Dewberry

# MEMORANDUM

**DATE:** January 5, 2024

**SUBJECT:** Traffic Technical Memorandum for the Coast Highway (Hill Street) Bridge Replacement Project (Bridge No. 57C-0322) Federal Project Number BRLS-5079

## Introduction

The purpose of this Traffic Technical Memorandum is to provide an analysis of potential traffic impacts associated with the Coast Highway (Hill Street) Bridge (Br. No. 57C-0322) Replacement Project (proposed project). The City of Oceanside (City) proposes to replace the existing structurally deficient Coast Highway (Hill Street) Bridge over the San Luis Rey River. The existing bridge currently carries vehicular and pedestrian traffic on the Coast Highway over the San Luis Rey River. The proposed project is funded by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through the California Department of Transportation (Caltrans) Local Assistance. The replacement bridge would meet current applicable City, American Association of State Highway and Transportation Officials (AASHTO), and Caltrans design standards.

For information related to pedestrian and bicycle use in the proposed project area, refer to the Community Impact Memorandum (Dewberry Engineers Inc, 2023).

## Project Location

The proposed project is located approximately 0.3 miles south of Harbor Drive, immediately west of and parallel to Interstate 5 (I-5), in the City of Oceanside, San Diego County, California (Attachment A: Figure 1 and 2). The Townsite neighborhood is located immediately west of, and parallel to, I-5. The Eastside Capistrano neighborhood is located immediately east of I-5 at the proposed project site. The proposed project is located within the Coastal Zone.

## Project Purpose and Need

The proposed project is needed because the existing bridge was built in 1929 and is in poor structural condition. At 94 years old, the bridge is past its useful service life. The bridge is a “Fracture Critical” steel truss because it is structurally non-redundant and has steel members loaded in tension (if one of these members fractured, it would cause a collapse of a span).

The purpose of this project is to remove the deteriorated, structurally deficient, fracture critical and seismically vulnerable, existing structure and replace it with a new bridge designed to current structural and geometric standards while minimizing adverse impacts on the San Luis Rey River and the surrounding riparian area.

## Project Description

The Coast Highway (Hill Street) runs from southeast to northwest at approximately a 30-degree angle to true north. For purposes of this Traffic Technical Memorandum, the Coast Highway is assumed to run north to south, and the San Luis Rey River flows from east to west. The proposed project involves keeping the existing bridge open during construction, building the replacement bridge immediately west of the existing alignment, and removing the existing bridge after the replacement bridge is open. A roundabout would be constructed on the north side of the proposed project area at the Monterey Drive/North Coast Highway intersection. The roundabout would be designed according to FHWA roundabout design guidance. The proposed project would conform back to the existing roadway. No additional traffic lanes are proposed; the existing two-lane bridge would be replaced with a new two-lane bridge.

The proposed bridge would include two 12-foot (ft)-wide travel lanes and two 8-ft-wide shoulders for a curb to curb width of 40 feet (ft), the same as the existing bridge. A single 8-ft-wide sidewalk is proposed for the west side of the proposed bridge. The foundations for the proposed bridge would be supported by Cast-In-Drilled-Hole (CIDH) piles that would be up to 144 inches (in) in diameter and up to 200 ft deep. The proposed bridge would be a cast-in-place concrete bridge. The piers and abutments would be constructed on site by installing rebar, placing forms, and pouring concrete. Once the piers and abutments are complete, falsework would be constructed to support the wet concrete for the superstructure. The falsework could be removed before the existing bridge is demolished.

The proposed project would conform to the existing roadway and sidewalk approaches. Excavations up to 30 ft in depth would occur at the proposed bridge abutments and piers. Excavations for the approach roadway and utilities in the approach roadway would be up to 15 ft in depth.

The proposed project site would be cleared of landscaping, vegetation (including trees), fencing, and planter beds. Rock slope protection would be placed along the slopes to protect the abutments. Revegetation would occur in areas disturbed during construction using native species. Minor landscaping improvements would occur within the street corridor along the reconstructed bridge approaches.

The existing utilities attached to the bridge (12-inch gas line; 12-inch waterline; 10-inch waterline; 14-inch sewer force main; and electrical and telecommunications lines) would be relocated onto the replacement bridge. These utilities would remain in service during construction.

Staging areas would be located at the Oceanside Harbor Parking Lot #1 and within the cloverleaf of the I-5 to the State Route (SR) 76 offramp (currently not in use). Additional construction areas (construction staging and access) would be located on the north side of the San Luis Rey River west of Coast Highway, underneath the bridge on the north side of the San Luis Rey River, and adjacent to the San Luis Rey River Trail (SLRRT) on the south side of the San Luis Rey River (Attachment A: Figure 3). Access to the proposed project site south of the San Luis Rey River would be from SR 76 east of the proposed project site. Access to the proposed project site north of the San Luis Rey River would be from Monterey Drive and Riverside Drive.

The existing right-of-way (ROW) for the Coast Highway is approximately 75 feet at the bridge and widens both north and south of the existing bridge. Permanent ROW acquisition is anticipated. During construction, temporary construction easements and permits to enter and construct are anticipated to be required, including Caltrans property, as shown on Attachment A: Figure 4.

Construction is anticipated to start in 2026 or beyond and take approximately 24 to 30 months to complete.

## Affected Environment

The General Plan land use designations in the proposed project's vicinity are Downtown, Public Utility and Transportation, Residential, Open Space, and Harbor (City of Oceanside, 2021c). The existing roadway at the bridge is classified as a "secondary collector" and accommodates an

average daily traffic (ADT) of approximately 10,100 vehicles a day and a level of service (LOS) rating “D” (Coast Highway Bridge Replacement Transportation Analysis, 2017). The existing Coast Highway Bridge was constructed in 1929 and widened to the east in 1952. The widening was removed in 1971 when I-5 was built, and the bridge was restored to its original configuration.

The existing Coast Highway Bridge is a 950-ft long five span bridge with a cast-in-place concrete deck. The bridge is a total of 49 ft wide, with a curb-to-curb width of 40 ft providing two 12-ft traffic lanes and 8-ft shoulders. It has a raised sidewalk along the west edge of the deck. There is no curbside on-street parking allowed on the bridge.

