                          |   |                             |
|---|--------------------------|---|-----------------------------|
|   | 2,000 - 6,000            |  | Existing Coastal Rail Trail |
|   | 6,000 - 10,000           |  | Planned Coastal Rail Trail  |
|   | 10,000 - 14,000          |  | City of Oceanside           |
|  | Oceanside Transit Center |  | City of Carlsbad            |
|  | Carlsbad Village Station |  | Study Area                  |

Figure 32: Disadvantaged Communities



CALENVIROSCREEN

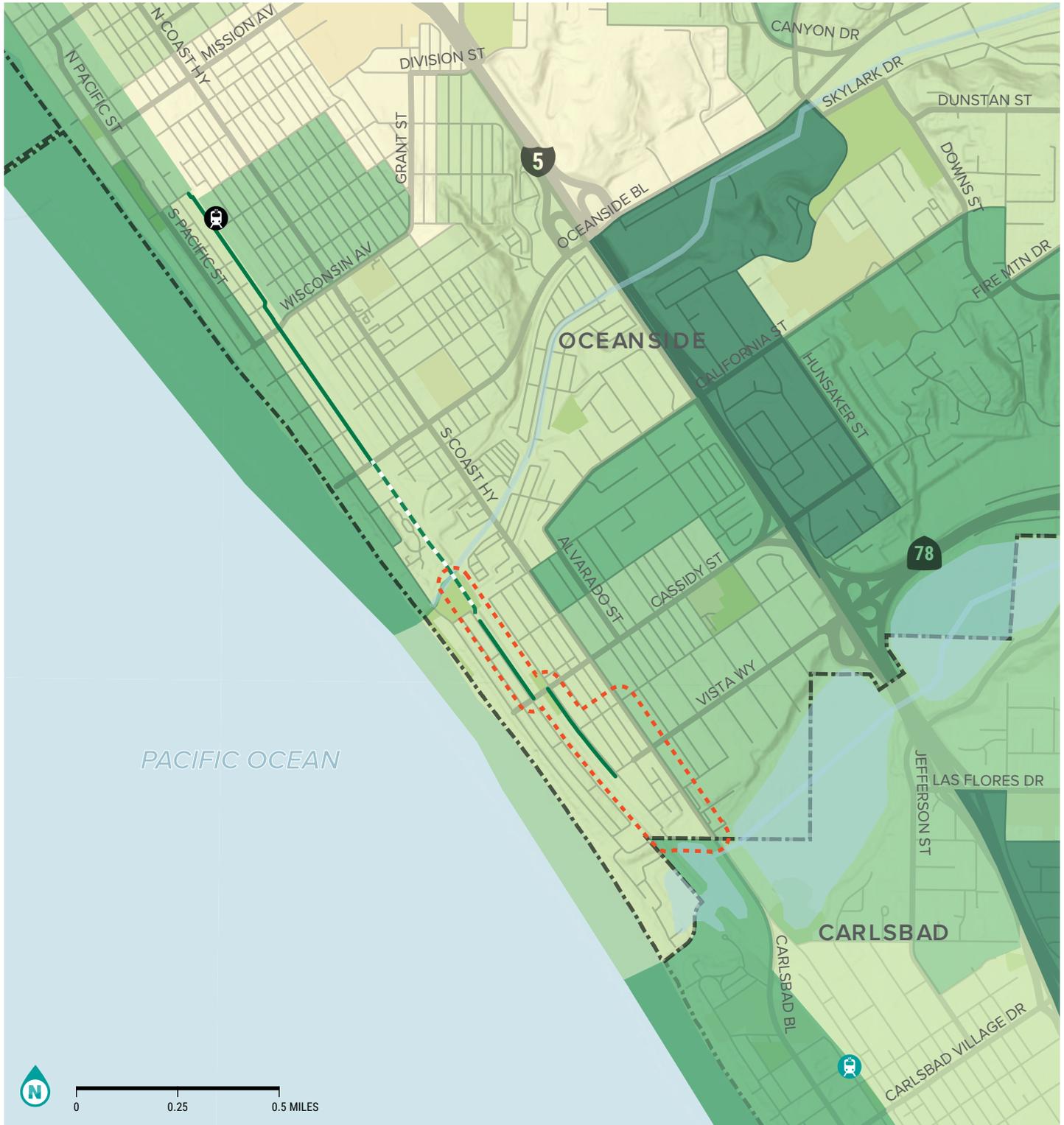
CalEnviroScreen 4.0 Score

- 0-20%
- 20-40%
- 40-60%
- 60-80%

- Existing Coastal Rail Trail
- Planned Coastal Rail Trail
- City of Oceanside
- City of Carlsbad
- Study Area

- Oceanside Transit Center
- Carlsbad Village Station

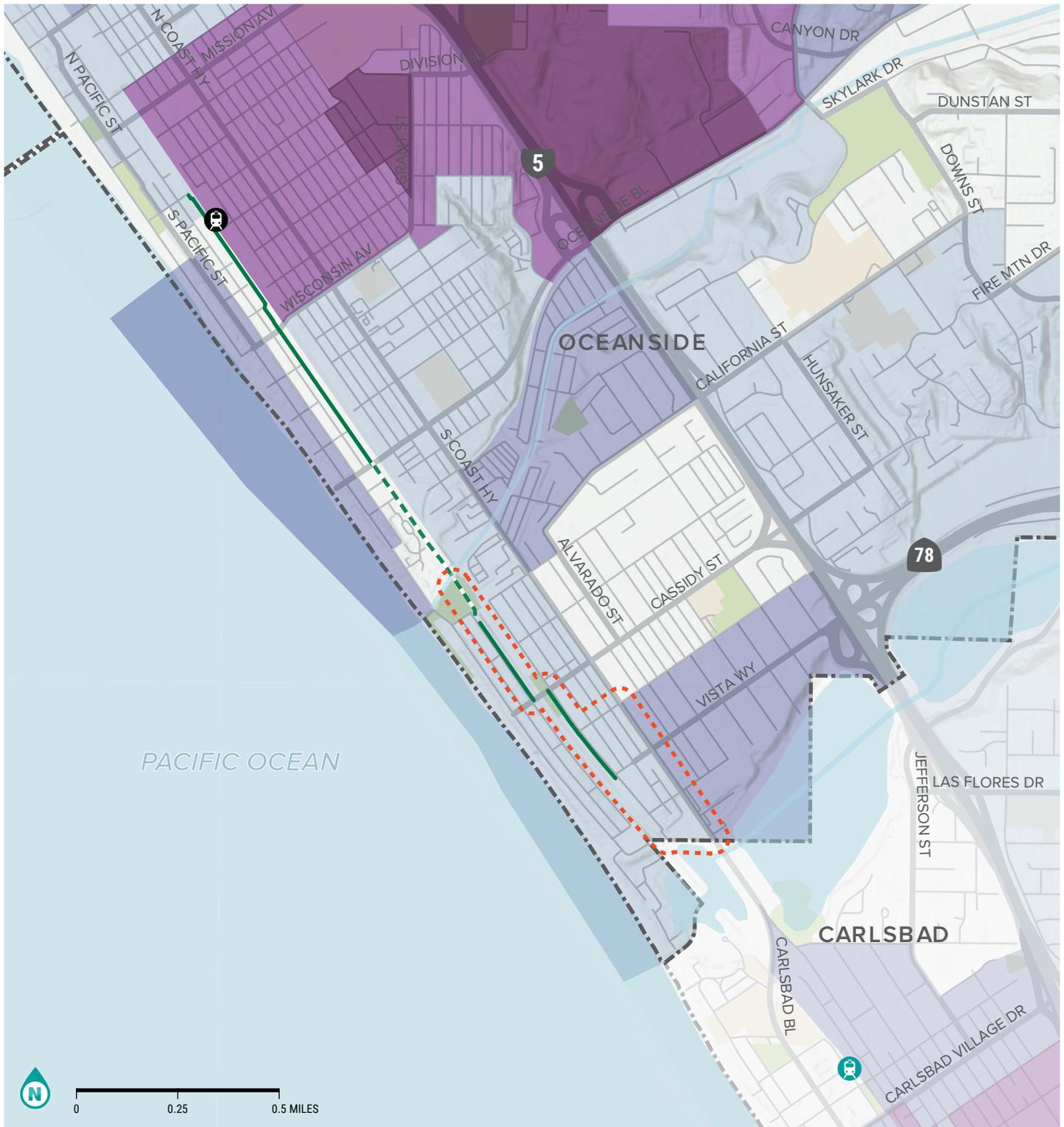
**Figure 33: Median Income**



**MEDIAN HOUSEHOLD INCOME (ACS 2019)**

- |   |                          |   |                             |
|---|--------------------------|---|-----------------------------|
|   | \$2,499 - \$48,125       |  | Planned Coastal Rail Trail  |
|   | \$48,125 - \$65,821      |  | Existing Coastal Rail Trail |
|   | \$65,821 - \$86,396      |  | City of Oceanside           |
|   | \$86,396 - \$116,389     |  | City of Carlsbad            |
|   | \$116,389 - \$250,000    |  | Parks                       |
|  | Oceanside Transit Center |  | Study Area                  |
|  | Carlsbad Village Station |   |                             |

