SANDAG TransNet NORTH COUNTY TRANSIT DISTRICT Caltrans

LOSSAN Los Angeles San Diego San Luis Obispo
Coastal Rail Corridor
San Diego Segment

SD-LOSSAN Regional Rail Corridor Improvements Study Update

Port of San Diego | June 15, 2021

KeepSanDiegoMoving.com

Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor

- Nation's second busiest intercity rail corridor behind the Northeast Corridor (8 million riders annually)
- Approximately $1 billion in goods carried
- San Diego Subdivision is the southernmost 60.1 miles in San Diego County
- Owned by NCTD and MTS
- Part of Strategic Rail Corridor Network (STRACNET)
- More than $1 billion identified for capital improvements (mainly capacity)

1 Del Mar Bluffs Background

Del Mar Bluffs
Landslide at MP 245.2 – 2/28/2021

Before

After

Del Mar Bluffs
Landslide at MP 245.2 – 2/28/2021

Del Mar Bluffs
AWW#1 – 03/13-14: Temp. Grading

Del Mar Bluffs
AWW#3 – 04/10-12: Pile Installation

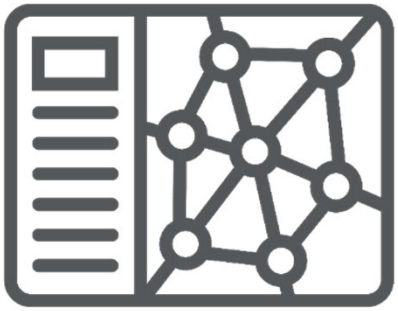
2 Study Background

Expected Study Results

The study will result in:

Alternative Alignments

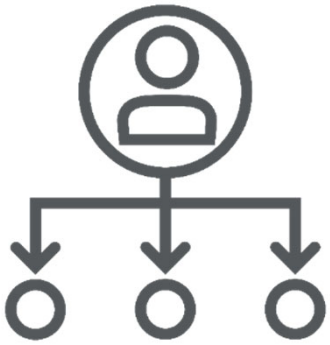
Proposed Improvements



Supporting Analysis for Passenger and Freight Rail Services

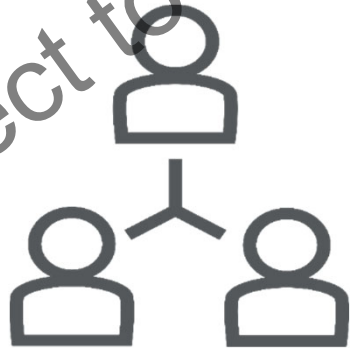
Consistent with the 5 Big Moves, recommended improvements will support future investments to reduce travel times, increase capacity, and enhance safety

Reporting Structure



PROJECT DEVELOPMENT TEAM

SANDAG
NCTD
MTS
LOSSAN
Metrolink
BNSF Railway
FRA
Caltrans



EXECUTIVE LEADERSHIP TASK FORCE

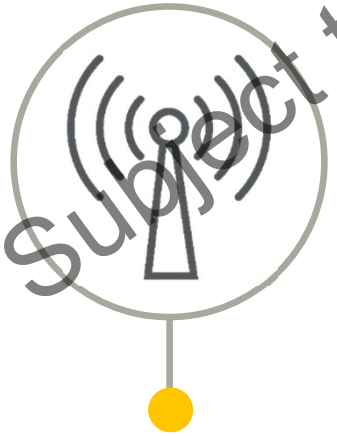
SANDAG BOARD OF DIRECTORS

3 Operational Feasibility

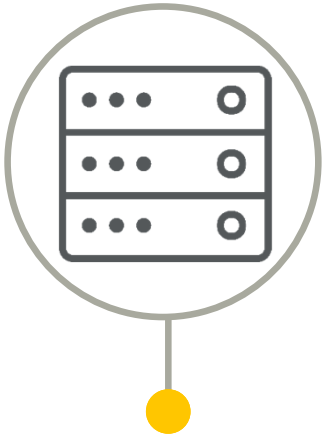
Objectives

Evaluate technology, including higher speed diesel locomotives and electrification

Identify freight and passenger service acceleration within context of LOSSAN Optimization Study



Assess changes to communications and signaling system and risks to current and near-term operations



Test a planning-level service concept for future service to proposed Sorrento Mesa Mobility Hub (in coordination with South Bay to Sorrento CMCP)