There is street parking along San Luis Rey Drive and Carmelo Drive. The Worldmark Oceanside Hotel provides garage parking for their guests. There are public parking lots within 0.5 miles of the proposed project, including the Oceanside Harbor Parking Lots #1, #4, #5, #6, #7, #8a, #8b, #9, and #10 (City of Oceanside, 2020). Parking and trail use surveys (provided in Appendix B) were conducted for the proposed project on March 25, April 2, August 5, and August 13, 2023. Parking counts were taken at the Oceanside Harbor Parking Lot #1 and at street parking spots along Carmelo Drive and Monterey Drive. Survey counts were collected on weekend days with cloudy to fair weather conditions. Parking surveys showed that parking in the Oceanside Harbor Parking Lot #1 contains 407 regular parking spaces and 10 handicap parking spaces for a total of 417. In the Spring survey, Oceanside Harbor Parking Lot #1 had an average of 148 of 417 parking spaces being used throughout the day, approximately one-third to one-half utilized, and in the Summer survey, the parking lot had an average of 333 of 417 parking spaces being used throughout the day, approximately two-thirds to fully utilized. Using Google Earth history over the last 10-year period, Oceanside Harbor Parking Lot #1, within the proposed project area, has an average occupancy of between 84 and 167 parking spaces, 20 to 40 percent (%); however, occasionally the parking lot is at full capacity.

The segments of Carmelo Drive and Monterey Drive within the parking survey area have a total of approximately 88 parking spaces. These spaces were sparsely utilized during the Spring 2023 survey, with an average of 9 out of 88 parking spaces being used on Saturday, March 25, and an average of 14 out of 88 parking spaces being used on Sunday, April 2. Carmelo Drive, and Monterey Drive were shown to be utilized more in the Summer surveys than in the Spring Survey. On Saturday, August 5, with mostly fair weather, an average of 60 out of 88 parking spaces being used throughout the day, while on Sunday, August 13, which was partly cloudy to cloudy, an average of 17 out of 88 parking spaces being used throughout the day (VRPA Technologies, 2023).

## Temporary Impacts

### Access and Traffic

The proposed bridge would be constructed immediately west of the existing bridge. This would allow for Coast Highway to remain open to traffic during construction. Short term traffic impacts would occur during the process of moving traffic from the existing bridge to the new bridge. Traffic would be impacted by delays and short-term closures as necessary to make the transition. Traffic would be maintained across San Luis Rey River via the existing bridge. Implementation of the staging areas would not reduce lanes along adjacent roadways, such as San Luis Rey Drive,

Monterey Drive, and Riverside Drive, or result in the closure of other roadways; however, temporary lane closures or intermittent traffic disruptions may occur along these roadways when construction equipment is moving from the staging areas to the construction areas. Emergency access would be maintained at all times throughout construction of the proposed project. These impacts would be minimal and temporary in nature. No detour would be required.

Signage would be posted on both sides of the bridge, as well as along adjacent roadways, at the proposed project site to inform drivers of the construction schedule and timing, and other necessary information. The City would provide public outreach prior to construction to keep residents informed of the project's status and schedule throughout construction. A traffic management plan would be submitted by the contractor and approved by the City prior to the start of construction.

### Parking and Access

Given the height of construction equipment and topography requirements for construction equipment access, staging areas would be placed in the Oceanside Harbor Parking Lot #1 and within the cloverleaf of the I-5 to the SR 76 offramp (currently not in use). Staging areas would impact a portion of the Oceanside Harbor Parking Lot #1, located at 101-499 Riverside Drive (Attachment A: Figure 3). This is a public parking lot that provides harbor and beach access through an undercrossing located on the west side of the lot. Parking spaces in the parking lot would be impacted by construction equipment and would be temporarily unavailable. During construction, the proposed project staging area at Oceanside Harbor Lot #1 would utilize 291 regular parking spaces and 6 handicap parking spaces, while 133 regular parking spaces and 4 handicap parking spaces would remain open for public use. All 417 parking spaces in the Oceanside Harbor Lot #1 would be open to the public upon construction completion.

As mentioned above, the parking and trail survey revealed that the Oceanside Harbor Parking Lot #1 was one-third to one-half full and street parking along Carmelo Drive and Monterey Drive was sparsely utilized during the Spring 2023 survey. During the summer survey, the parking lot, was two-thirds to fully utilized on Saturday, August 5, while on Sunday, August 13, the parking lot use varied from 50 to 90% utilization. Parking on Carmelo Drive and Monterey Drive averaged between 20 to 90% utilized, with some street segments more utilized than others (VRPA Technologies 2023). Thus, construction-related parking impacts in the summer months would occur; however, street parking and public parking lots north and south of San Luis Rey River within 0.5 to 1 mile from the proposed project site would continue to be available, as discussed below. The adjacent hotel, Worldmark Oceanside, provides garage parking for their guests, therefore, the hotel guests would not be impacted by the decreased parking spaces.

During construction, street parking and public parking lots north and south of San Luis Rey River would continue to be available to minimize temporary parking impacts. Specifically, downtown City public parking lots, the Oceanside Civic Center parking lot, located approximately 0.5 mile to the southeast of the proposed project, and the Oceanside Transportation Center parking lot, located approximately 0.7 mile to the south of the proposed project, would provide parking for visitors during construction. The City of Oceanside provides a gO'side Shuttle Program that allows people to request fully electric shuttles ahead of time through the "Ride Circuit" app or by calling

(760) 547-7870. These shuttles provide an alternative mode of transportation for beach goers at a low fare, $3.00 per rider (Visit Oceanside 2023a). The Oceanside Civic Center parking lot and the Oceanside Transportation Center parking lot are serviced by the gO'side Shuttle Program which can pick up passengers and drop off at the harbor, within the gO-side service area. The City also has many e-bike rental operations available around town including Rent O'side, Socal Bicycle Imports, Podego, and Mostly E-bikes (Visit Oceanside 2023b). In addition, areas near the harbor would remain available during construction for passenger drop-off, similar to existing conditions. Therefore, the combination of the available City parking, e-bike rentals, and the g'Oside shuttle service should adequately service the public need for beach access during construction.

Once the proposed project construction is complete, the construction equipment would be removed from Oceanside Harbor Parking Lot #1, and parking space availability would return to pre-construction conditions of 417 total available parking spaces. A traffic management plan would be submitted by the contractor and approved by the City prior to the start of construction.

Vehicular access to driveways on Coast Highway and adjacent roadways would remain open throughout construction. All driveways and access points to the hotels in the surrounding area would be maintained throughout construction. A traffic management plan would be submitted by the contractor and approved by the City prior to the start of construction.

## Permanent Impacts

No long-term traffic impacts are anticipated for the proposed project. The proposed project would replace the existing two-lane bridge over San Luis Rey River on Coast Highway with a two-lane bridge and enhanced bicycle and pedestrian facilities. The new bridge would better accommodate vehicles, pedestrians, and bicyclists as well as meet current standards. The new bridge would continue to have two 12-ft-wide travel lanes and two 8-ft-wide shoulders for a curb to curb width of 40 ft.

