



LOSSAN Rail Corridor Coastal Resiliency Update

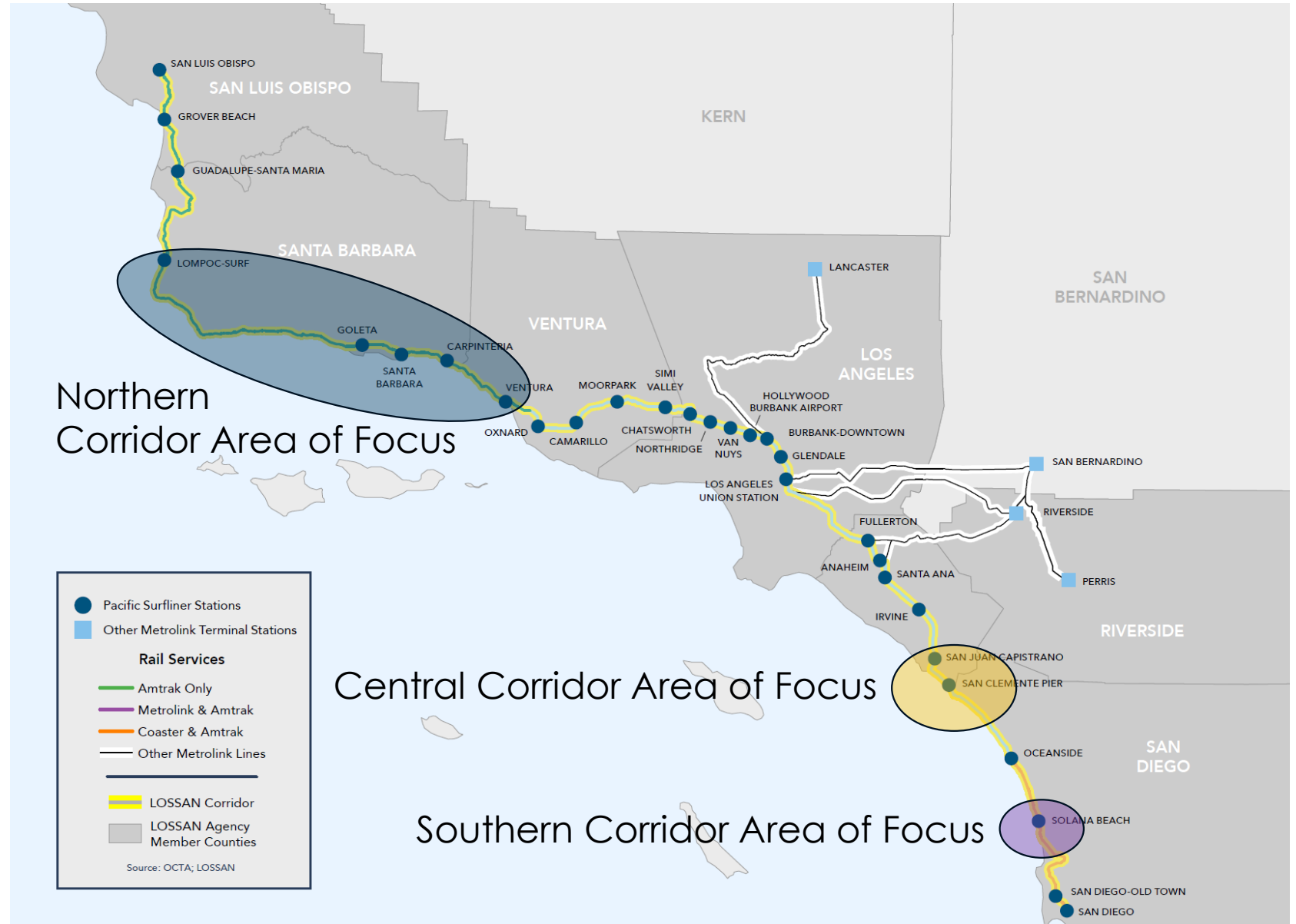
LOSSAN Technical Advisory Committee | March 6, 2025



Coastal Resiliency

There are Coastal Resiliency challenges along the entire LOSSAN Corridor, broken into 3 key areas of focus.