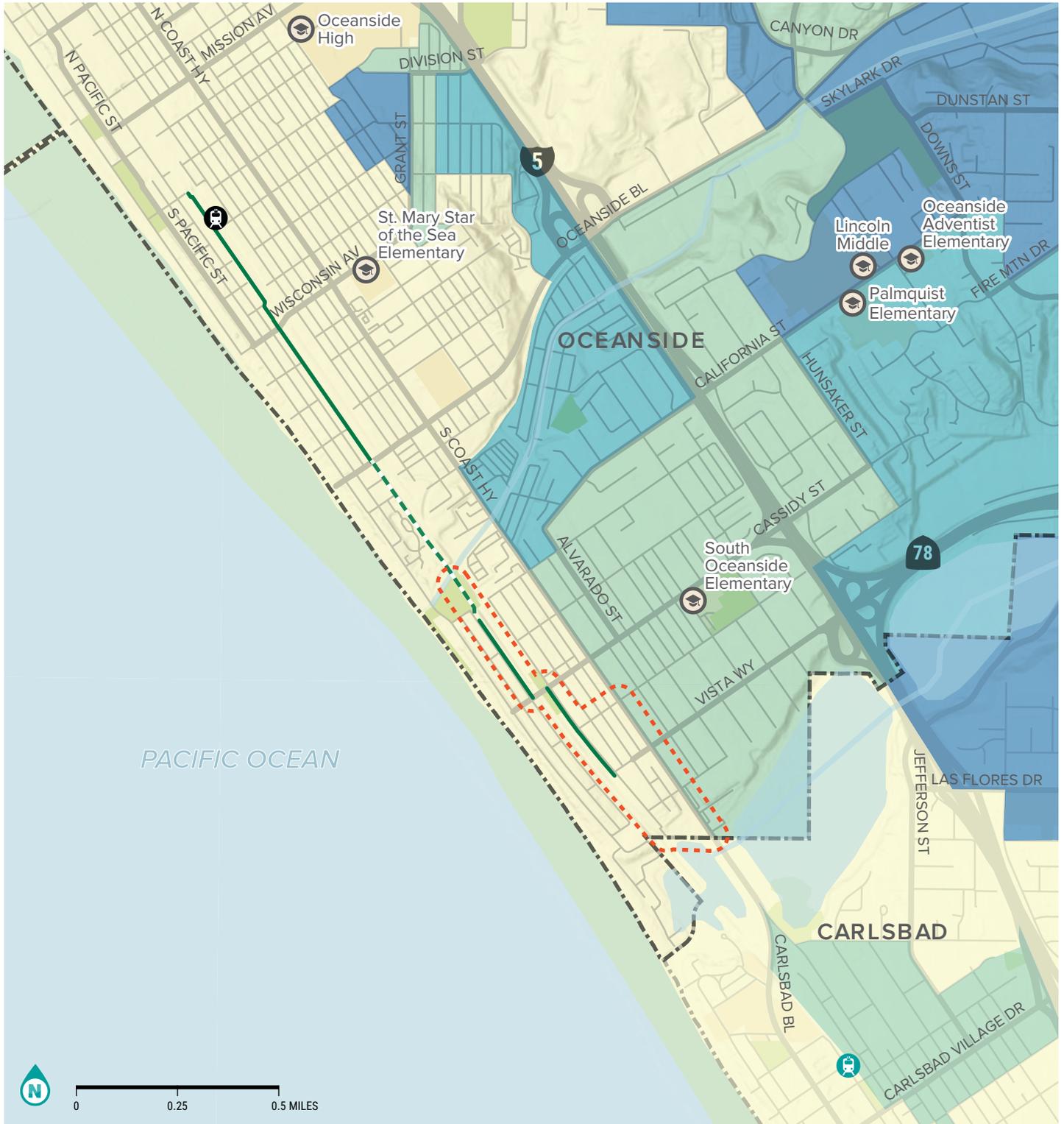
Figure 34: Spanish Speaking Residents



PERCENT OF SPANISH SPEAKING HOUSEHOLDS (ACS 2021)

- |  |                          |  |                             |
|--|--------------------------|--|-----------------------------|
|  | 0% - 5%                  |  | Existing Coastal Rail Trail |
|  | 5% - 15%                 |  | Planned Coastal Rail Trail  |
|  | 15% - 25%                |  | City of Carlsbad            |
|  | 25% - 50%                |  | City of Oceanside           |
|  | 50% - 100%               |  | Parks                       |
|  | Oceanside Transit Center |  | Study Area                  |
|  | Carlsbad Village Station |  |                             |

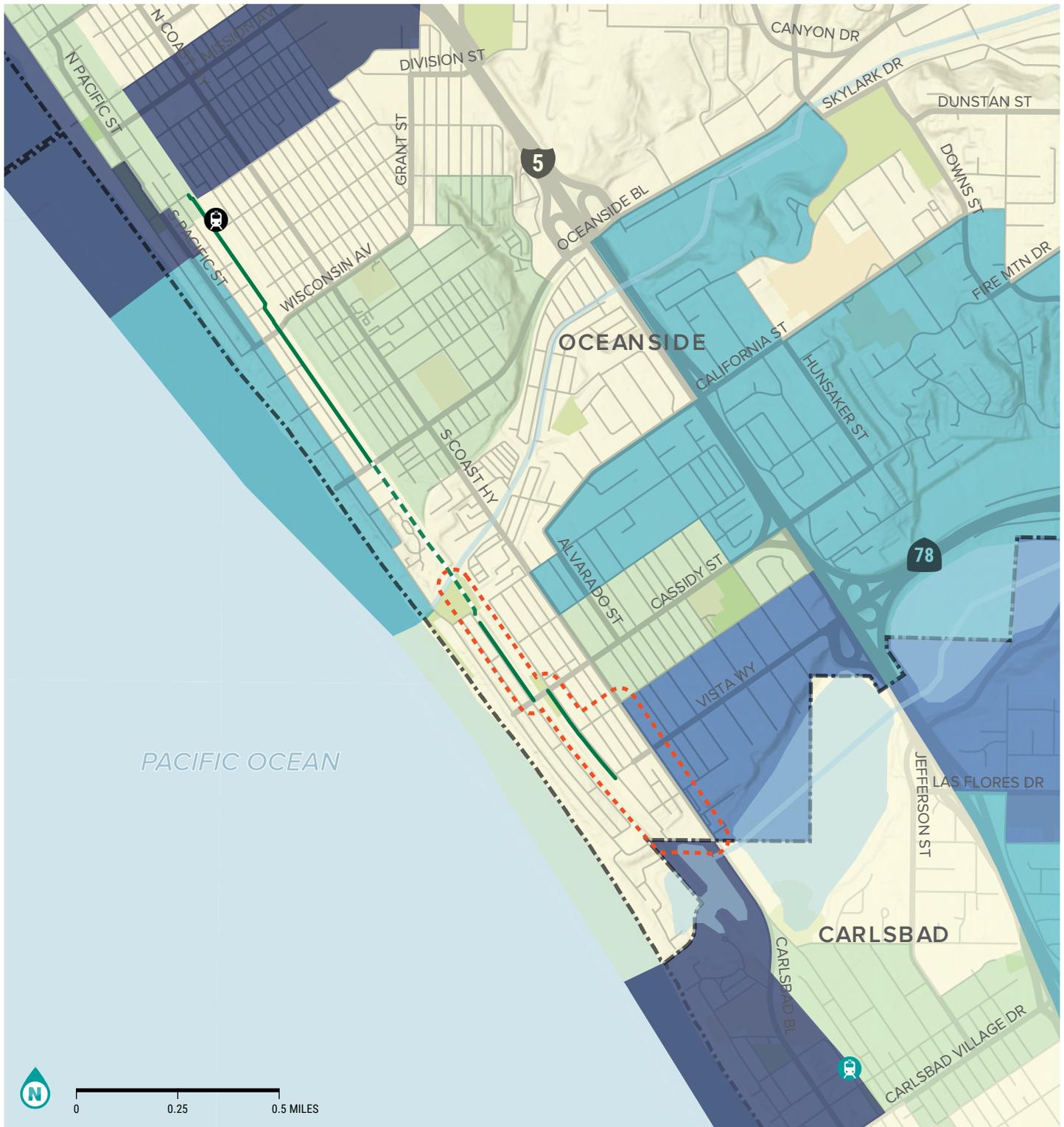
**Figure 35: School-Aged Children**



**PERCENTAGE OF SCHOOL AGED CHILDREN (<math>< 18</math>)**

- |  |   |
|--|---|
|  0 - 15%                   |  Planned Coastal Rail Trail  |
|  15 - 20%                  |  Existing Coastal Rail Trail |
|  20 - 25%                  |  City of Oceanside           |
|  25 - 30%                  |  City of Carlsbad            |
|  Oceanside Transit Center |  Parks                       |
|  Carlsbad Village Station |  Study Area                  |
|  Schools                  |   |