## Avoidance and Minimization Measures

The following avoidance and minimization measures are recommended to ensure minimal traffic impacts of the proposed project:

- During construction, the contractor shall place temporary signage to inform traffic of the construction schedule and timing, road closure, on-site detour, suggested construction zone procedures and other necessary information.

- The contractor shall be required to submit a standard traffic management plan that will be approved by the City prior to construction. The traffic management plan will include information identifying phases of the proposed project, construction scheduling, and appropriate alternative routes, including additional parking locations, routes for SLRRT, detour routes for the pedestrian undercrossing, and emergency services.

## Conclusion

Anticipated short term traffic impacts would occur during the process of moving traffic from the existing bridge to the new bridge. Traffic would be impacted with delays from the short-term

closures necessary during the transition. There would be temporary impacts on parking, especially in the summer months, as construction staging areas would use public parking spaces. While there could be a shortage of parking on peak visitation weekends in the summer, street parking and public parking lots provided by the City within 0.5 to 1 mile on the north and south sides of San Luis Rey River, including downtown parking, e-bike rentals, and the g'Oside shuttle service would help minimize impacts to parking during the busy summer months. These impacts would be temporary during construction and would return to preexisting conditions upon project completion. A traffic management plan would be implemented during construction to include information for the public on alternate parking areas during summer weekends.

The proposed project would not create any long-term impacts to traffic circulation in the area, as the proposed project would not increase roadway capacity or change long-term traffic patterns. Emergency access would be maintained throughout the construction of the proposed project. The completed proposed project would provide a safer vehicular, bicycle, and pedestrian crossing of San Luis Rey River, which would offset any short-term traffic impacts associated with the proposed project.

## References


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City of Oceanside. 2012. Oceanside General Plan Circulation Element and Appendices. Online: https://www.ci.oceanside.ca.us/gov/dev/planning/general2.asp. Date Accessed: September 27, 2022.

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City of Oceanside. 2021b. City of Oceanside Comprehensive Zoning Ordinance: Article 33A Signs. Online: https://www.ci.oceanside.ca.us/civicax/filebank/blobdload.aspx?BlobID=26043. Date Accessed: September 27, 2022.

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Visit Oceanside. 2023a. g'Oside Downtown Oceanside Shuttle Program. Online: https://visitoceanside.org/goside-shuttle-oceanside/. Date Accessed: December 7, 2023.

Visit Oceanside. 2023b. Everything You Need to Know About Oceanside Transportation. Online: https://visitoceanside.org/plan/transportation/. Date Accessed: December 7, 2023.

VRPA Technologies. 2023. Parking and Trail Survey Memorandum.

## Attachments

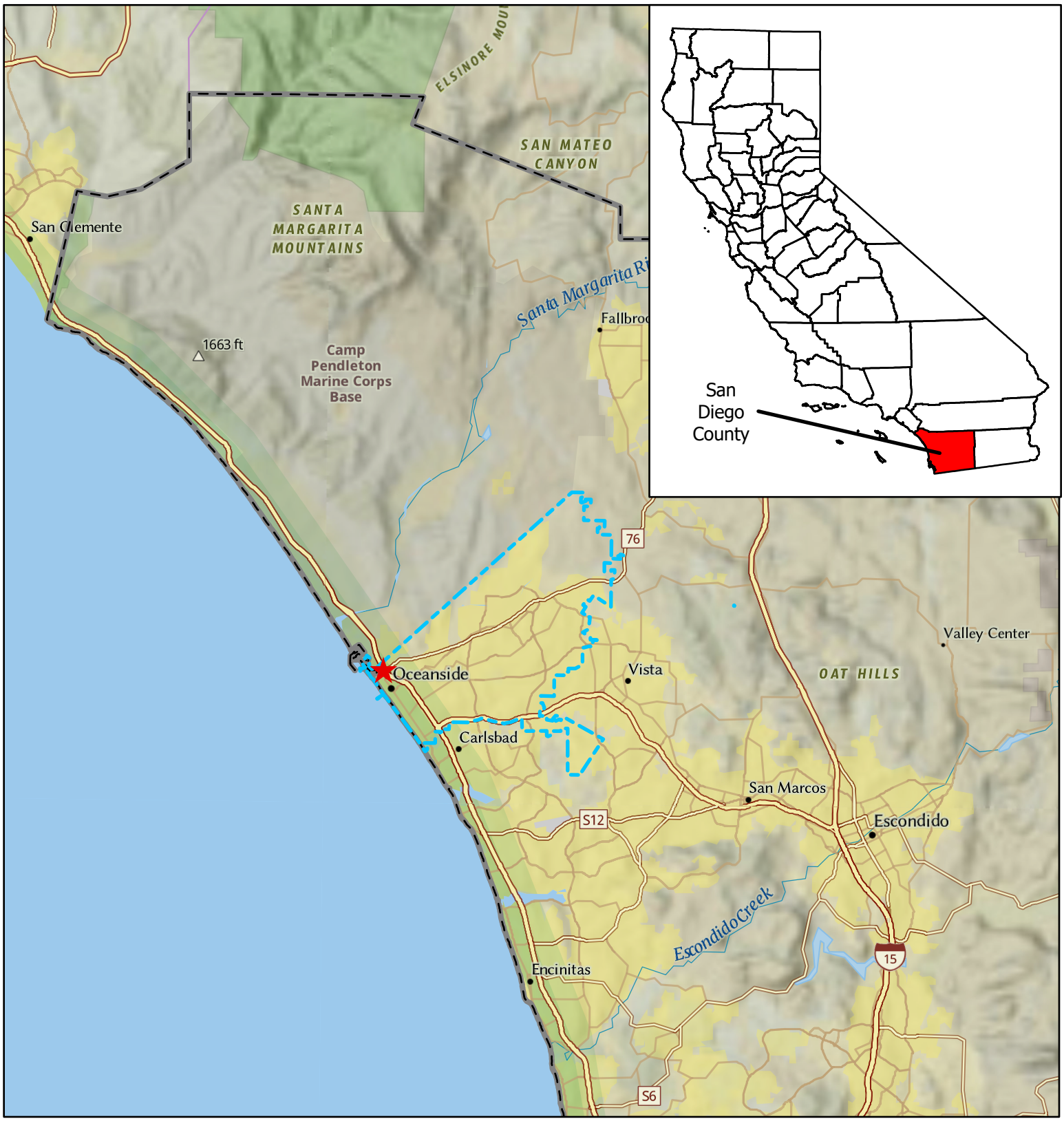
**Attachment A:** Proposed Project Figures

- Figure 1 – Regional Location
- Figure 2 – Project Location
- Figure 3 – Potential Staging Area and Construction Areas
- Figure 4 – Potentially Impacted Parcels