Infrastructure Assumptions

SANDAG's Infrastructure Development Plan[1]

New stations at

- Del Mar Events platform
- UTC/Nobel Station
- San Diego International Airport

Double track rail corridor from the County Line to Downtown San Diego. The preliminary results assume Del Mar and Miramar Hill tunnels

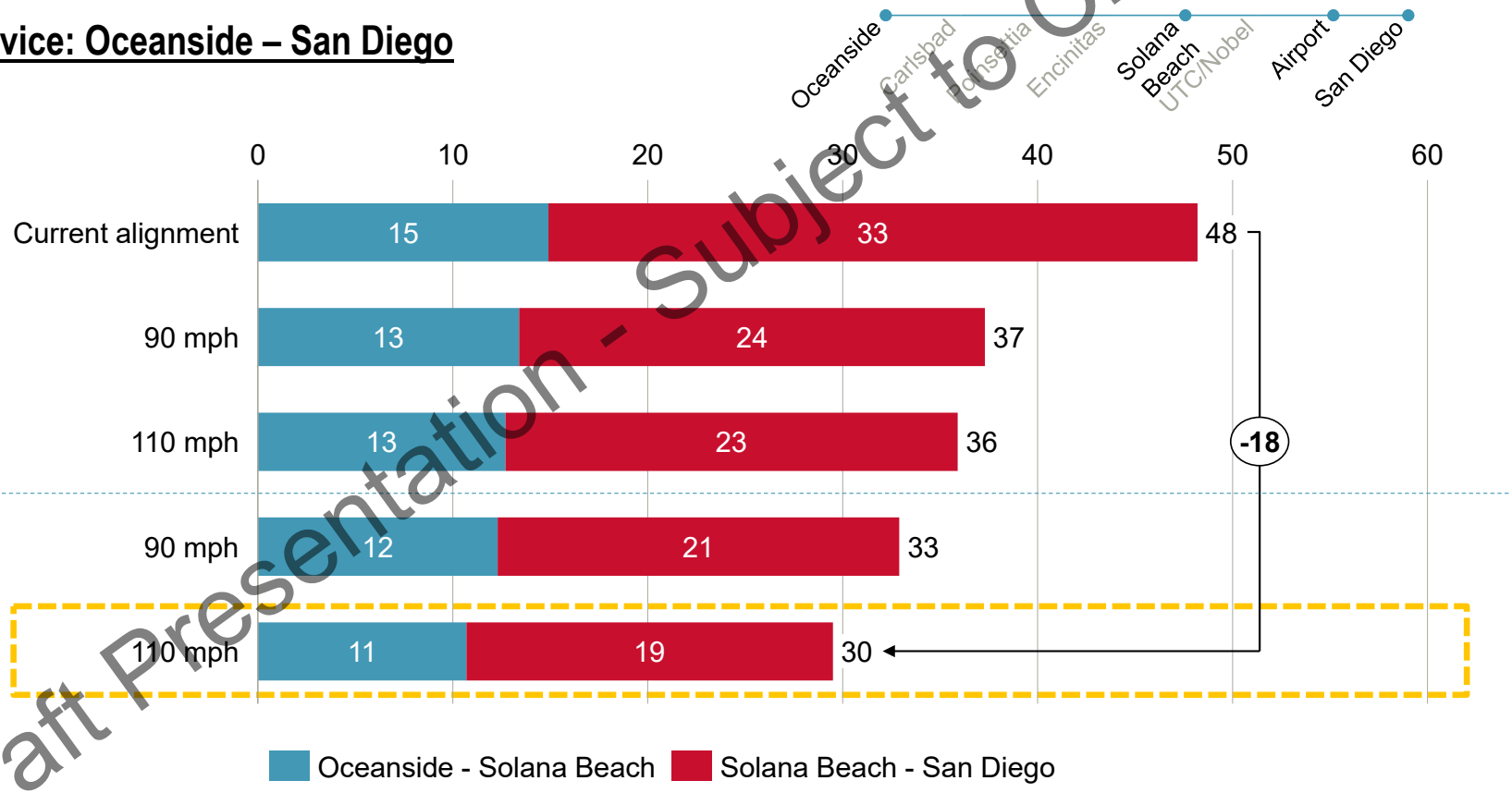
Upgraded line speeds to support 110 mph operations