- **Northern Corridor Area of Focus:** LOSSAN is working with Union Pacific Railroad on a long-term strategy to stabilize the railroad.
- **Central Corridor Area of Focus:** San Clemente – OCTA is continuing study on long term solutions; started prelim design on short-term repairs.
- **Southern Corridor Area of Focus:** SANDAG is continuing short term repairs through Del Mar and refining alignments on a long-term solution to the bluffs.

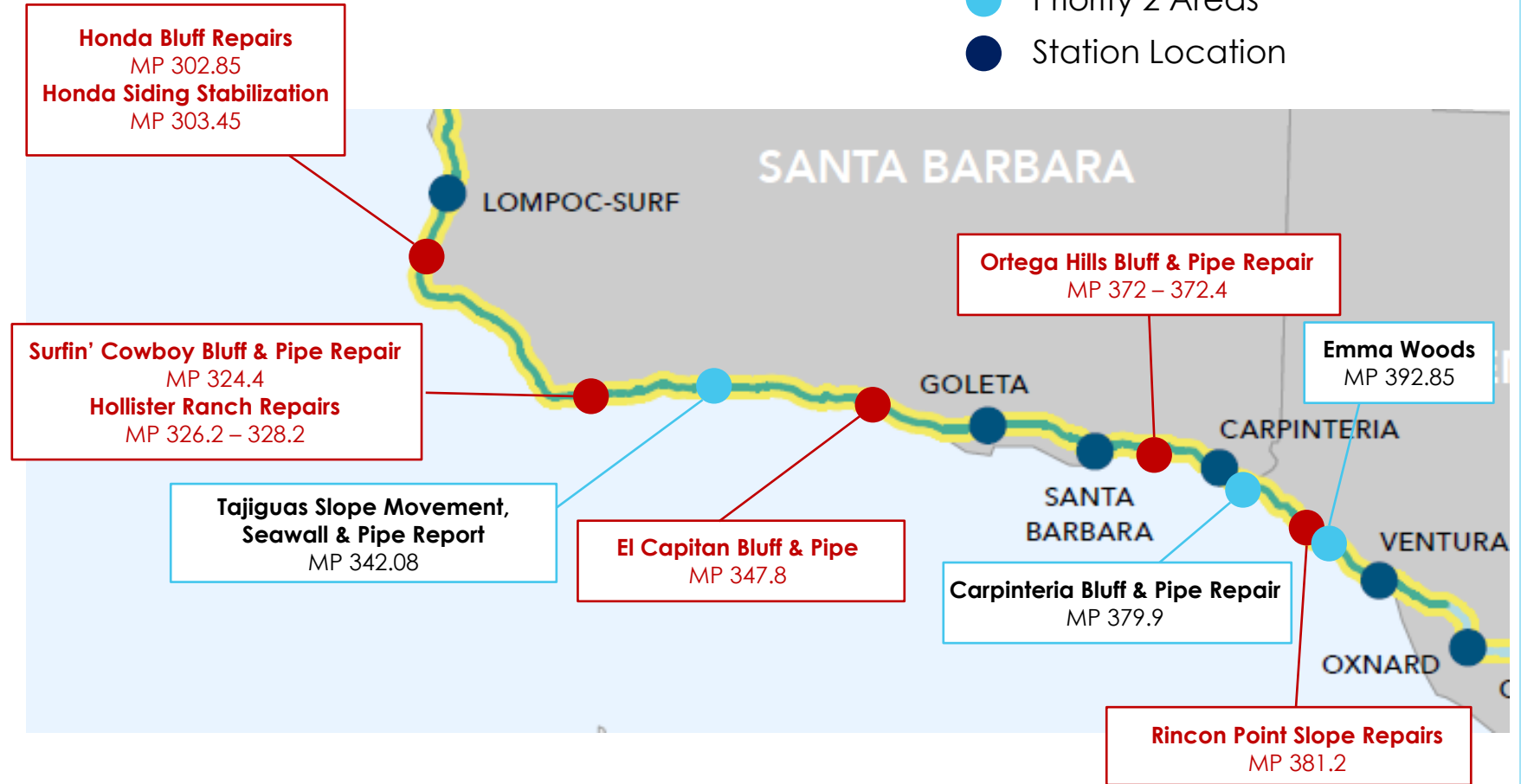


Coastal Resiliency Northern Corridor

- Corridor was field reviewed with UPRR
- Problem areas were identified and prioritized
- Top 2 areas of priority shown in red and blue.
- UPRR performing preliminary design and developing cost estimates
- Funding allocation is dependent on these cost estimates

LEGEND

- Priority 1 Areas
- Priority 2 Areas
- Station Location



Honda Bluff Repairs and Potential Track Relocation (Milepost 302.85-303.45)

Priority 1 Area: Honda Bluffs

Existing Conditions

- Shoreline erosion in sandstone formation creating cavities in lower portion of bluffs