**Attachment B:** Coast Highway Bridge Parking and Trail Counts

# Attachment A

# Regional Location




**Coast Highway (Hill Street) Bridge over San Luis Rey River Replacement Project**

0 6 Miles N

**Legend**

- Project Location
- Oceanside City Boundary
- San Diego County Boundary

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**Figure 1**

Author: I. Ciraulo
Last updated on Monday, September 18, 2023

Path: U:\15008 - Coast Highway (Hill Street) Bridge - Moffett\400 Project Design Files\460 Environmental\GIS\APRX\CoastHwy_CIA\CoastHwy_CIA.aprx

# Project Location




Coast Highway (Hill Street) Bridge over San Luis Rey River Replacement Project

**Legend**

Proposed Project Limits

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Figure 2

0 400 Feet

N

Author: I. Ciraulo
Last updated on Tuesday, September 19, 2023

Path: \\dewberry.dewberryroot.local\Offices\RanchoCordova\Projects\15008 - Coast Highway (Hill Street) Bridge - Moffett\400 Project Design Files\460 Environmental\GIS\APRX\CoastHwy_CIA\CoastHwy_CIA.aprx

# Potential Staging Area and Construction Areas




Coast Highway (Hill Street) Bridge over San Luis Rey River Replacement Project

**Legend**

- Proposed Project Limits
- Staging Area
- Temporary Construction Areas

Note: Areas overlapping Coast Hwy and I-5 are located under the roadways.

0 400 Feet

N

Dewberry

Figure 3

Author: I. Ciraulo
Last updated on Wednesday, September 20, 2023

Path: U:\15008 - Coast Highway (Hill Street) Bridge - Moffett\400 Project Design Files\460 Environmental\GIS\APRX\CoastHwy_CIA\CoastHwy_CIA.aprx

# Potentially Impacted Parcels




Coast Highway (Hill Street) Bridge over San Luis Rey River Replacement Project

**Legend**

- Proposed Project Limits
- Potentially Impacted Parcels
- Parcels

0 400 Feet

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Dewberry

Figure 4

Author: I. Ciraulo
Last updated on Tuesday, September 19, 2023

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# Attachment B

**MEMORANDUM**

**TO:** Jared Cole, Moffatt & Nichol

.

**FROM:** Erik Ruehr, VRPA Technologies

**DATE:** September 13, 2023

**RE:** Coast Highway Bridge
Parking and Trail Counts

This memorandum provides a summary of parking and trail count data collected for the Coast Highway Bridge project. The counts were conducted to evaluate the impacts to parking and trail users during potential closures due to bridge construction.

Parking counts were conducted for a typical Saturday and Sunday from 10 AM to 4 PM in the spring and summer in the following areas (see Exhibit 1):

- ✓ The Oceanside Harbor parking lot located west of I-5 and north of the San Luis Rey River
- ✓ On street parking along Carmelo Drive and Monterey Drive

Trail counts of pedestrians and bicycles were conducted from 10 AM to 6 PM for a typical Saturday and Sunday in the spring and summer in the following area:

- ✓ San Luis Rey River Trail, south side of the river between SR 76 and I-5

Additional counts were conducted in the summer only on the trail on the north side of the river just east of I-5.

The spring counts were conducted on Saturday, March 25 and Sunday, April 2. The summer counts were conducted on Saturday, August 5 and Sunday, August 13. Copies of the counts are included in the attachments.



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Key observations drawn from a review of the counts include the following:

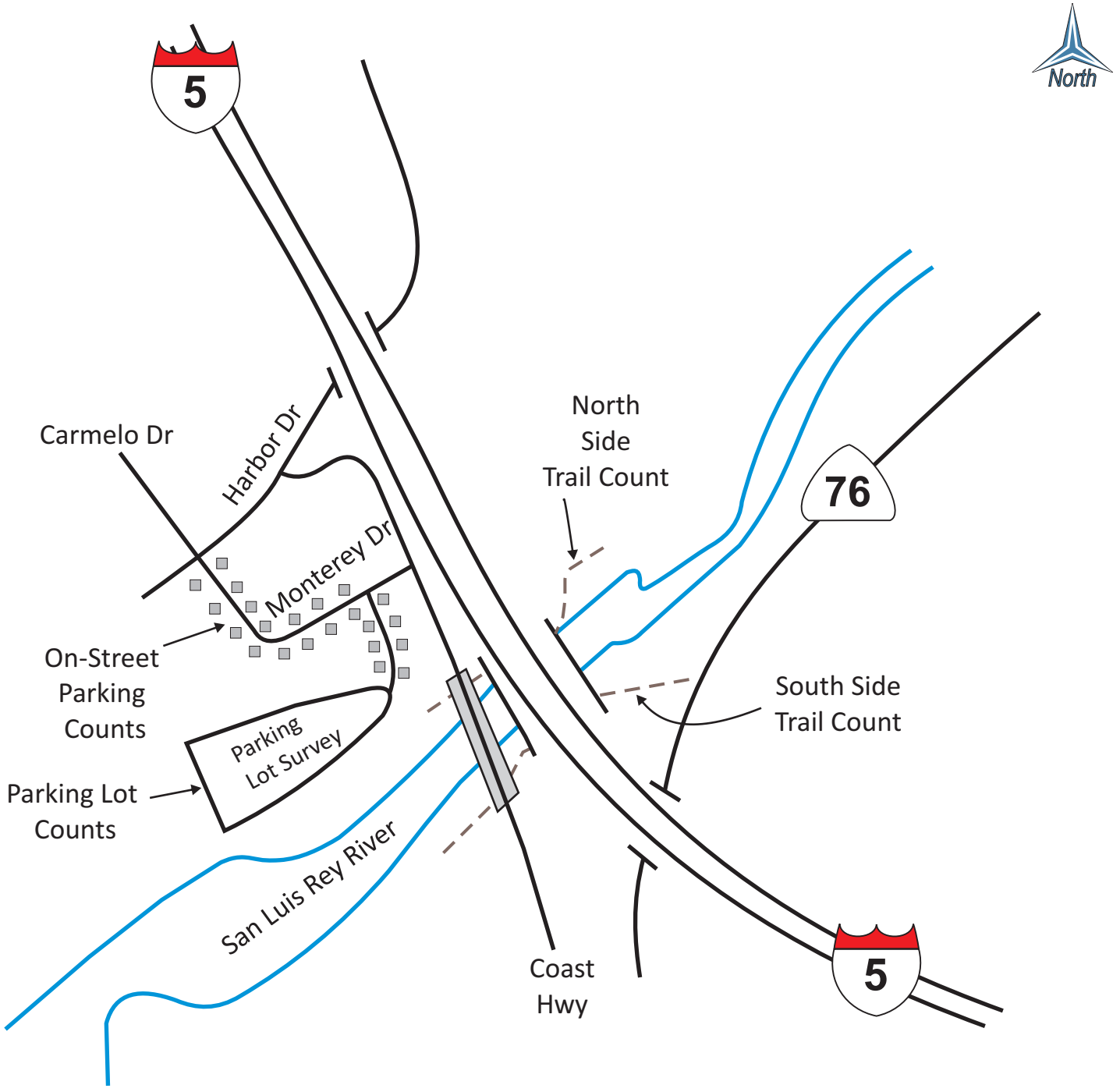
- ✓ The spring parking counts indicated the Oceanside Harbor parking lot to be approximately one third to one half full and on street parking to be sparely utilized. The summer counts indicated both the lot and on street parking to be fully utilized on Saturday August 5 with mostly fair weather. On Sunday August 13 with partly cloudy to cloudy weather, the lot varied from half full to 90% full with the on street parking about half utilized.