(1) Also recommended in the LOSSAN Optimization Study

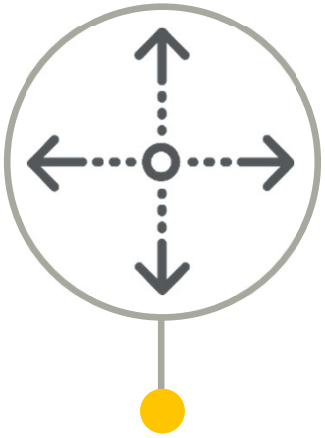
Preliminary Travel Time

(IN MINUTES)

Limited-stop service: Oceanside – San Diego

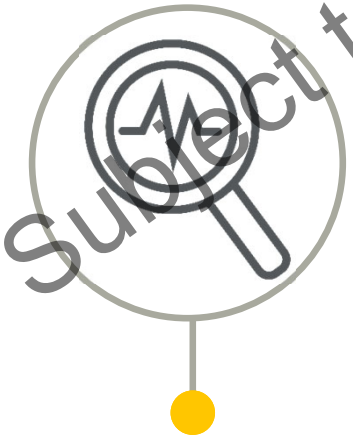


Preliminary Operational Findings

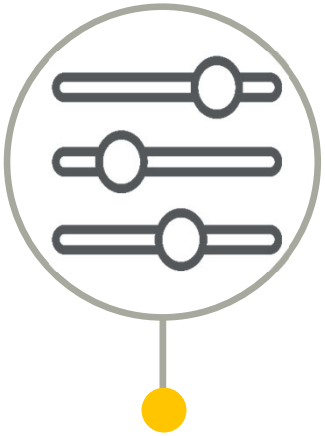


No measurable benefits for running 125 mph over 110mph due to station spacing

ZMU offers acceleration and braking benefits over diesel locomotive



Freight service safety concerns for running in shared corridor at more than 110 mph



Speed improvements in SD County highlight critical infrastructure constraints at San Clemente

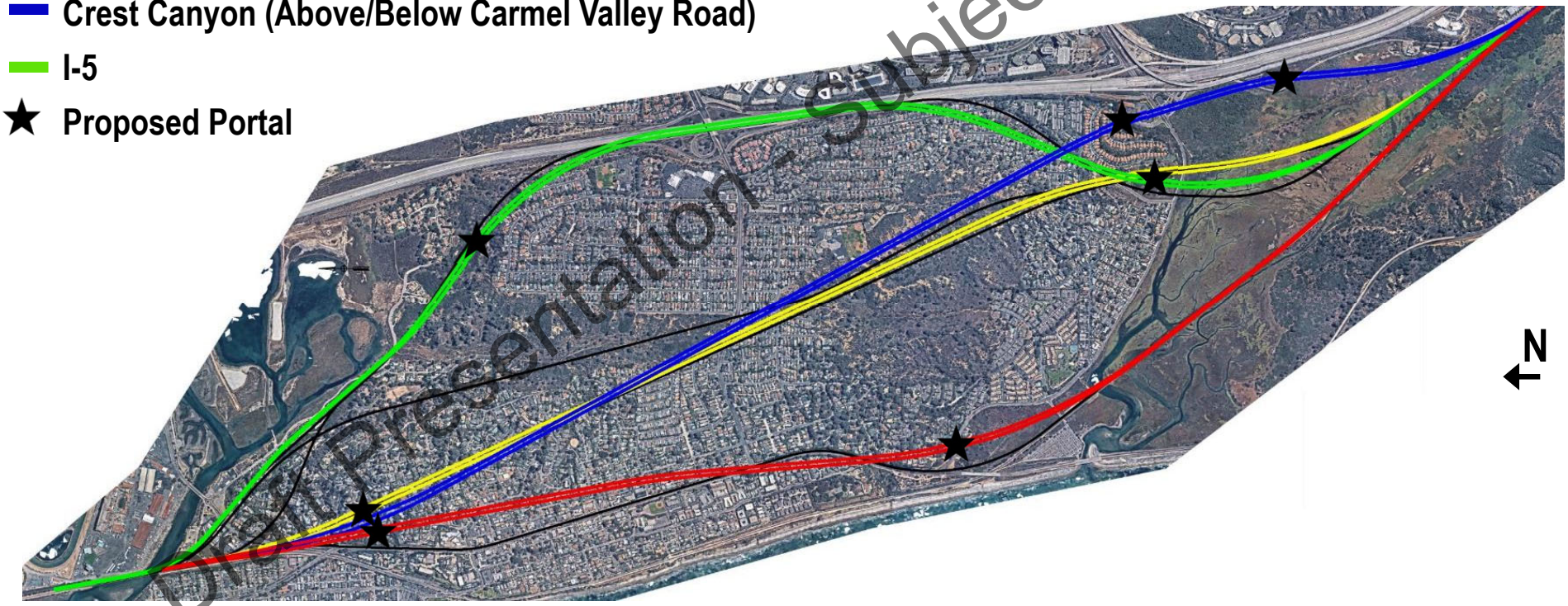
Existing fleet cannot operate beyond 90 mph due to coach restrictions