- Failure of steep sandy slopes

Near Term Solution/On going Work

- Install slope failure monitors.
- Daily monitoring

Longer Term Solution

- Relocate tracks inland
- Protect shoreline ~1500ft of shoreline
- Fill voids in sea caves
- May need VSFB, USACE, CCC, and State Lands permits



Surfin' Cowboy (Milepost 324.4) & Hollister Ranch Repairs (Milepost 326.2-328.2)

Priority 1 Area: Surfin' Cowboy & Hollister Ranch

Existing Conditions

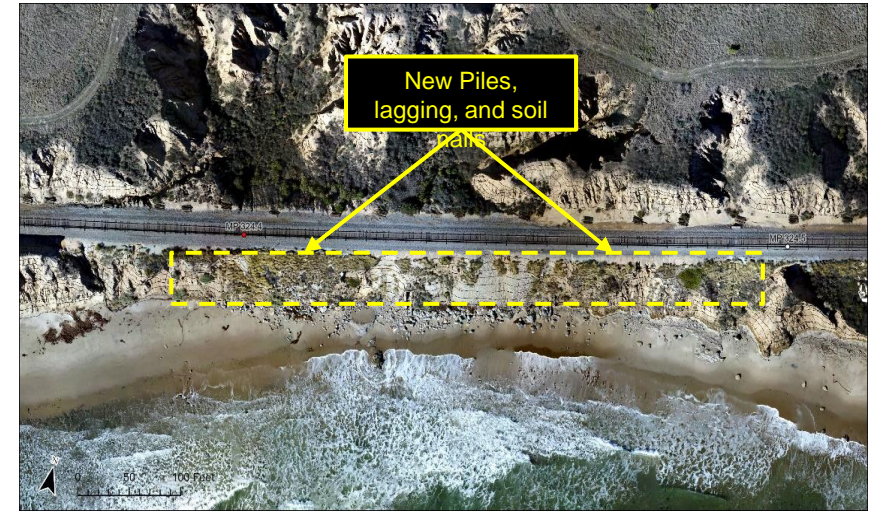
- Significant Bluff Erosion
- Loss of RR ballast
- Erosion Moving Laterally
- Failure of Seawall

Near Term Solution/On going Work

- Tieback wall high on the bluff face
- **Work is 80% complete at Surfin' Cowboy**
- Hollister to be completed early next yr

Longer Term Solution

- Replace drainage pipes
- Repair seawalls, where damaged
- Seawall work will need USACE, RWQCB, and CCC permits



El Capitan Bluff (Milepost 347.8)

Priority 1 Area: El Capitan

Existing Conditions

- Scour under wooden soldier pile wall
- Pipe broken at seawall
- Slope erosion within 6' to 8' from track