- ✓ The spring trail counts on the south side of the river indicated a total daily count of approximately 100 pedestrians and 900 bicycles. The summer trail counts on the south side of the river indicated similar results. For the trail on the north side of the river, the summer counts indicated a total daily count of approximately 50 pedestrians with relatively few bicycles.

Please contact me if you have any questions. I can be reached by email at eruehr@vrpatechnologies.com or by phone at 858/361-7151.

# Coast Highway Bridge
## 2023 Parking and Trail Counts

Exhibit 1




VRPA TECHNOLOGIES, INC.

**ATTACHMENT**

**PAARKING AND TRAIL COUNTS**

Prepared by National Data & Surveying Services

# Parking Study

**Project:** 23-040055
**City:** Oceanside, CA

**Date:** 3/25/2023
**Day:** Saturday

| Space Type/ Restriction | 401 Riverside Dr Parking Lot | | Carmelo Dr & San Luis Rey Dr Between Harbor Dr and Riverside Dr | | | |
|---|---|---|---|---|---|---|
| | LOT 001 | | SEGMENT 001 | SEGMENT 002 | SEGMENT 003 | SEGMENT 004 |
| | Regular | Handicap | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking 2:30am-4:30am Everyday | No Parking 2:30am-4:30am Everyday |
| **Measurement (ft)** *(for On street)* | - | - | **458'** | **352'** | **446'** | **448'** |
| **Space** | **407** | **10** | **23** | **18** | **24** | **23** |
| **10:00 AM** | 106 | 1 | 2 | 8 | 1 | 0 |
| **12:00 PM** | 119 | 1 | 1 | 8 | 1 | 0 |
| **2:00 PM** | 159 | 2 | 0 | 6 | 2 | 1 |
| **4:00 PM** | 136 | 0 | 0 | 1 | 2 | 0 |

***Notes:*** ***Lot 001 Regular*** *- There were two storage containers and two trailers taking up a total of 6 spaces (included in the inventory but excluded in the occupancy counts)*
*Segments are unmarked, spaces provided are only approximate.*

Prepared by National Data & Surveying Services

# Parking Study

**Project:** 23-040055
**City:** Oceanside, CA

**Date:** 4/2/2023
**Day:** Sunday

| Space Type/ Restriction | 401 Riverside Dr Parking Lot | | Carmelo Dr & San Luis Rey Dr Between Harbor Dr and Riverside Dr | | | |
|---|---|---|---|---|---|---|
| | LOT 001 | | SEGMENT 001 | SEGMENT 002 | SEGMENT 003 | SEGMENT 004 |
| | Regular | Handicap | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking 2:30am-4:30am Everyday | No Parking 2:30am-4:30am Everyday |
| **Measurement (ft)** *(for On street)* | - | - | **458'** | **352'** | **446'** | **448'** |
| **Space** | **407** | **10** | **23** | **18** | **24** | **23** |
| **10:00 AM** | 121 | 1 | 1 | 10 | 1 | 2 |
| **12:00 PM** | 178 | 3 | 1 | 9 | 4 | 2 |
| **2:00 PM** | 188 | 2 | 2 | 7 | 4 | 3 |
| **4:00 PM** | 163 | 2 | 1 | 0 | 4 | 2 |

***Notes:*** ***Lot 001 Regular*** *- There were two storage containers and two trailers taking up a total of 6 spaces (included in the inventory but excluded in the occupancy counts)*
*Segments are unmarked, spaces provided are only approximate.*

# Peds & Bike Study

**Location:** San Luis Rey River Trail Bet. I-5 & SR-76 3/25/2023

**City:** Oceanside Saturday

| Time | Total Pedestrians | | | Total Bikes | | | Total Peds & Bikes |
|---|---|---|---|---|---|---|---|
| | Eastbound | Westbound | Total | Eastbound | Westbound | Total | |
| 10:00 AM | 0 | 0 | 0 | 15 | 13 | 28 | **28** |
| 10:15 AM | 1 | 3 | 4 | 8 | 8 | 16 | **20** |
| 10:30 AM | 0 | 0 | 0 | 17 | 10 | 27 | **27** |
| 10:45 AM | 1 | 1 | 2 | 24 | 17 | 41 | **43** |
| 11:00 AM | 3 | 0 | 3 | 11 | 23 | 34 | **37** |
| 11:15 AM | 2 | 1 | 3 | 11 | 10 | 21 | **24** |
| 11:30 AM | 1 | 3 | 4 | 18 | 15 | 33 | **37** |
| 11:45 AM | 3 | 1 | 4 | 12 | 10 | 22 | **26** |
| 12:00 PM | 0 | 3 | 3 | 25 | 15 | 40 | **43** |
| 12:15 PM | 0 | 0 | 0 | 14 | 22 | 36 | **36** |
| 12:30 PM | 2 | 0 | 2 | 10 | 17 | 27 | **29** |
| 12:45 PM | 12 | 1 | 13 | 28 | 13 | 41 | **54** |
| 1:00 PM | 1 | 0 | 1 | 17 | 14 | 31 | **32** |
| 1:15 PM | 2 | 2 | 4 | 4 | 20 | 24 | **28** |
| 1:30 PM | 0 | 1 | 1 | 11 | 20 | 31 | **32** |
| 1:45 PM | 0 | 1 | 1 | 6 | 6 | 12 | **13** |
| 2:00 PM | 0 | 5 | 5 | 8 | 11 | 19 | **24** |
| 2:15 PM | 1 | 0 | 1 | 12 | 16 | 28 | **29** |
| 2:30 PM | 3 | 0 | 3 | 13 | 11 | 24 | **27** |
| 2:45 PM | 6 | 2 | 8 | 16 | 17 | 33 | **41** |
| 3:00 PM | 0 | 1 | 1 | 15 | 9 | 24 | **25** |
| 3:15 PM | 2 | 2 | 4 | 17 | 11 | 28 | **32** |
| 3:30 PM | 0 | 6 | 6 | 4 | 12 | 16 | **22** |
| 3:45 PM | 3 | 0 | 3 | 11 | 11 | 22 | **25** |
| 4:00 PM | 2 | 0 | 2 | 8 | 13 | 21 | **23** |
| 4:15 PM | 6 | 0 | 6 | 9 | 10 | 19 | **25** |
| 4:30 PM | 1 | 0 | 1 | 13 | 2 | 15 | **16** |
| 4:45 PM | 1 | 3 | 4 | 12 | 7 | 19 | **23** |
| 5:00 PM | 0 | 0 | 0 | 5 | 3 | 8 | **8** |
| 5:15 PM | 0 | 1 | 1 | 6 | 4 | 10 | **11** |
| 5:30 PM | 0 | 3 | 3 | 5 | 5 | 10 | **13** |
| 5:45 PM | 1 | 0 | 1 | 9 | 6 | 15 | **16** |
| **Totals** | **54** | **40** | **94** | **394** | **381** | **775** | **869** |