Figure 36: People Over 65



PERCENTAGE OF SENIORS (65+)

- |   |                          |   |                             |
|---|--------------------------|---|-----------------------------|
|  | 0 - 15%                  |  | Planned Coastal Rail Trail  |
|  | 15 - 20%                 |  | Existing Coastal Rail Trail |
|  | 20 - 25%                 |  | City of Oceanside           |
|  | 25 - 30%                 |  | City of Carlsbad            |
|  | 30 - 100%                |  | Parks                       |
|  | Oceanside Transit Center |  | Study Area                  |
|  | Carlsbad Village Station |   |                             |

# Environment

## FLOOD ZONES

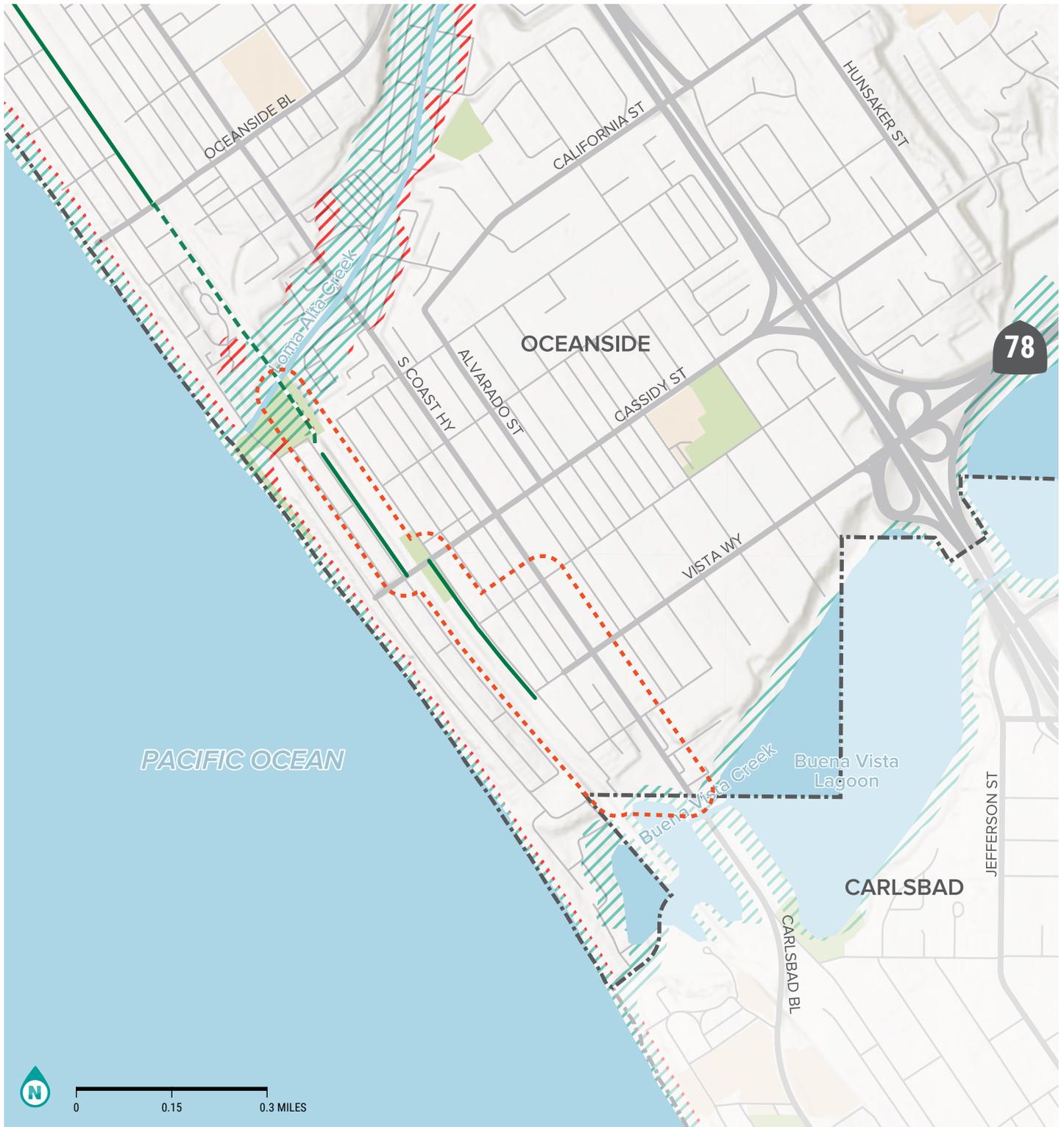
500-year and 100-year flood zones are present surrounding Loma Alta Creek, Buena Vista Lake + Lagoon, and areas directly adjacent to the coastline. At the northern extents of the project corridor, the alignment is situated on terrain above/outside of the 100-year flood zone, as shown in Figure 37. At the southern extents of the study area, a portion of the study area overlaps with a 100-year flood zone surrounding Buena Vista Lake + Lagoon.

## ECOLOGICALLY SENSITIVE AREAS

An Ecologically Sensitive Areas (ESA), also known as an environmentally sensitive area or an ecologically significant area, refers to a region or habitat that exhibits high ecological value and requires special consideration and protection due to its unique ecological characteristics, biodiversity, or vulnerability to environmental disturbances.

ESAs within Oceanside are present surrounding existing waterways. While the project area is largely outside of nearby ESAs, the largest nearby ESA is present at the project area's south edge at the Buena Vista Wetland Reserve, as shown in Figure 38. The Wetland Reserve is also adjacent to the Buena Vista Lagoon Ecological Reserve, which is home to the endangered Light-footed Ridgway's Railroad (*Rallus obsoletus levipes*) and other rare species of birds.

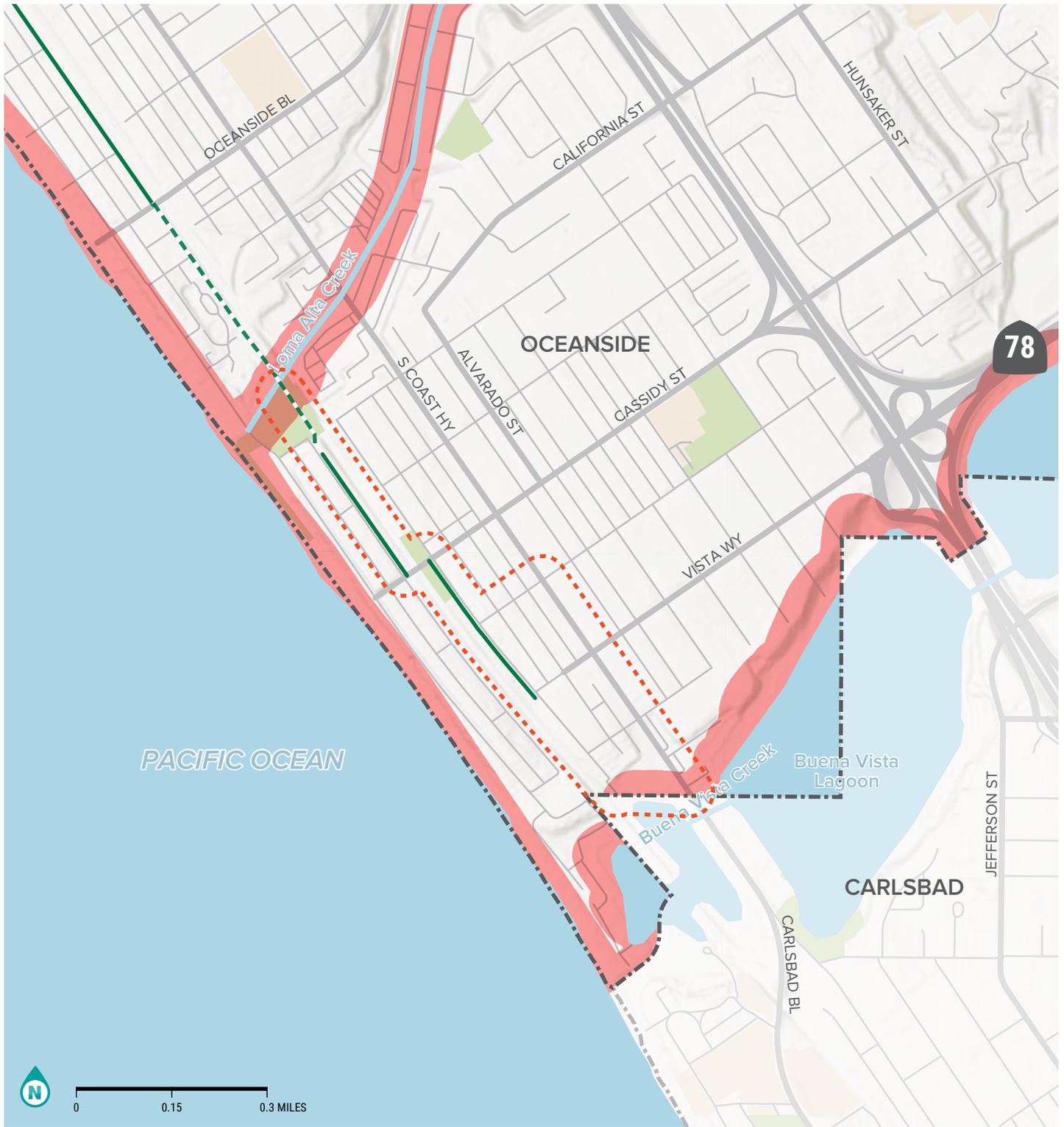
Figure 37: Flood Zones



FLOOD ZONES

- |   |                          |   |                             |
|---|--------------------------|---|-----------------------------|
|   | 100-Year Flood Zone      |  | Existing Coastal Rail Trail |
|   | 500-Year Flood Zone      |  | Planned Coastal Rail Trail  |
|  | Oceanside Transit Center |  | City of Oceanside           |
|  | Carlsbad Village Station |  | City of Carlsbad            |
|   | Study Area               |   |                             |