4 Realignment Alternatives Analysis

Del Mar Realignment

REVISED ALTERNATIVES

- Camino Del Mar
- Crest Canyon Higher Speed
- Crest Canyon (Above/Below Carmel Valley Road)
- I-5
- ★ Proposed Portal



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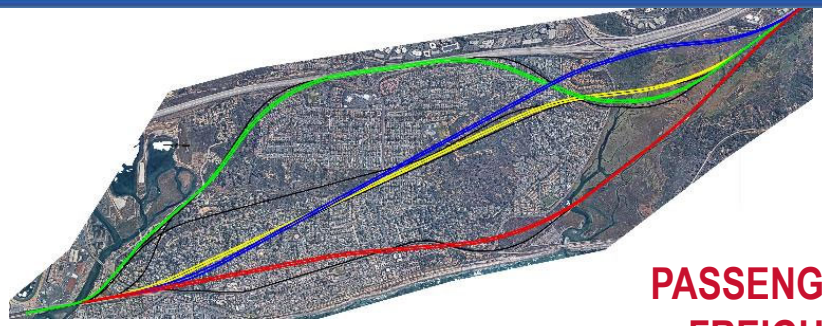
Del Mar Realignment

REVISED ALTERNATIVES



ALIGNMENT	PASSENGER/ FREIGHT MAX SPEED (MPH)	CAPITAL COSTS COMPARISONS	TRAVEL TIMES (MINUTES) Solana Beach to Old Town			
			All Stop		Limited Stop	
			Charger + 5 Coaches	ZMU	Charger + 7 Coaches	ZMU
Today	90/60	-	31	-	32	-
Camino Del Mar	110/60	Base	28.2	26.9	27.3	25.2
Crest Canyon Higher Speed	110/60	+5%	28.2	26.9	27.4	25.2
Crest Canyon (Above CVR)	110/60	+5%	28.2	26.9	27.4	25.2
Crest Canyon (Below CVR)	110/60	+10%	28.2	26.9	27.4	25.2
I-5	80/60	+30%	29.6	28.9	28.6	27.3

