

APPENDIX F

**LOSSAN San Diego Regional Rail Corridor Working Group
Key Questions for the Sub Working Group to support alignment of state, regional,
and local objectives for the LOSSAN Corridor long-term solution.**

- 1. What are the key objectives we hope to achieve through the LOSSAN realignment, such as improved capacity for goods movement, improved passenger capacity and/or reduced travel times, improved safety, greater reliability and resiliency, mode shift to rail from roads? What purpose do we want future LOSSAN rail service to serve in the San Diego region (connectivity to job/population centers, connectivity to Mobility Hubs, frequent regional travel on 15 min headways, greater frequency for express travel to Orange County, LA and beyond)?**

The Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor stretches 351-miles through six southern California counties and is the nation's second busiest passenger rail corridor. Nearly eight million passengers use the corridor's intercity and commuter rail services annually.

The San Diego Subdivision is the southernmost 60.1 miles of the LOSSAN Corridor, from the Orange County/San Diego County line to downtown San Diego. Current corridor planning documents include the goal of doubling the amount of passenger rail services along the San Diego Subdivision by 2035. For example, *San Diego Forward: The Regional Plan* and the *Infrastructure Development Plan for the LOSSAN Corridor in San Diego County* include this goal (both documents are available at www.sandag.org). *The 2018 California State Rail Plan* also calls for more than doubling the rail service into San Diego by 2040, with at least 4 trains per hour (2 express and 2 local) throughout the day, and the potential for more service during peak periods.

The LOSSAN San Diego Regional Rail Corridor Working Group's key objectives for the rail corridor, which may involve the potential LOSSAN realignment, include:

- Enhancing safety and resiliency
- Improving passenger and freight capacity
- Reducing travel time and improving passenger service reliability as necessary to meet connectivity and ridership goals
- Providing greater connectivity to Mobility Hubs and job centers

- Meeting long-term sustainability goals through mode shift from roads to rail
- Protecting the environment and preserving the ecology and natural beauty of the region

Public safety must be a primary objective of the LOSSAN San Diego Region realignment. The long-term alignment must take the LOSSAN Corridor off the Del Mar Bluffs and include tunneling and highway-rail grade separation to deconflict rail traffic with vehicular, bicycling and pedestrian activity.

Other LOSSAN San Diego Region realignment key objectives should include improving passenger and freight capacity, reliability and greater connectivity. These objectives are consistent with the *LOSSAN Corridor Optimization* study currently being conducted by the LOSSAN Corridor Agency. The purpose of the *LOSSAN Optimization Study* effort is to develop a long-term passenger service concept to specify service goals and to identify operating and capital improvement needs; the study will be completed by December 2020.

The *LOSSAN Corridor Optimization* study will develop draft operating concepts for the corridor across a 10-year planning timeframe, including near-term (2021), mid-term (2024), and long-term (2028) operating plans. The study envisions new passenger service operating concepts in which trains operate on pulse schedules, providing regular, reliable, and intuitive connections between different service tiers. Greater service reliability, adherence to schedules and service frequency are crucial for improving the movement of people. By better understanding 2028 service goals, the study will also help prioritize near-term capital investments, significantly informing the *2022 California State Rail Plan*.

Through a strategically optimized and streamlined passenger schedule along the LOSSAN Corridor (including Pacific Surfliner, Metrolink, and COASTER services), future LOSSAN rail service can provide greater connectivity and frequency to the greater Southern California region. High-speed rail services to the Inland Empire and Los Angeles may also share portions of current LOSSAN Corridor. In San Diego specifically, this optimized corridor provides a dependable framework for connecting transit services at several Mobility Hubs throughout the region and streamlines connectivity to Orange and Los Angeles Counties.

To improve the movement of people, a realigned corridor should encourage the development of Mobility Hubs around major residential and job centers. The *2018 California State Rail Plan* includes Mobility Hubs and envisions increasing

development around these Mobility Hubs as a key strategy for increasing ridership.

In addition to increasing access to housing and job centers, local residents have also expressed the desire for access to major entertainment centers and airports (SAN & LAX) either directly, or in combination with a single, simple, fast, intuitive, multi-modal link. In North San Diego County, potential locations for Mobility Hubs close to existing job centers at transit stops serviced by North County Transit District (NCTD) COASTER commuter rail exist today. These include the *Sorrento Valley Station* and the *Poinsettia Station*.

- Similarly, *Poinsettia Station* is located near Carlsbad's Palomar Airport Road commercial corridor, LEGOLAND and McClellan Palomar Airport.
- *Sorrento Valley Station* is near, but not within walking distance of regional tech, bio-tech, health care and education centers. Sorrento Valley station is also the closest location on the corridor to University Town Center, the second largest employment concentration in San Diego County. Careful thought and planning for multi-modal links to major employment locations in the Sorrento Valley tech center would be beneficial. Should the Miramar Hill Tunnel move from concept to reality, an additional station at Westfield UTC could significantly increase ridership.
- The Oceanside Transit Center (OTC) is already a Mobility Hub. OTC provides multi-modal links to and from the Pacific Surfliner, COASTER, SPRINTER and buses. A major re-development of that site is currently under consideration that could further increase ridership.

The LOSSAN Corridor San Diego Region realignment should accommodate both the long-term passenger services public agencies are seeking to provide *and* freight service. The realignment should accomplish both these objectives – improved passenger service should not be provided at the expense of improved freight service (and vice versa).