**Figure 38: Ecologically Sensitive Areas**



**ECOLOGICALLY SENSITIVE AREAS**

- |   |   |
|---|---|
|  ESA                      |  Existing Coastal Rail Trail |
|  Oceanside Transit Center |  Planned Coastal Rail Trail  |
|  Carlsbad Village Station |  City of Oceanside           |
|  Study Area               |  City of Carlsbad            |

# Community Needs Assessment

## Overview

Access is defined as how well a transportation system connects destinations in a community. Access is often represented by a "travel-shed", which illustrates how far a user may travel from or to a specific location. Travel-sheds are measured either using distances or amount of time.

Alta conducted a bike-shed access analysis to measure the benefits of closing the existing gaps in the Coastal Rail Trail within the City of Oceanside. The analysis on the following pages illustrates 15-minute bike-sheds with and without the planned trails between Oceanside Boulevard and South Coast Highway, which includes both this study (Morse Street to South Coast Highway) and the planned project to the north (Oceanside Boulevard to Morse Street).



**Figure 39:** Depiction of travel shed analysis adjusted for traffic stress

# Methodology

The methodology for developing a bike-shed for the Oceanside Coastal Rail Trail utilizes GIS analysis, and requires four primary steps:

- ▶ Develop an LTS (level of traffic stress) network for the area surrounding the trail. This creates the basis for measuring how far a cyclists can travel, based on the existing conditions and characteristics of roads, trails, and bike infrastructure.
- ▶ Determine the typical user for which a travel-shed is being modeled. For this trail, the bike-shed assumes a family with school aged children.
- ▶ Determine a destination for the bike-sheds. For this study, two separate destinations were used to understand the trails impact for both northbound and southbound cyclists.
- ▶ Develop bike-shed analyses based on the LTS network for before and after conditions. Before conditions assume the current infrastructure as of 2023, while after conditions assume that the trail gap between Oceanside Boulevard and South Coast Highway has been completed.

## LEVEL OF TRAFFIC STRESS

To quantify the bike-shed analysis, a level of traffic stress (LTS) network was developed for both Oceanside and Carlsbad. The analysis assumes that roads with low traffic stress expand access for cyclists access while roads with high traffic stress restrict or slow cyclists.

The completed LTS analysis ranked streets from low stress (LTS 1, suitable for children) to high stress (LTS 4, suitable only to 'strong and fearless' cyclists). Roadway characteristics that impact LTS include posted speed limit, number of lanes, and the presence of sidewalks or bike facilities.

Alta uses a tiered data collection framework for LTS analysis that derives initial analysis inputs from readily accessible data, to determine where additional data collection will be of the most value to meet project goals. In the case of this LTS analysis, the LTS network analysis pulled from OpenStreetMap (OSM) data. This data was updated to reflect local data where available.

Alta's Bicycle Level of Traffic Stress (BLTS) analysis methodology is adapted from the 2012 Mineta Transportation Institute Report 11-19: Low-Stress Cycling and Network Connectivity.<sup>1</sup> BLTS goes beyond standard LTS variables to factor in characteristics of a given roadway segment that affect a bicyclist's perception of safety and comfort, including posted speed limit, number of travel lanes, and the presence and character of bicycle lanes.

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1 Mineta Institute. Mekuria M., Furth P., Nixon H. Low-Stress Cycling and Network Connectivity. 2012. <https://transweb.sjsu.edu/research/Low-Stress-Cycling-and-Network-Connectivity>.

## **USER ASSUMPTIONS**

The bicycle user chosen for the analysis was a family with school-aged children. Therefore, any roadway with BLTS greater than BLTS 1 was assumed too stressful for the user to bicycle. The analysis assumed that the hypothetical family would walk (3 MPH) their bicycles along a high-stress street (BLTS 2 or greater), and bike (10 MPH) normally on low-stress streets (LTS 1).

## **DETERMINE A DESTINATION**

The analysis requires a specific destination to serve as the center of the bike-shed. For this study, two points were selected for two separate bike-sheds in order to understand the impact of the planned trail projects for cyclists heading both north and south. The first destination is at the Oceanside Transit Center and illustrates how the proposed trails will increase access for cyclists heading north. The second assumes a destination at Maxton Brown Park on State Street in Carlsbad and illustrates how the proposed trails will increase access for cyclists heading south.

## **BIKE-SHED ANALYSIS**

Using the BLTS as an impedance, Alta calculated the access shed for bicycles traveling to the Oceanside Transit Center. The access shed represents residents that can reach the Oceanside Transit Center in 15-minutes by bicycle. Two scenarios were analyzed: first the LTS-adjusted, 15-minute bike-shed with the existing Coastal Rail Trail; and second, the LTS-adjusted, 15-minute bike-shed with the completed Coastal Rail Trail. The analysis assumed that the Coastal Rail Trail south of Morse Street is constructed to provide a continuous trail experience to South Coast Highway at Eaton Street.

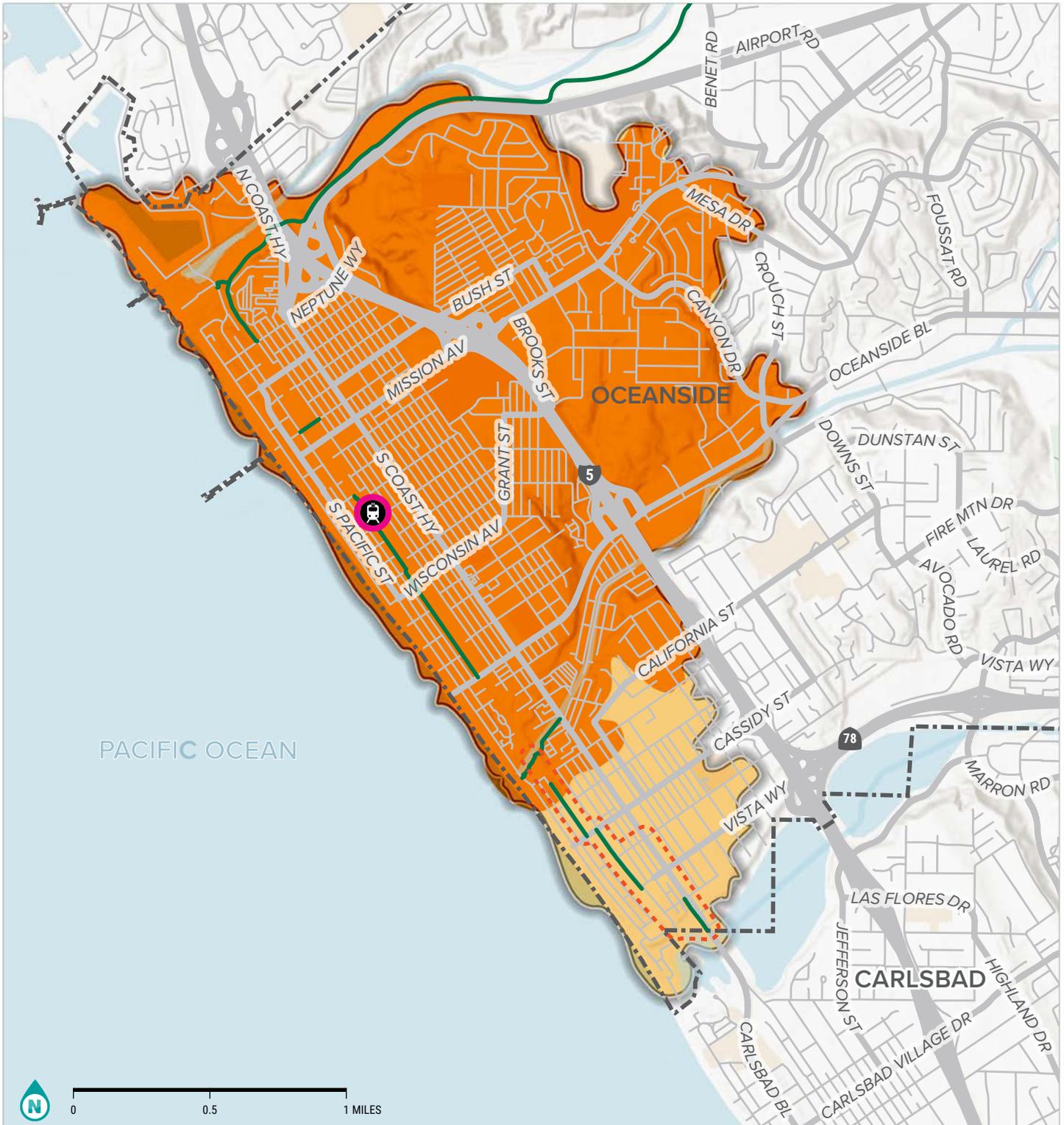
The difference between the before and after access sheds represents the potential benefit that completing the Oceanside Coast Railroad Trail could provide to residents of both the City of Oceanside and the City of Carlsbad.