# Peds & Bike Study

**Location:** San Luis Rey River Trail Bet. I-5 & SR-76 4/2/2023

**City:** Oceanside Sunday

| Time | Total Pedestrians | | | Total Bikes | | | Total Peds & Bikes |
|---|---|---|---|---|---|---|---|
| | Eastbound | Westbound | Total | Eastbound | Westbound | Total | |
| 10:00 AM | 6 | 2 | 8 | 7 | 11 | 18 | **26** |
| 10:15 AM | 2 | 4 | 6 | 12 | 10 | 22 | **28** |
| 10:30 AM | 1 | 1 | 2 | 5 | 30 | 35 | **37** |
| 10:45 AM | 2 | 1 | 3 | 12 | 17 | 29 | **32** |
| 11:00 AM | 8 | 1 | 9 | 10 | 18 | 28 | **37** |
| 11:15 AM | 2 | 2 | 4 | 18 | 20 | 38 | **42** |
| 11:30 AM | 2 | 1 | 3 | 15 | 6 | 21 | **24** |
| 11:45 AM | 0 | 6 | 6 | 16 | 14 | 30 | **36** |
| 12:00 PM | 1 | 0 | 1 | 15 | 16 | 31 | **32** |
| 12:15 PM | 0 | 7 | 7 | 11 | 8 | 19 | **26** |
| 12:30 PM | 0 | 3 | 3 | 12 | 23 | 35 | **38** |
| 12:45 PM | 4 | 1 | 5 | 16 | 12 | 28 | **33** |
| 1:00 PM | 0 | 5 | 5 | 10 | 19 | 29 | **34** |
| 1:15 PM | 1 | 1 | 2 | 16 | 19 | 35 | **37** |
| 1:30 PM | 2 | 1 | 3 | 18 | 11 | 29 | **32** |
| 1:45 PM | 1 | 0 | 1 | 9 | 16 | 25 | **26** |
| 2:00 PM | 2 | 3 | 5 | 12 | 9 | 21 | **26** |
| 2:15 PM | 0 | 0 | 0 | 7 | 17 | 24 | **24** |
| 2:30 PM | 0 | 0 | 0 | 12 | 17 | 29 | **29** |
| 2:45 PM | 9 | 3 | 12 | 23 | 21 | 44 | **56** |
| 3:00 PM | 3 | 0 | 3 | 21 | 10 | 31 | **34** |
| 3:15 PM | 1 | 1 | 2 | 11 | 9 | 20 | **22** |
| 3:30 PM | 0 | 2 | 2 | 6 | 5 | 11 | **13** |
| 3:45 PM | 2 | 1 | 3 | 11 | 8 | 19 | **22** |
| 4:00 PM | 0 | 2 | 2 | 12 | 16 | 28 | **30** |
| 4:15 PM | 0 | 0 | 0 | 8 | 4 | 12 | **12** |
| 4:30 PM | 0 | 4 | 4 | 6 | 13 | 19 | **23** |
| 4:45 PM | 0 | 1 | 1 | 3 | 12 | 15 | **16** |
| 5:00 PM | 3 | 1 | 4 | 13 | 3 | 16 | **20** |
| 5:15 PM | 0 | 3 | 3 | 20 | 5 | 25 | **28** |
| 5:30 PM | 1 | 0 | 1 | 3 | 4 | 7 | **8** |
| 5:45 PM | 0 | 0 | 0 | 4 | 6 | 10 | **10** |
| **Totals** | **53** | **57** | **110** | **374** | **409** | **783** | **893** |

Prepared by National Data & Surveying Services

# Parking Study

**Project:** 23-040150
**City:** Oceanside, CA

**Date:** 8/5/2023
**Day:** Saturday

| Space Type/ Restriction | 401 Riverside Dr Parking Lot | | Carmelo Dr & San Luis Rey Dr Between Harbor Dr and Riverside Dr | | | |
|---|---|---|---|---|---|---|
| | Lot 001 | | Segment 001 | Segment 002 | Segment 003 | Segment 004 |
| | Regular | Handicap | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking 2:30am-4:30am Everyday | No Parking 2:30am-4:30am Everyday |
| **Measurement (ft)** *(for On street)* | - | - | **458'** | **352'** | **446'** | **448'** |
| **Space** | **407** | **10** | **23** | **18** | **24** | **23** |
| **10:00 AM** | 315 | 6 | 1 | 9 | 4 | 4 |
| **12:00 PM** | 416 | 9 | 21 | 18 | 17 | 8 |
| **2:00 PM** | 432 | 9 | 22 | 18 | 19 | 19 |
| **4:00 PM** | 432 | 9 | 21 | 18 | 19 | 19 |

***Notes:*** **Lot 001 Regular** - Cars are double parked from 12pm through the end of the study, resulting in an excess of inventory. Counted double parked cars as 2 occupancy.
Segments are unmarked, spaces provided are only approximate.