Near Term Solution/On going Work

- Fill void with rip-rap

Longer Term Solution

- Replace old pipe and headwall (built in 1916).
- Replace wood wall with concrete soldier pile wall with tie-back anchors. Fill scour hole with rock, or gabion mattress
- Improve drainage



Ortega Hill (Milepost 372-372.4)

Priority 1 Area: Ortega Hill

- Existing Conditions
- Bluff erosion below tracks due to failing storm drains
 - Slope erosion above tracks due to loose soils
 - Trash and debris clogs opening under bridge

- Near Term Solution/
Ongoing Work
- Stabilize upper slope with jute netting
 - Improve bridge opening to reduce clogging

- Longer Term Solution
- Replacement of corrugated metal pipes with proper headwalls and anchors to toe of slope.
 - Add drilled pier to secure in slope



Rincon Point (Milepost 381.2)

Priority 1 Area: Rincon Point

Existing Conditions

- Significant areas of hill erosion above the track
- Tracks covered in sand after runoff from hills

Near Term Solution/ Ongoing Work

- Dig drainage trench to better control water flow at base of the slope
- Vacuum track bed to remove sand and sediment

Proposed Repair Summary

- Install storm water pipes from the farm field at top to bottom of slope
- May need easements to perform work
- Placement of rocks, revetment to shore-up bottom of slope



Projects Summary

- Items to Note:
 - All costs are subject to change
 - Design and Construction being performed by UPRR
 - Schedules subject to change based on resource availability from UPRR

Project	Funded	Near Term Cost	\$ Funded	Start Construction	End Construction
Priority 1 Projects					
Honda Bluffs	No	\$30 M	--	2028	2029
Surfin' Cowboy Bluffs	Yes	\$5 M	\$5 M	2024	2025
Hollister Ranch Bluffs	Yes	\$5 M	\$5 M	2025	2026
El Capitan	No	\$5 M	--	2028	2029
Ortega Hill	No	\$9 M	--	2028	2029
Rincon Point	No	\$3 M	--	2028	2029
Priority 2 Projects					
Tajiguas Slope Repair	No	Unk.	--	2030	2031
Carpinteria Bluff & Pipe Repair	No	Unk.	--	2030	2031
Emma Woods	No	Unk.	--	2030	2031
Total Expected Cost		\$57 M			
Total Currently Funded			\$10 M		

Coastal Resiliency Program

Stakeholder Engagement

A corridor the length of LOSSAN requires extensive engagement to coordinate the plans and implement the solutions presented to address coastal resiliency

LOSSAN Agency Staff regularly engage with:

- Member Agency Governmental Relation Staff
- State and National Elected Officials
- Board Members
- Host Railroad and Right-of-Way Owner Technical Staff

Coastal Resiliency Program

Statewide and
Regional
Engagement

Coastal Resiliency strategies and solutions have been discussed through a variety of working groups and activities:

- CA Senate Subcommittee on LOSSAN Corridor Resiliency Hearings
- LOSSAN Regional Rail Working Group
- LOSSAN Corridor Executive Leadership Working Group
- LOSSAN Regional Rail Technical Working Group
- San Diego LOSSAN Rail Realignment Project Development Team
- OCTA Coastal Rail Resiliency Study Project Development Team
- Bi-Weekly Coordination Meetings with Union Pacific
- Hi-Rail Inspections with Union Pacific

QUESTIONS?



Update on Orange County Coastal Resiliency Efforts

LOSSAN Technical Advisory Committee | March 6, 2025





San Diego County LOSSAN Resiliency Projects

Anna Devers & Keri Robinson, Mega Projects Division
LOSSAN Technical Advisory Committee
March 6, 2025