# Results

The increased access for cycling in Oceanside provided by the Coastal Rail Trail can be viewed on the following pages. The expansion of the bike-shed as a result of the planned Coastal Rail Trail is shown for those traveling to the Oceanside Transit Center in Figure 40, and those traveling to Carlsbad in Figure 41. Completing the Coastal Rail Trail is of regional importance and allows greater access for Oceanside and Carlsbad residents to not only move between destinations in their city, but also reach other nearby places.

## **INCREASED ACCESS TO OCEANSIDE TRANSIT CENTER**

For cyclists traveling to the Oceanside Transit Center, the greatest gain of access from the completion of the Oceanside Coastal Rail Trail is in the South Oceanside neighborhood. This expanded bike-shed shown in Figure 40 includes the area from Buccaneer Beach Park to Buena Vista Lagoon and from I-5 to the coast.



15-Minute Bikeshed

-  Oceanside Transit Center
  -  Complete CRT
  -  Existing CRT
-  Carlsbad Village Station
  -  Multi-Use Path
  -  Study Area
  -  City of Oceanside

Figure 40: 15-minute bike-shed to Oceanside Transit Center

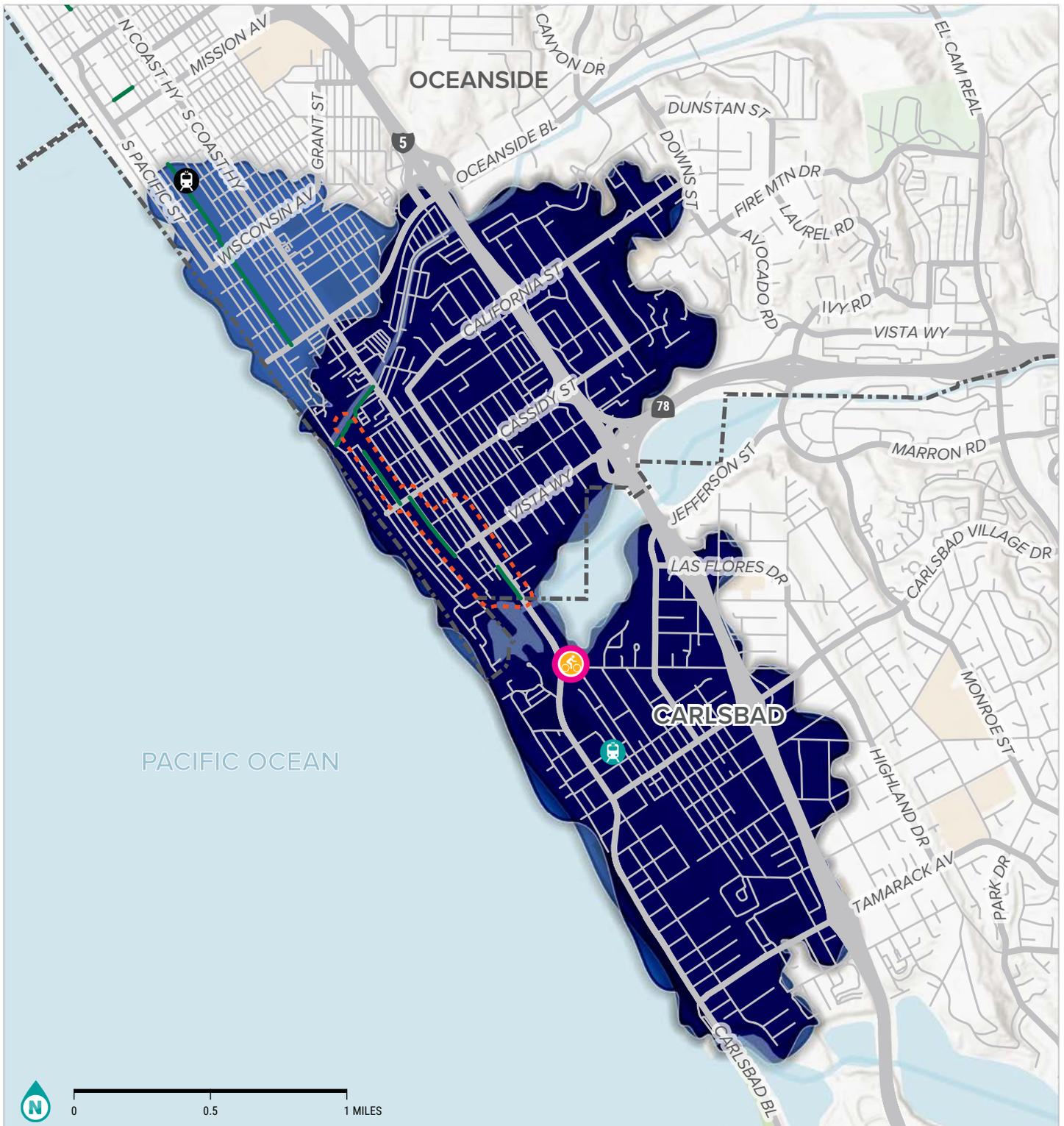
## **INCREASED ACCESS TO CARLSBAD**

For cyclists traveling to the Carlsbad, the greatest gain of access from the completion of the Oceanside Coastal Rail Trail is in the Mid-District neighborhood. This expanded bike-shed shown in Figure 41 includes the area from the Oceanside Transit Center to Oceanside Boulevard and from several blocks east of Coast Highway to the coast.

## **COMMUNITY BENEFITS OF INCREASED ACCESS**

Completing the Oceanside Coastal Rail Trail will provide significant benefit for those who live and work in Oceanside. Access benefit areas represented the expanded cycling access due to the planned trails, shown combined in Figure 42. This figure illustrates expanded access to the Oceanside Transit Center for residents living in South Oceanside as well as expanded access into Carlsbad for Oceanside residents living in the Mid-District neighborhood.

Overlaying these areas with key demographics, we can understand more about the Oceanside residents that benefit most from the completion of the trail. Access areas were overlaid with U.S. Census American Community Survey estimates of population, median household income and languages as well as the California EnviroScreen 4.0 Index. The overlapping census and index areas were proportionally allocated to create a weighted average for each access benefit area. An example of this overlay is provided in Figure 43, illustrating the spatial distribution of population and jobs in the access benefit areas.



15-Minute Bikedshed

-  Carlsbad Destination
-  Carlsbad Village Station
-  Complete CRT
-  Multi-Use Path
-  Existing CRT
-  Study Area
-  City of Oceanside

Figure 41: 15-minute bike-shed to Carlsbad (Maxton Brown Park)

## POPULATION + JOB ACCESS BENEFIT

Completing the Coastal Rail Trail will provide additional access to residents throughout Oceanside. According to the American Community Survey five-year population estimates 2017-2021, approximately 2,400 additional Oceanside residents will be able to access the Oceanside Transit Center by bicycle with a completed trail. According to the U.S. Census Bureau LEHD On the Map, 860 employees will have improved access to the Oceanside Transit Center after implementation of the trail. In addition, 2,500 Oceanside residents and an estimated 1,180 jobs within Oceanside will have improved access to Carlsbad with the completion of the Coastal Rail Trail.

The population and job access benefits are shown in Figure 43.

## EQUITY POPULATION BENEFIT

Residents with increased access to the Oceanside Transit Center have an average household income<sup>1</sup> of \$144,000. This is 38 percent greater than the average household income of \$104,000 for the City of Oceanside. The Oceanside access benefit area has an average California EnviroScreen Score of 18, ranked at the 32nd percentile. This percentile is below 50 indicating the access benefit area is a relatively healthy place to live. Finally, the proportion of residents who speak a language other than English within the benefit area is 19 percent, less than the city as a whole at 34 percent.

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<sup>1</sup> ACS 2021 five-year estimates for block groups in this area was limited for Median Household Income (B19013) data, so Total Aggregate Household Income (B19025) was divided by number of households for an average household income value in each block group, which was proportionally allocated to the access benefit area.