Prepared by National Data & Surveying Services

# Parking Study

**Project:** 23-040150
**City:** Oceanside, CA

**Date:** 8/13/2023
**Day:** Sunday

| Space Type/ Restriction | 401 Riverside Dr Parking Lot | | Carmelo Dr & San Luis Rey Dr Between Harbor Dr and Riverside Dr | | | |
|---|---|---|---|---|---|---|
| | Lot 001 | | Segment 001 | Segment 002 | Segment 003 | Segment 004 |
| | Regular | Handicap | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking Oversize Vehicles or Unattached Trailers 2am-6am Daily Every Street | No Parking 2:30am-4:30am Everyday | No Parking 2:30am-4:30am Everyday |
| **Measurement (ft)** *(for On street)* | - | - | **458'** | **352'** | **446'** | **448'** |
| **Space** | **407** | **10** | **23** | **18** | **24** | **23** |
| **10:00 AM** | 148 | 2 | 0 | 9 | 3 | 7 |
| **12:00 PM** | 217 | 4 | 0 | 9 | 5 | 2 |
| **2:00 PM** | 282 | 6 | 0 | 9 | 8 | 4 |
| **4:00 PM** | 364 | 8 | 0 | 4 | 5 | 1 |

***Notes:*** **Lot 001 Regular** - 2 unattached trailers parked in Regular spaces the entire duration of study (excluded in the occupancy counts)
Segments are unmarked, spaces provided are only approximate.

# Peds & Bike Study

**Location:** San Luis Rey River Trail Bet. I-5 & SR-76 8/5/2023

**City:** Oceanside Saturday

| Time | Total Pedestrians | | | Total Bikes | | | Total Peds & Bikes |
|---|---|---|---|---|---|---|---|
| | Eastbound | Westbound | Total | Eastbound | Westbound | Total | |
| 10:00 AM | 1 | 0 | 1 | 17 | 22 | 39 | **40** |
| 10:15 AM | 0 | 1 | 1 | 14 | 15 | 29 | **30** |
| 10:30 AM | 2 | 2 | 4 | 23 | 20 | 43 | **47** |
| 10:45 AM | 0 | 2 | 2 | 25 | 20 | 45 | **47** |
| 11:00 AM | 1 | 2 | 3 | 19 | 19 | 38 | **41** |
| 11:15 AM | 3 | 3 | 6 | 13 | 18 | 31 | **37** |
| 11:30 AM | 0 | 1 | 1 | 21 | 35 | 56 | **57** |
| 11:45 AM | 0 | 1 | 1 | 18 | 15 | 33 | **34** |
| 12:00 PM | 0 | 3 | 3 | 16 | 8 | 24 | **27** |
| 12:15 PM | 0 | 1 | 1 | 29 | 17 | 46 | **47** |
| 12:30 PM | 2 | 1 | 3 | 10 | 25 | 35 | **38** |
| 12:45 PM | 4 | 1 | 5 | 13 | 10 | 23 | **28** |
| 1:00 PM | 0 | 0 | 0 | 11 | 29 | 40 | **40** |
| 1:15 PM | 0 | 2 | 2 | 10 | 7 | 17 | **19** |
| 1:30 PM | 0 | 1 | 1 | 5 | 10 | 15 | **16** |
| 1:45 PM | 0 | 2 | 2 | 24 | 10 | 34 | **36** |
| 2:00 PM | 0 | 0 | 0 | 12 | 16 | 28 | **28** |
| 2:15 PM | 0 | 0 | 0 | 14 | 8 | 22 | **22** |
| 2:30 PM | 1 | 0 | 1 | 8 | 11 | 19 | **20** |
| 2:45 PM | 1 | 1 | 2 | 12 | 7 | 19 | **21** |
| 3:00 PM | 0 | 0 | 0 | 13 | 5 | 18 | **18** |
| 3:15 PM | 2 | 2 | 4 | 6 | 7 | 13 | **17** |
| 3:30 PM | 0 | 2 | 2 | 9 | 4 | 13 | **15** |
| 3:45 PM | 0 | 0 | 0 | 1 | 12 | 13 | **13** |
| 4:00 PM | 0 | 3 | 3 | 8 | 15 | 23 | **26** |
| 4:15 PM | 3 | 0 | 3 | 12 | 11 | 23 | **26** |
| 4:30 PM | 3 | 2 | 5 | 8 | 19 | 27 | **32** |
| 4:45 PM | 1 | 1 | 2 | 6 | 8 | 14 | **16** |
| 5:00 PM | 1 | 0 | 1 | 13 | 1 | 14 | **15** |
| 5:15 PM | 0 | 0 | 0 | 1 | 5 | 6 | **6** |
| 5:30 PM | 0 | 1 | 1 | 1 | 9 | 10 | **11** |
| 5:45 PM | 4 | 1 | 5 | 13 | 2 | 15 | **20** |
| **Totals** | **29** | **36** | **65** | **405** | **420** | **825** | **890** |

# Peds & Bike Study

**Location:** San Luis Rey River Trail Bet. I-5 & SR-76 8/13/2023

**City:** Oceanside Sunday

| Time | Total Pedestrians | | | Total Bikes | | | Total Peds & Bikes |
|---|---|---|---|---|---|---|---|
| | Eastbound | Westbound | Total | Eastbound | Westbound | Total | |
| 10:00 AM | 1 | 1 | 2 | 26 | 19 | 45 | **47** |
| 10:15 AM | 1 | 1 | 2 | 20 | 18 | 38 | **40** |
| 10:30 AM | 0 | 0 | 0 | 16 | 29 | 45 | **45** |
| 10:45 AM | 0 | 1 | 1 | 21 | 21 | 42 | **43** |
| 11:00 AM | 1 | 1 | 2 | 16 | 28 | 44 | **46** |
| 11:15 AM | 1 | 0 | 1 | 13 | 17 | 30 | **31** |
| 11:30 AM | 1 | 2 | 3 | 12 | 19 | 31 | **34** |
| 11:45 AM | 2 | 3 | 5 | 13 | 21 | 34 | **39** |
| 12:00 PM | 0 | 1 | 1 | 25 | 27 | 52 | **53** |
| 12:15 PM | 2 | 0 | 2 | 13 | 15 | 28 | **30** |
| 12:30 PM | 1 | 4 | 5 | 30 | 27 | 57 | **62** |
| 12:45 PM | 2 | 3 | 5 | 20 | 15 | 35 | **40** |
| 1:00 PM | 2 | 2 | 4 | 17 | 4 | 21 | **25** |
| 1:15 PM | 0 | 1 | 1 | 10 | 28 | 38 | **39** |
| 1:30 PM | 0 | 0 | 0 | 11 | 8 | 19 | **19** |
| 1:45 PM | 0 | 1 | 1 | 9 | 19 | 28 | **29** |
| 2:00 PM | 1 | 0 | 1 | 11 | 11 | 22 | **23** |
| 2:15 PM | 0 | 1 | 1 | 18 | 12 | 30 | **31** |
| 2:30 PM | 0 | 0 | 0 | 14 | 10 | 24 | **24** |
| 2:45 PM | 2 | 1 | 3 | 16 | 17 | 33 | **36** |
| 3:00 PM | 0 | 1 | 1 | 22 | 11 | 33 | **34** |
| 3:15 PM | 3 | 1 | 4 | 10 | 6 | 16 | **20** |
| 3:30 PM | 5 | 3 | 8 | 9 | 15 | 24 | **32** |
| 3:45 PM | 0 | 0 | 0 | 4 | 12 | 16 | **16** |
| 4:00 PM | 0 | 0 | 0 | 10 | 13 | 23 | **23** |
| 4:15 PM | 0 | 2 | 2 | 7 | 16 | 23 | **25** |
| 4:30 PM | 1 | 0 | 1 | 11 | 3 | 14 | **15** |
| 4:45 PM | 2 | 1 | 3 | 16 | 12 | 28 | **31** |
| 5:00 PM | 0 | 1 | 1 | 30 | 14 | 44 | **45** |
| 5:15 PM | 2 | 0 | 2 | 10 | 2 | 12 | **14** |
| 5:30 PM | 1 | 1 | 2 | 9 | 12 | 21 | **23** |
| 5:45 PM | 0 | 0 | 0 | 2 | 3 | 5 | **5** |
| **Totals** | **31** | **33** | **64** | **471** | **484** | **955** | **1019** |