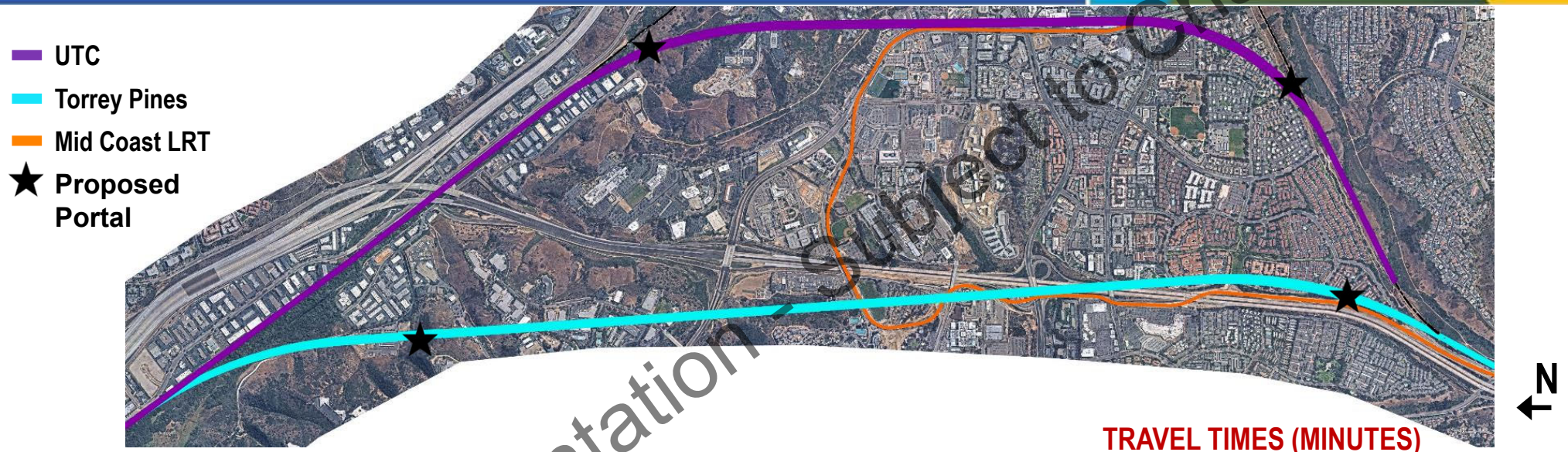
Del Mar Realignment

Preliminary Summary

Issue Area	Camino Del Mar	Crest Canyon			I-5
		Higher Speed	Above Carmel Valley Road	Below Carmel Valley Road	
Total Cost	Base	+5%	+5%	+10%	+30%
Total Length (mi)	4.9	4.8	4.5	4.5	5
Tunnel Length (mi)	1.8	2.5	2.5	3.1	2.2
Tunnel Depth (ft)*	35 - 120	35 - 275	35 - 365	35 - 480	35 - 210
Elevated Structure (ft)	8,000	4,800	4,600	130	5,300
* top of tunnel to existing ground; minimum – maximum depth					

Miramar Realignment

REVISED ALTERNATIVES



ALIGNMENT	PASSENGER/ FREIGHT MAX SPEED (MPH)	CAPITAL COSTS COMPARISONS	TRAVEL TIMES (MINUTES) Solana Beach to Old Town			
			All Stop		Limited Stop	
			Charger + 5 Coaches	ZMU	Charger + 7 Coaches	ZMU
Base Condition	90/60	-	31	-	32	-
Torrey Pines	110/60	Base	19.7	18.4	21	18.4
UTC	110/60	+2%	20.3	18.9	21.8	19

Miramar Realignment

Preliminary Summary

Issue Area	Torrey Pines	University Town Center
Total Cost	Base	+2%
Total Length (mi)	4.9	5.1
Tunnel Length (mi)	3.2	2.1
Tunnel Depth (ft)*	35 - 245	35 - 150
Elevated Structure (ft)	3,000	4,900

* top of tunnel to existing ground; minimum – maximum depth

5 Tunneling and Fire Life Safety (FLS)

Tunnels in Similar Ground Conditions

- **Mission Valley East Tunnel** – *San Diego, CA*
- **Courthouse Commons Tunnel** – *San Diego, CA*
- **Regional Connector** – *Los Angeles, CA*
- **Channel Tunnel** – Between England and France
- **Alaskan Way Viaduct** – Seattle, WA
- **BART to Silicon Valley Phase 2** (design in progress) – San Jose, CA

Fire Life Safety Egress

REASONS FOR EGRESS

Escaping from a fire on train or in tunnel

Leaving train during power outage

Derailment

Train breakdown

Fire Life Safety Egress

MEANS OF EGRESS

- Cross-passages
- Or an exit to the surface
- Walkways
- Emergency signage and markings.

Tunnels with Similar Operations

US Tunnels

- Moffat Tunnel – Colorado
- B&P Tunnel – Maryland
- Cascade Tunnel – Washington
- Flathead Tunnel - Montana

International Tunnels

- Channel Tunnel – between England and France
- Gotthard Base Tunnel – Switzerland
- Brenner Pass Tunnel – between Austria and Italy (under construction)
- Loetschberg Tunnel - Switzerland

Study Schedule

Baseline Documents*	Del Mar Tunnel Alternatives Analysis	Miramar Hill Tunnel Alternatives Analysis	Corridor Wide Higher Speed Evaluation	Cost Estimates, Phasing and Implementation Plan
Summer 2021	Summer 2021	Fall 2021	Fall 2021	Spring 2022
Public Outreach				

**Baseline Documents are Existing Conditions, Higher Speed Operational Feasibility, Track and Tunnel Basis of Design, Corridor Resiliency*

Study to conclude in April 2022

Future phases of development are pending funding