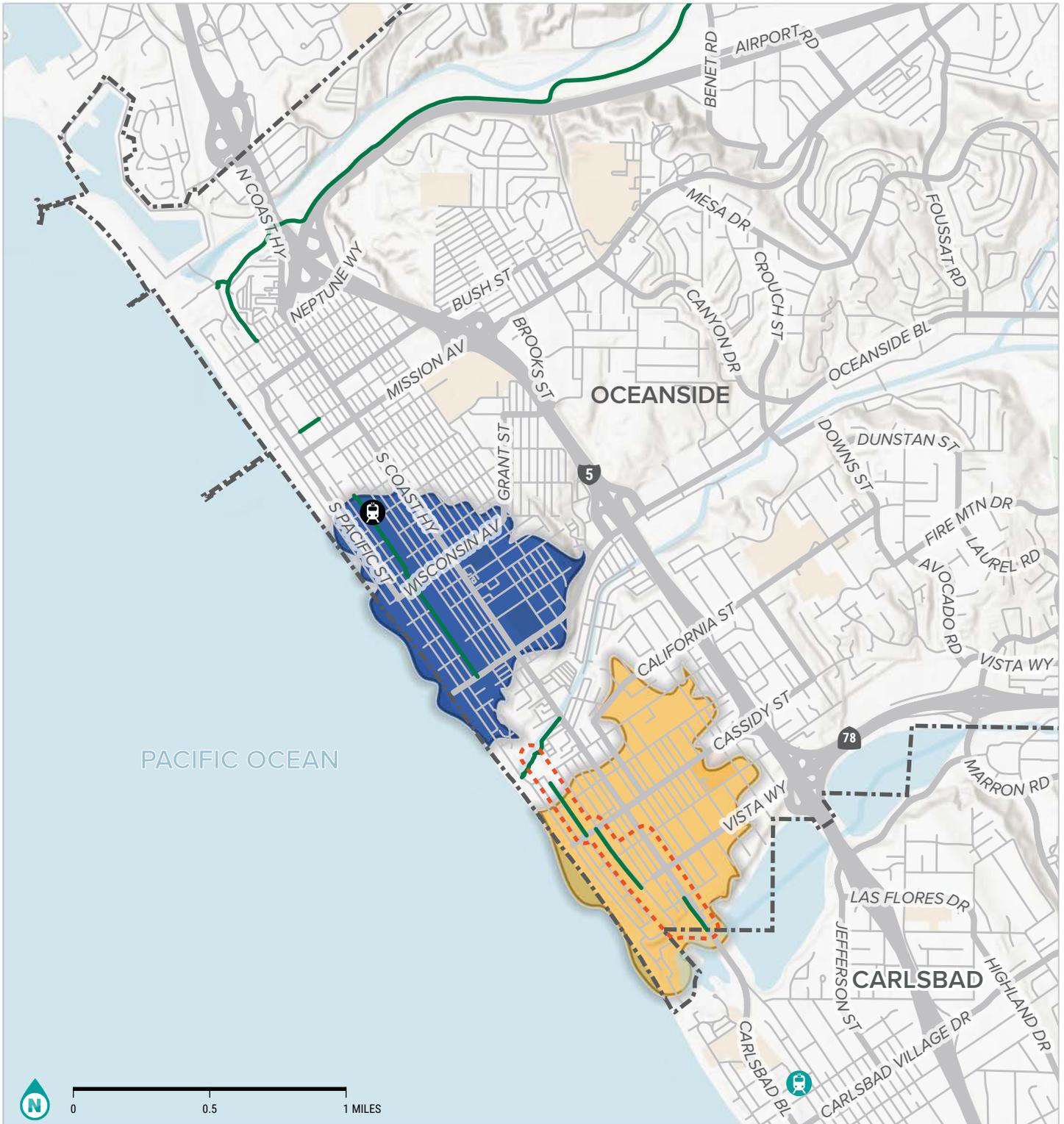
Residents with increased access to Carlsbad have a median household income of \$100,000. This is comparable to the average household income of \$104,000 for the City of Oceanside. The Carlsbad access benefit area has an average California EnviroScreen Score of 30, ranked at the 55th percentile. This percentile is near 50 indicating the access benefit area is on average, a somewhat healthy place to live. Finally, the proportion of residents who speak another language than English within the benefit area is 40 percent, slightly greater than the city as a whole at 34 percent.

The equity population benefits are shown in Figure 44.

## HEALTH BENEFIT

The relative health needs for residents in the access benefit areas can be understood through indicators in the California EnviroScreen 4.0 Index, including incident rates for asthma and cardiovascular disease.

Residents with increased access to the Oceanside Transit Center have on average a rate of emergency visits in the 26th percentile for asthma, which is below average. Residents in the Oceanside Transit Center benefit area also have on average a rate of emergency visits for heart attacks in the 41st percentile, which is also below average. Residents with an increased access to Carlsbad have on average a rate of emergency visits in the 31st percentile for asthma, and 49th percentile for heart attacks, both of which are also below average.

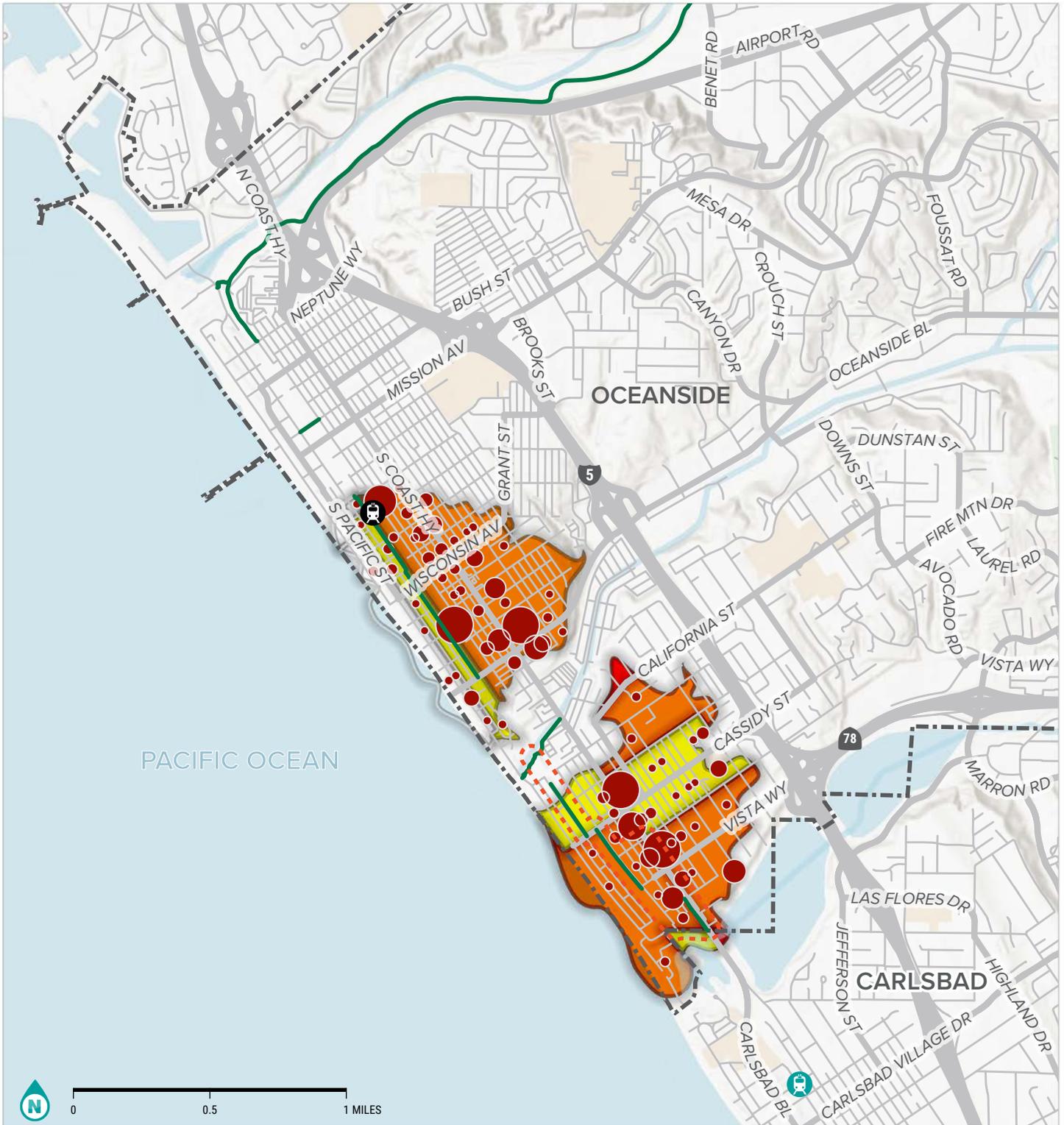


15-Minute Bikeshed Access Improvement

- Oceanside Access Benefit Area
- Carlsbad Access Benefit Area

- Carlsbad Village Station
- Oceanside Transit Center
- Multi-Use Path
- Study Area
- City of Oceanside