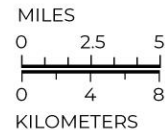
Projects in Development

60-Mile San Diego Segment

LOSSAN Rail Corridor Project Overview

Project Phase

- Planning
- Design and Permitting
- Ready for Construction
- Construction



February 2025



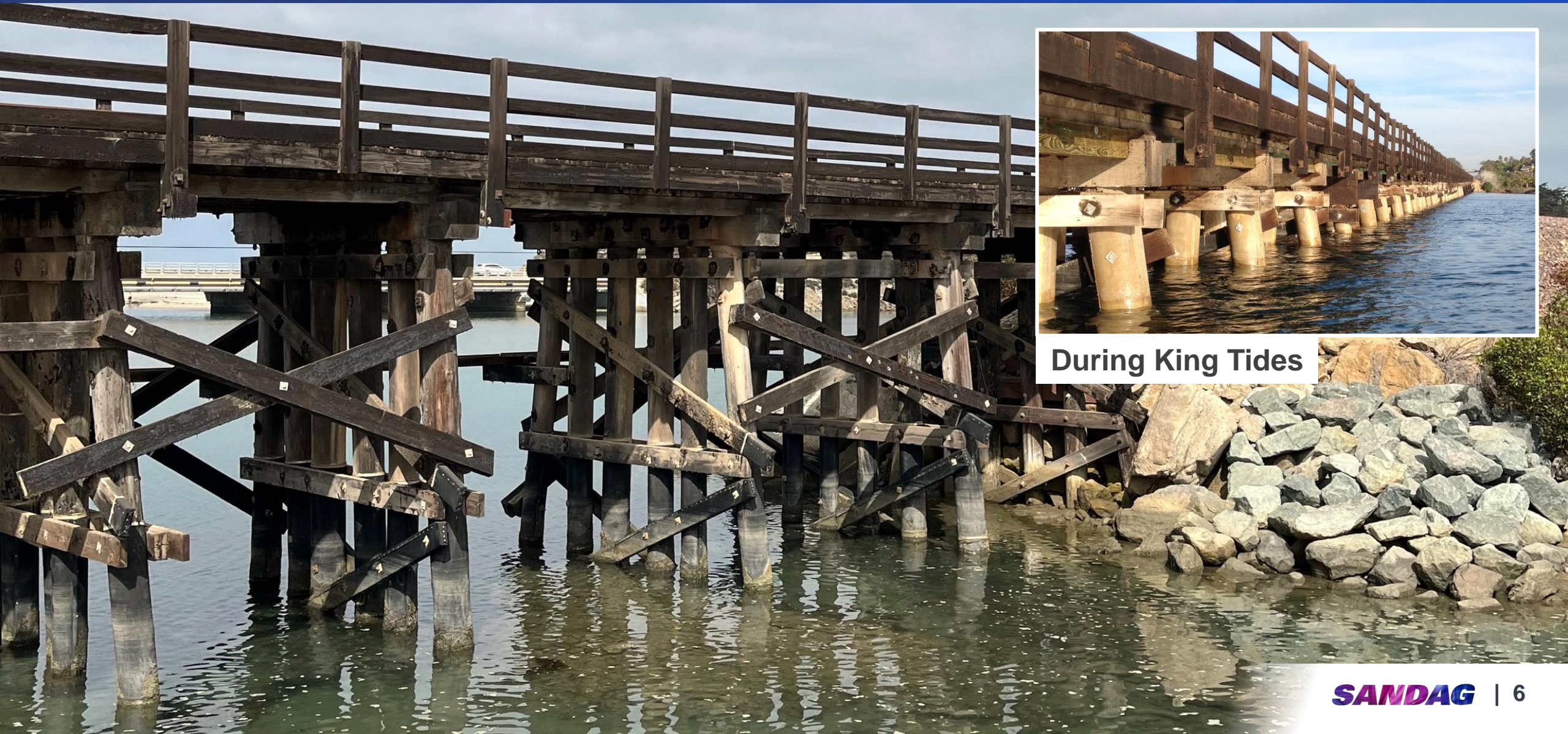
Batiquitos Lagoon Double Track

Current Construction Efforts



San Dieguito Double Track and Special Events Platform

Existing Single Track Timber Bridge



During King Tides