# Peds & Bike Study

**Location:** I-5 Bike North Side Trail
**City:** Oceanside
**Date** 8/5/2023
**Day** Saturday

| TIME | Pedestrians | | Bikes | | Totals |
|---|---|---|---|---|---|
| | EB | WB | EB | WB | |
| 10:00 AM | 0 | 0 | 0 | 0 | **0** |
| 10:15 AM | 0 | 1 | 0 | 0 | **1** |
| 10:30 AM | 1 | 0 | 0 | 0 | **1** |
| 10:45 AM | 0 | 0 | 0 | 0 | **0** |
| 11:00 AM | 0 | 0 | 0 | 0 | **0** |
| 11:15 AM | 0 | 0 | 1 | 0 | **1** |
| 11:30 AM | 0 | 0 | 0 | 0 | **0** |
| 11:45 AM | 1 | 1 | 0 | 0 | **2** |
| 12:00 PM | 0 | 0 | 0 | 0 | **0** |
| 12:15 PM | 0 | 2 | 0 | 0 | **2** |
| 12:30 PM | 0 | 0 | 0 | 0 | **0** |
| 12:45 PM | 1 | 1 | 0 | 0 | **2** |
| 1:00 PM | 0 | 1 | 0 | 0 | **1** |
| 1:15 PM | 1 | 0 | 0 | 0 | **1** |
| 1:30 PM | 0 | 0 | 0 | 0 | **0** |
| 1:45 PM | 0 | 3 | 0 | 0 | **3** |
| 2:00 PM | 3 | 7 | 0 | 0 | **10** |
| 2:15 PM | 1 | 0 | 1 | 2 | **4** |
| 2:30 PM | 0 | 3 | 0 | 2 | **5** |
| 2:45 PM | 0 | 0 | 1 | 1 | **2** |
| 3:00 PM | 4 | 0 | 0 | 0 | **4** |
| 3:15 PM | 0 | 0 | 1 | 0 | **1** |
| 3:30 PM | 0 | 1 | 0 | 0 | **1** |
| 3:45 PM | 6 | 3 | 2 | 0 | **11** |
| 4:00 PM | 3 | 2 | 0 | 0 | **5** |
| 4:15 PM | 0 | 0 | 0 | 0 | **0** |
| 4:30 PM | 2 | 3 | 0 | 1 | **6** |
| 4:45 PM | 0 | 0 | 0 | 0 | **0** |
| 5:00 PM | 2 | 1 | 0 | 0 | **3** |
| 5:15 PM | 0 | 2 | 0 | 0 | **2** |
| 5:30 PM | 0 | 5 | 0 | 0 | **5** |
| 5:45 PM | 1 | 1 | 0 | 0 | **2** |
| **Totals** | ***26*** | ***37*** | ***6*** | ***6*** | ***75*** |

# Peds & Bike Study

**Location:** I-5 Bike North Side Trail
**City:** Oceanside
**Date** 8/13/2023
**Day** Sunday

| TIME | Pedestrians | | Bikes | | Totals |
|---|---|---|---|---|---|
| | EB | WB | EB | WB | |
| **10:00 AM** | 1 | 0 | 0 | 0 | **1** |
| **10:15 AM** | 0 | 0 | 0 | 0 | **0** |
| **10:30 AM** | 0 | 2 | 0 | 0 | **2** |
| **10:45 AM** | 0 | 0 | 0 | 0 | **0** |
| **11:00 AM** | 1 | 2 | 0 | 0 | **3** |
| **11:15 AM** | 1 | 1 | 0 | 0 | **2** |
| **11:30 AM** | 1 | 0 | 0 | 0 | **1** |
| **11:45 AM** | 0 | 2 | 0 | 0 | **2** |
| **12:00 PM** | 0 | 0 | 1 | 1 | **2** |
| **12:15 PM** | 0 | 2 | 0 | 0 | **2** |
| **12:30 PM** | 0 | 0 | 0 | 0 | **0** |
| **12:45 PM** | 1 | 0 | 0 | 0 | **1** |
| **1:00 PM** | 2 | 0 | 0 | 0 | **2** |
| **1:15 PM** | 0 | 0 | 0 | 0 | **0** |
| **1:30 PM** | 3 | 3 | 0 | 0 | **6** |
| **1:45 PM** | 1 | 0 | 0 | 0 | **1** |
| **2:00 PM** | 2 | 2 | 0 | 0 | **4** |
| **2:15 PM** | 1 | 2 | 0 | 0 | **3** |
| **2:30 PM** | 1 | 0 | 1 | 0 | **2** |
| **2:45 PM** | 0 | 0 | 0 | 0 | **0** |
| **3:00 PM** | 1 | 1 | 0 | 0 | **2** |
| **3:15 PM** | 0 | 1 | 0 | 0 | **1** |
| **3:30 PM** | 0 | 0 | 0 | 0 | **0** |
| **3:45 PM** | 0 | 2 | 0 | 0 | **2** |
| **4:00 PM** | 1 | 0 | 0 | 0 | **1** |
| **4:15 PM** | 0 | 0 | 0 | 0 | **0** |
| **4:30 PM** | 0 | 0 | 0 | 0 | **0** |
| **4:45 PM** | 0 | 5 | 0 | 0 | **5** |
| **5:00 PM** | 2 | 0 | 0 | 0 | **2** |
| **5:15 PM** | 0 | 3 | 0 | 0 | **3** |
| **5:30 PM** | 0 | 0 | 0 | 0 | **0** |
| **5:45 PM** | 1 | 0 | 0 | 0 | **1** |
| **Totals** | ***20*** | ***28*** | ***2*** | ***1*** | ***51*** |