**Figure 42:** Combined north and south access benefit areas



15-Minute Bikeshed Access Improvement  
Population, ACS 2021 Five-Year Estimate

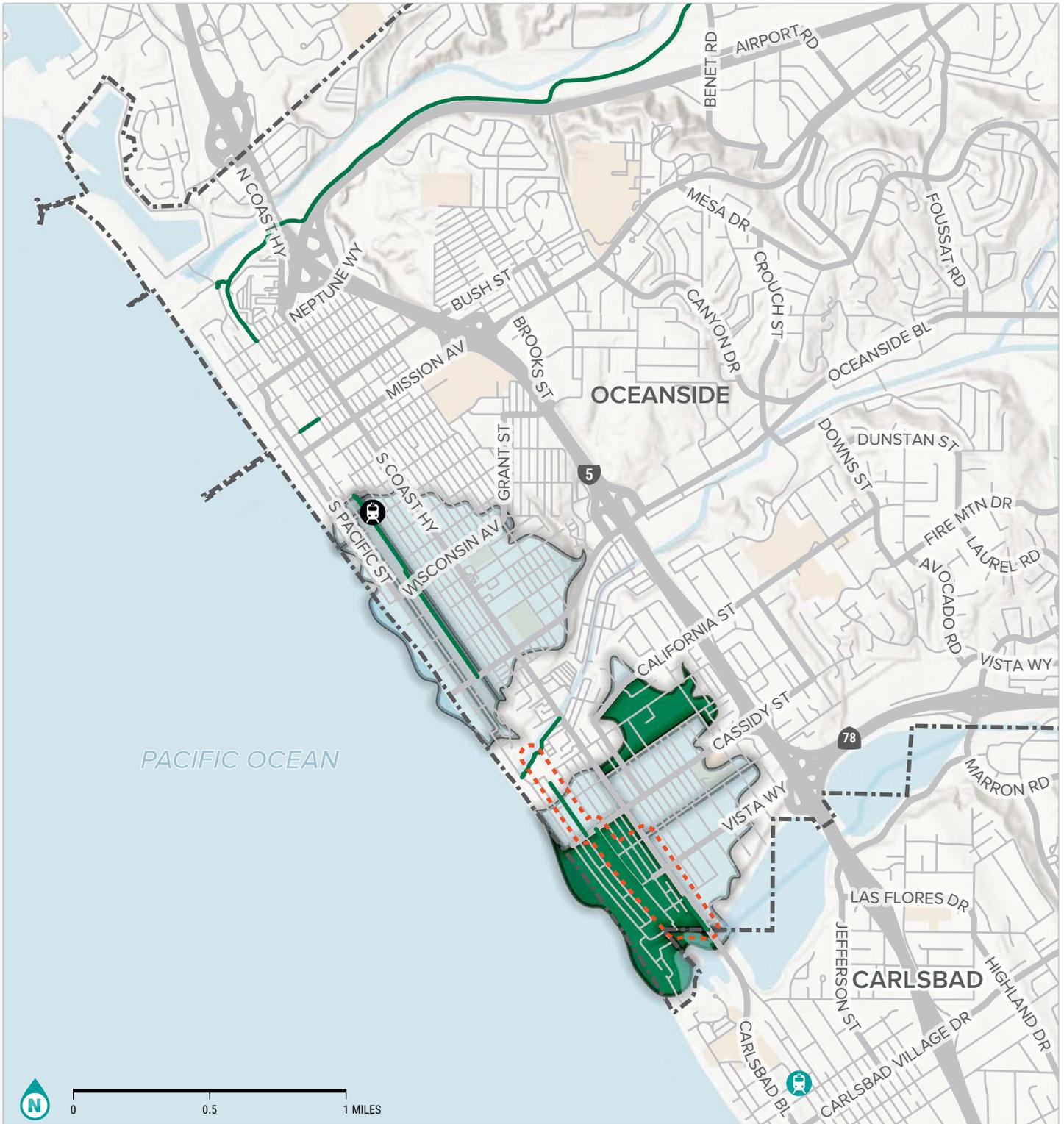
- 500 - 899
- 900 - 1399
- 1400 - 2200

Public and Private Jobs

- 1
- 10
- 100

- Oceanside Transit Center
- Carlsbad Village Station
- Multi-Use Path
- City of Oceanside
- Study Area

**Figure 43:** Population and job access benefit



Access Benefit Area  
 Tot. Agg. HH Income / # of HH

- \$64K - \$120K
- \$121K - \$170K
- \$171K - \$223K

- Carlsbad Village Station
- Oceanside Transit Center
- Multi-Use Path
- Study Area
- City of Oceanside

**Figure 44:** Equity population benefit



# Appendix C

## Funding Programs



# Federal + State Programs

## ACTIVE TRANSPORTATION PROGRAM

California's Active Transportation Program (ATP) funds infrastructure and programmatic projects that support the program goals of shifting trips to walking and bicycling, reducing greenhouse gas (GHG) emissions, and improving public health. Competitive application cycles occur every one to two years, typically in the spring or early summer. Eligible projects include design and construction of bicycling and walking facilities, new or expanded programmatic activities, or projects that include a combination of infrastructure and non- infrastructure components. Typically no local match is required, though extra points are awarded to applicants who do identify matching funds.

*Funds are programmed by Caltrans and the California Transportation Commission (CTC). The existing Coastal Rail Trail segment from Oceanside Blvd connecting to the Oceanside Transit Center was partially funded through ATP.*

*Typical Funding Cycle: Annual (NOFO February; Deadline Summer)*

<https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/active-transportation-program>

## RAISE PROGRAM

The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program, administered by the U.S. Department of Transportation, provides competitive funding for surface transportation projects that promote sustainability, resilience, and equity. Launched as a successor to the BUILD program, RAISE supports projects that enhance safety, accessibility, and mobility in both rural and urban areas. It emphasizes investments in climate-friendly infrastructure, multimodal transportation options, and projects that improve economic opportunity and quality of life, particularly in underserved communities. RAISE grants are highly sought after, with a broad focus on improving transportation while addressing environmental and social impacts.

*Funds are programmed by the U.S. Department of Transportation.*

<https://www.transportation.gov/RAISEgrants>

## **TA SET-ASIDE PROGRAM**

The Transportation Alternatives (TA) Set-Aside program is a federal funding initiative managed by the Federal Highway Administration (FHWA) that aims to enhance transportation options for non-motorized users. It supports various projects, including the construction of pedestrian and bicycle facilities, multi-use paths, and safe routes to school initiatives, while also allowing for the rehabilitation of existing infrastructure. Eligible applicants include state and local governments, regional transportation authorities, and nonprofit organizations, all of which must demonstrate how their projects improve transportation accessibility and promote sustainable modes of transport. The program emphasizes community engagement and seeks to enhance public health and safety by making active transportation more viable and attractive.

*Funds are programmed by the Federal Highway Administration (FHWA).*

[https://www.fhwa.dot.gov/environment/transportation\\_alternatives/](https://www.fhwa.dot.gov/environment/transportation_alternatives/)

## **RECREATIONAL TRAILS PROGRAM**

The Recreational Trails Program helps provide recreational trails for both motorized and non-motorized trail use. Eligible projects include: trail maintenance and restoration, trailside and trailhead facilities, equipment for maintenance, new trail construction, and more.

*Funds are programmed by the California Department of Parks and Recreation.*

[https://www.parks.ca.gov/?page\\_id=24324](https://www.parks.ca.gov/?page_id=24324)

## **HIGHWAY SAFETY IMPROVEMENT PROGRAM**

Caltrans offers Highway Safety Improvement Program (HSIP) grants every one to two years. Projects on any publicly-owned road or active transportation facility are eligible, including bicycle and pedestrian improvements. HSIP focuses on projects that explicitly address documented safety challenges through proven countermeasures, are implementation-ready, and demonstrate cost-effectiveness.

*Funds are programmed by Caltrans.*

<https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program>

## **SS4A GRANT PROGRAM**

The Safe Streets and Roads for All (SS4A) Grant Program is a federal initiative aimed at reducing traffic fatalities and serious injuries, with a focus on creating safer environments for all road users, including pedestrians and cyclists. The program supports active transportation and trail projects by funding safety improvements such as dedicated bike lanes, pedestrian crossings, and multi-use paths. SS4A grants can be used for both planning and construction projects that enhance safety for non-motorized users, reduce conflicts with vehicles, and promote safer, connected trail networks. This makes it highly applicable to trail projects that aim to improve pedestrian and cyclist safety in areas with high traffic risks.