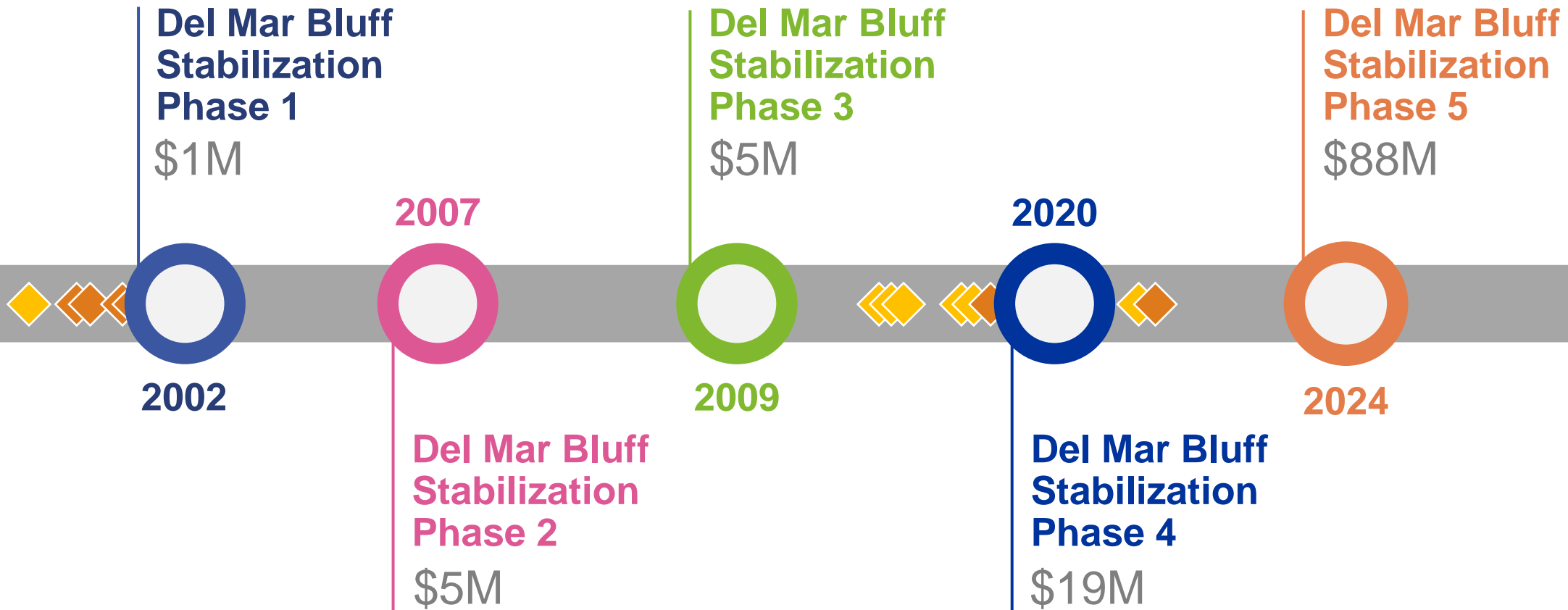


Del Mar Bluffs Stabilization Phase 5

Aerial Photo of Del Mar Bluffs



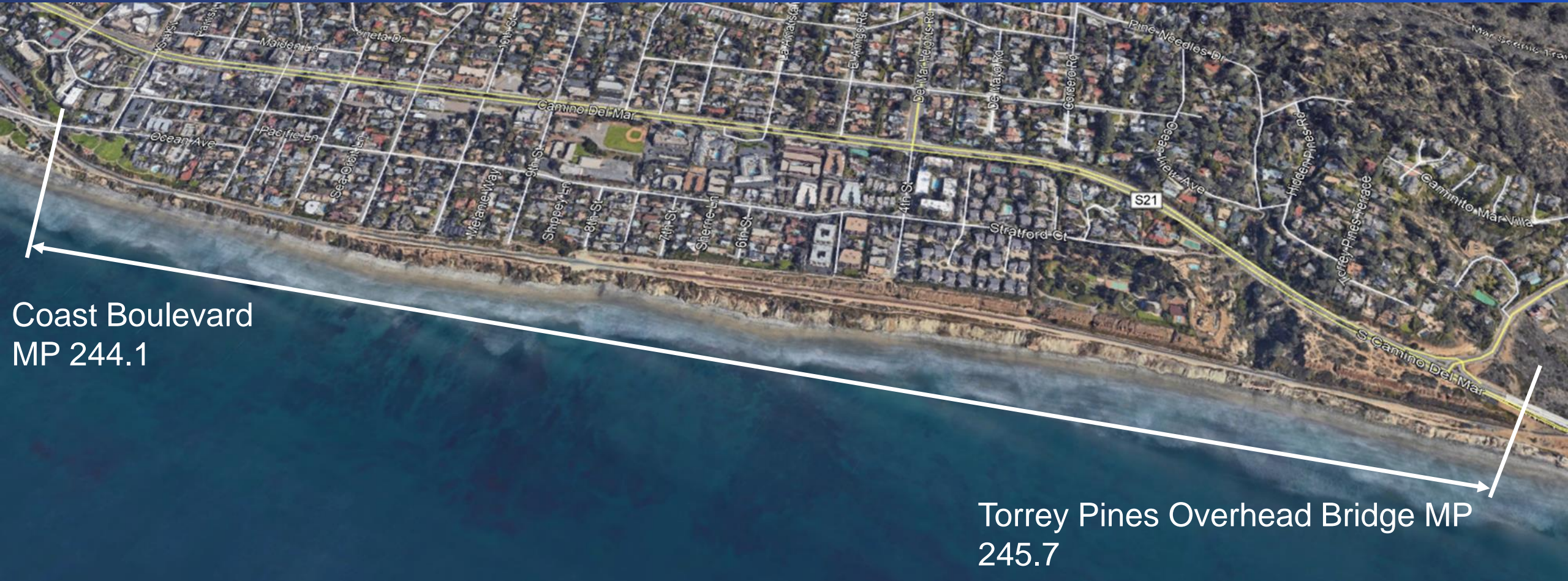
Bluff Stabilization Projects Over Time



◆ Bluff landslide impacting rail service
1996, 2018, 2019, 2021

◆ Emergency Repairs
1998, 2001, 2019, 2021

Del Mar Bluffs Stabilization Phase 5



Coast Boulevard
MP 244.1

Torrey Pines Overhead Bridge MP
245.7

Current Stabilization Efforts



San Diego LOSSAN Rail Realignment

Past Planning Efforts

- **2007** – LOSSAN Programmatic EIR/EIS (Caltrans and FRA)
- **2014** – North Coast Corridor Public Works Plan (CCC)
- **2017** – Conceptual Engineering and Environmental Study (SANDAG)
- **2018** – State Rail Plan (Caltrans)
- **2021** – 2021 Regional Plan (SANDAG)
- **2022** – Del Mar Bluffs V Stabilization Project (CCC)
- **2023** – SDLRR Alternatives Analysis (SANDAG)
- **2024** – SDLRR Notice of Preparation (SANDAG)
- **2025** – Value Analysis Study