*Funds are managed by the U.S. Department of Transportation (U.S. DOT), specifically through the Federal Highway Administration (FHWA).*

<https://www.transportation.gov/grants/SS4A>

## **THE CONGESTION MITIGATION AND AIR QUALITY (CMAQ) IMPROVEMENT PROGRAM**

The Congestion Mitigation and Air Quality (CMAQ) Improvement Program is a federal initiative aimed at reducing traffic congestion and improving air quality by funding transportation projects that lower vehicle emissions. Administered by the Federal Highway Administration (FHWA), CMAQ is particularly focused on areas that do not meet federal air quality standards, such as those designated as "non-attainment" or "maintenance" areas. CMAQ funding is applicable to active transportation and trail projects because it supports the development of bike lanes, pedestrian paths, and multi-use trails, all of which encourage non-motorized travel and help reduce reliance on cars. By promoting walking, cycling, and other sustainable transportation modes, these projects contribute to lowering vehicle emissions, improving air quality, and alleviating traffic congestion in urban and suburban areas.

*Funds are managed by the Federal Highway Administration (FHWA) in partnership with state and local transportation agencies.*

<https://www.transportation.gov/sustainability/climate/federal-programs-directory-congestion-mitigation-and-air-quality-cmaq>

## **AFFORDABLE HOUSING AND SUSTAINABLE COMMUNITIES PROGRAM**

The Affordable Housing and Sustainable Communities (AHSC) program funds land-use, housing, transportation, and land preservation projects that support infill and compact development which reduce GHG emissions. Projects must fall within one of three project area types: transit-oriented development, integrated connectivity project, or rural innovation project areas. Fundable activities include: affordable housing developments, sustainable transportation infrastructure, transportation-related amenities, and program costs. Trail construction would have to accompany affordable housing development or housing-related infrastructure.

*Funds are programmed by the Strategic Growth Council and implemented by the Department of Housing and Community Development.*

<http://www.sgc.ca.gov/programs/ahsc/>

## **URBAN GREENING GRANTS**

Urban Greening Grants support the development of green infrastructure projects that reduce GHG emissions and provide multiple benefits. Projects must include one of three criteria, most relevantly: reduce commute vehicle miles traveled by constructing bicycle paths, bicycle lanes, or pedestrian facilities that provide safe routes for travel between residences, workplaces, commercial centers, and schools. Eligible projects include green streets and alleyways and non-motorized urban trails.

*Funds are programmed by the CNRA.*

<http://resources.ca.gov/grants/urban-greening/>

## **LOCAL PARTNERSHIP PROGRAM**

This program provides local and regional agencies that have passed sales tax measures, developer fees, or other transportation-imposed fees with a continuous appropriation from California's Road Maintenance and Rehabilitation Account to fund road maintenance and repair, sound walls, and other transportation improvement projects using SB 1 funds. Jurisdictions with these taxes or fees are then eligible for a formulaic annual distribution of no less than \$100,000. These jurisdictions are also eligible for a competitive grant program. Local Partnership Program funds can be used for a wide variety of transportation purposes including roadway rehabilitation and construction, transit capital and infrastructure, bicycle and pedestrian improvements, and green infrastructure.

*Funds are programmed by the CTC.*

<https://catc.ca.gov/programs/sb1/local-partnership-program>

## **ROAD MAINTENANCE AND REHABILITATION PROGRAM**

SB 1 created the Road Maintenance and Rehabilitation Program to address deferred maintenance on state highways and local road systems. Program funds can be spent on both design and construction efforts. On-street active transportation-related maintenance projects are eligible if program maintenance and other thresholds are met. Funds are allocated to eligible jurisdictions.

*Funds are programmed by the State Controller's Office with guidance from the CTC.*

<https://catc.ca.gov/programs/sb1/local-streets-roads-program>

## **REGIONAL SURFACE TRANSPORTATION PROGRAM**

This program was originally established by California State Statute to support ongoing construction and maintenance of highways and bridges in California. However, this program can also fund bicycle transportation and pedestrian walkways on any public road as long as the bicycle facilities are used primarily for transportation purposes as opposed to recreational use.

*Funds are programmed by Caltrans.*

<https://www.fhwa.dot.gov/map21/factsheets/stp.cfm>

## **COASTAL CONSERVANCY PROPOSITION 1 GRANTS**

Coastal Conservancy Grants fund multi-benefit ecosystem and watershed protection and restoration projects. Priority project types include water sustainability improvements, fish habitat enhancement, wetland restoration, and urban greening. However, these grants can also be used for urban greening or water sustainability elements incorporated into bicycle, pedestrian, and trail projects.

*Funds are programmed by the California Coastal Conservancy.*

<https://scc.ca.gov/grants/proposition-1-grants/>

## **WILDLIFE CONSERVATION BOARD PUBLIC ACCESS PROGRAM**

This grant program is focused on creating wildlife-oriented recreation and conservation experiences in California. The program supports the construction and rehabilitation of public access facilities including fishing piers, parking, restrooms, boat ramps, trails, boardwalks, and interpretive facilities that promote activities such as bird watching, kayaking, hiking, hunting, and fishing.

*Funds are programmed by the California Wildlife Conservation Board.*

<https://wcb.ca.gov/Programs/Public-Access>

## **HABITAT CONSERVATION FUND**

The Habitat Conservation Fund Program supports projects that bring urban residents into park and wildlife areas, protect plant and animal species, and acquire and develop wildlife corridors and trails.

*Funds are programmed by the California Department of Parks and Recreation.*

[https://www.parks.ca.gov/?page\\_id=21361](https://www.parks.ca.gov/?page_id=21361)

## **ENVIRONMENTAL ENHANCEMENT AND MITIGATION (EEM) GRANT PROGRAM**

The EEM Program is an annual program that offers grants to local, state and federal governmental agencies and to nonprofit organizations for projects to mitigate the environmental impacts caused by new or modified public transportation facilities. Grants for projects are generally limited to \$500,000 but awards may be recommended up to \$1,000,000 for acquisition projects.

*Funds are programmed by the CNRA.*

<http://resources.ca.gov/grants/environmental-enhancement-and-mitigation-eem/>

## **GRANTS FOR ARTS PROJECTS**

The Grants for Arts Projects program is the National Endowment for the Arts' (NEA) principal grants program. Through project-based funding, the program supports public engagement with, and access to, art across the nation, including the integration of the arts into the fabric of community life. Grants for Arts Projects funds grants between \$10,000 and \$100,000, not to exceed 50 percent of the total project cost.

*Funds are programmed by NEA.*

<https://www.arts.gov/grants-organizations/gap/grant-program-description>

## **OUR TOWN**

Our Town is NEA's creative placemaking grants program, which requires a partnership between a local government entity and a nonprofit organization. Projects supported integrate arts, culture, and design activities into efforts that strengthen communities by advancing local economic, physical, and/or social outcomes. Project types that may be relevant to the Coastal Rail Trail include public art (temporary and permanent), community co-creation of art, public art planning, and public space design. Grants are awarded between \$25,000 and \$200,000 and cannot exceed 50 percent of the total project cost.

*Funds are programmed by NEA.*

<https://www.arts.gov/grants-organizations/our-town/grant-program-description>

## **CREATIVE CALIFORNIA COMMUNITIES (CCC)**

CCC supports meaningful, collaborative, creative placemaking projects that animate, activate, and celebrate communities. Projects support community goals and encourage increased engagement in arts and cultural activities with community members. The applicant must be a California-based nonprofit arts organization or arts-based unit of government, which will require SCRIP to find a partner for the application. Funding is available up to \$150,000.

*Funds are programmed by the California Arts Council.*

<http://www.arts.ca.gov/programs/ccc.php>

## Foundations + Donations

### DOPPELT FAMILY TRAIL DEVELOPMENT FUND

Launched in 2015 by the Rails-to-Trails Conservancy (RTC), the Doppelt Family Trail Development Fund supports organizations and local governments that are implementing projects to build and improve multi-use trails. RTC awards approximately \$85,000 per year to several qualifying projects through a competitive process.

Funds are programmed by RTC.

<https://www.railstotrails.org/our-work/grants/doppelt/>

### CORPORATE DONATIONS

Corporate donations are often received in the form of liquid investments (i.e. cash, stock, bonds) and in the form of land. Employers recognize that creating places to bike and walk is one way to build community and attract a quality workforce. Bicycling and outdoor recreation businesses often support local projects and programs. Municipalities typically create funds to facilitate and simplify a transaction from a corporation's donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented.

## Local Programs

### SANDAG'S ATGP

SANDAG's Active Transportation Grant Program (ATGP) provides funding to local jurisdictions and community organizations within the San Diego region to support the planning and development of active transportation infrastructure. This program aims to increase the use of walking, biking, and other non-motorized transportation options, promoting safer and more sustainable mobility choices. The grants are awarded in two categories: capital projects, which fund the construction of infrastructure like bike lanes and pedestrian improvements, and non-capital projects, which support planning, education, and encouragement activities. Funded through TransNet, a voter-approved transportation sales tax, the ATGP focuses on creating more connected, safe, and accessible active transportation networks throughout the region, aligning with broader regional goals of reducing greenhouse gas emissions and improving public health.

*The existing Coastal Rail Trail segment from Oceanside Boulevard connecting to the Oceanside Transit Center was partially funded through SANDAG ATGP.*

<https://www.sandag.org/funding/grant-programs/active-transportation/transnet-active-transportation-grant-program>