Value Analysis

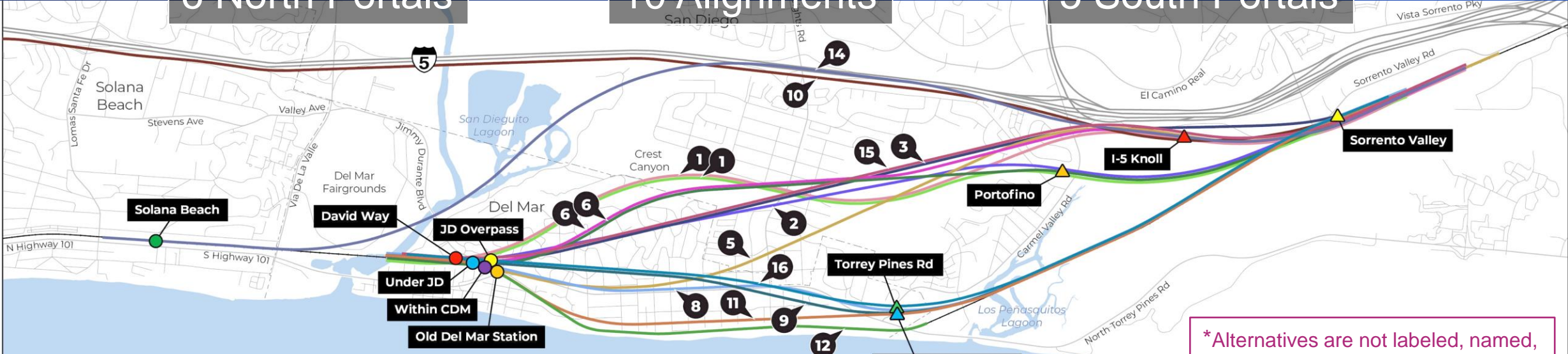
- Value Analysis (VA) is a technical study of project alternatives.
- Study held workshops and meetings in September through December 2024.
- Collaborative and technically driven fresh look at alternative concepts and ideas that could address the challenges of climate change and the eroding Del Mar bluffs to provide reliable passenger and freight service.
- The ideas, suggestions, and alternative concepts developed and evaluated by the VA Study participants are presented in the Final Value Analysis Study Report.

VA Portals and Alignments

6 North Portals

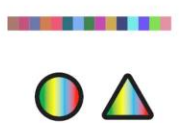
10 Alignments

5 South Portals



*Alternatives are not labeled, named, or ranked in order of preference

Figure 23. Conceptual Portal and Alignment Options



Conceptual Alignments
(Slightly Offset for Illustration Purposes)

North & South Conceptual Portal Locations

Existing LOSSAN Corridor Track Alignment

Municipal Boundary

- 1 Crest Canyon 90
- 2 Crest Canyon 110
- 3 Crest Canyon 110
- 4 Realign Jimmy Durante/Camino Del Mar (Not Mapped)
- 5 Crest Canyon 110
- 6 Crest Canyon Improved 90
- 7 Optimize Bridges and Berms (Not Mapped)
- 8 Camino Del Mar 90
- 9 Camino Del Mar 110
- 10 I-5 Oceanside to Sorrento Valley
- 11 Stratford Court 80
- 12 Double Track Bluffs
- 13 Freight to I-15 (Not Mapped)
- 14 I-5 110
- 15 Crest Canyon 110
- 16 Camino Del Mar 110



Reflects preliminary concepts as determined by VA Study participants

What Did We Learn?

Key themes and input that were incorporated into the draft revised objectives and alternative concepts developed as part of the VA Study include:

- Minimize effects to private properties, including subsurface easements
- Minimize disruptions to economic generators, such as the Del Mar Fairgrounds
- Demonstrate public stewardship by minimizing conflicts with prior and ongoing investments

Preliminary Staff Proposed Alternatives



Preliminary Staff Proposed Alternatives

February 2025

- San Dieguito Bridge to I-5 Knoll
- - - Under Crest Canyon
- - - Under Camino Del Mar
- Del Mar Bluffs Double Track Reinforced
- Tunnel Section
- Portal Location
- Existing LOSSAN Corridor Track Alignment
- - - Municipal Boundary

0 2,000 FEET



Preliminary Staff Proposed Alternatives ROM Costs

Color	Title	Estimated Cost (\$B)
—	San Dieguito Bridge to I-5 Knoll	\$3.8 – \$5.1
—	Under Crest Canyon	\$3.7 – \$5.0
—	Under Camino Del Mar	\$3.3 – \$4.4
—	Del Mar Bluffs Double Track Reinforced	\$1.9 – \$2.5

*Preliminary rough order of magnitude (ROM) cost estimates

Environmental Process (CEQA/NEPA)