Improving both regional passenger and freight capacity and service is critical for achieving sustainability objectives, including a transportation modal shift to rail from roads resulting in Greenhouse Gas emissions reduction goals.

As noted in the *2018 California State Rail Plan*, when improving rail infrastructure to attract additional long-distance freight movement (otherwise concentrated on highways), extra capacity is created on highways for passengers and short-

distance freight travel. Improvements to the rail network allow for the shift of goods movement from truck to rail, thereby creating capacity on the existing infrastructure by reducing demand for travel that can benefit from rail capacity. Increasing the movement of people and goods by rail results in complementary benefits to parallel highway trade corridors. It also helps mitigate congestion on freeway and road systems and furthers greenhouse gas reduction goals.

Additionally, the Department of Defense (DOD) relies on a well-maintained, fully functional civil rail network to support our national defense requirements. The rail line between Los Angeles and San Diego is designated as a Strategic Rail Corridor Network (STRACNET) line. This line is important to national defense because it provides access to Marine Corps Base Camp Pendleton and the Port of San Diego. Any action taken at the federal, state, regional or local level to increase reliability and capacity of rail service between Los Angeles and San Diego will benefit national defense as well as benefiting the shipping and travelling public in Southern California.

The LOSSAN Corridor San Diego Region realignment must protect the environment and preserve the natural beauty of the region, including preserving ecological reserves such as the San Dieguito and Los Penasquitos Lagoons.

Finally, the realignment should include a public outreach process to capture local concerns from cities hosting the rail line.

- 2. The California State Rail Plan lays out the vision for regular passenger rail service on a regular-interval, reliable (95%+ on-time), integrated network basis. The future vision for the San Diego region includes at least half-hourly express and half-hourly local services in the LOSSAN corridor, plus frequent high-speed rail services from the region to Ontario Airport and then through the Inland Empire and to Los Angeles and beyond. Key hubs in the region would have timed connections to regional and local transit services. It also lays out goals for increased goods movement capacity in the corridor to and from the Port of San Diego.**

- a. For the LOSSAN rail corridor in San Diego, what are the incremental steps that should be analyzed in the Long-Term San Diego Regional Rail Alternative Alignment Study in order to attain this vision, given current levels of passenger service?**

Currently, two studies are underway that will describe incremental steps to be analyzed to attain a longer-term vision for the LOSSAN Corridor.

SANDAG's *Long-Term San Diego Regional Rail Alternative Alignment Study* (also discussed above) will assess the current corridor conditions along the 60.1-mile LOSSAN Corridor San Diego Subdivision and develop a program of improvements to meet service goal objectives identified through 2028. The *LOSSAN Corridor Optimization Study* sets out a prioritized capital investment plan that links prioritized and programmed infrastructure projects to service and operational benefits.

The *Long-Term San Diego Regional Rail Alternative Alignment Study* will detail a program of improvements through 2050 to increase track capacity, improve resiliency, enhance safety and support increased passenger and freight frequencies. These improvements will include alternative alignments along key segments of the corridor, grade separations, and other enhancements.

The market for passenger rail service is well established in the LOSSAN Corridor, which is the second busiest intercity corridor nationwide. This study builds upon this success by developing one plan to address both current and future demand by increasing the corridor's competitiveness with driving the congested parallel Interstate-5 corridor.

The incremental steps that will be analyzed through the *Long-Term San Diego Regional Rail Alternative Alignment Study* Scope of Work include:

- Regional Plan/State Rail Plan/LOSSAN Optimization Study/Relevant Studies Coordination
- Corridor-wide Higher Speed Improvements and Evaluation
- Operational Feasibility
- Del Mar and Miramar Hill Alternatives Analysis
 - Updated mapping, utilities
 - Updated communications, signals
 - Updated evaluation criteria and alternatives analysis
 - Preliminary drainage report
 - Geotechnical
 - Noise and Vibration
 - Right of Way Requirements
 - Rail Equipment Analysis
 - Cost Estimates
 - Visual Simulations
 - Environmental Approach
 - Economic Impact Analysis
- Future Connections and Extensions (e.g., Extension to International Border)
- Phasing and Implementation Plan

- Public Involvement

SANDAG's *Long-Term San Diego Regional Rail Alternative Alignment Study* could build upon the plans within the *LOSSAN Corridor Optimization Study* to inform 2050 vision of the *2022 California State Rail Plan* and the current update to *San Diego Forward: The Regional Plan*.

b. The State Rail Plan also expects the corridor to use electrified or zero-emission technology. What implication does this and the presence of double-stack freight in the corridor have on the tunnel design and realignment options?

The LOSSAN Corridor can currently accommodate up to the Association of American Railroads (AAR) Plate K loading gauge standards that allow freight train cars as large as 20 feet 2 inches tall and 10 feet 8 inches wide. Any tunnel and/or bridge construction would need to accommodate Plate K as well as High/Wide/Heavy, where 22 feet 6 inches tall and 14 feet 6 inches wide constitute the largest allowed dimensions.

Any longer-term efforts to electrify or tunnel the corridor would require significant coordination with freight partners to ensure viability and consistency with national freight network expansion and long-term plans. NCTD has completed a vehicle technology study and intends to pursue the procurement of zero-emission technology as an option for the new SPRINTER fleet that will be designed to meet Federal Railroad Administration standards to support dual operations on both the coastal and inland railroad. NCTD anticipates advancing this procurement in the 2028-2030 timeframe. The trainsets will have a 20-year lifecycle. NCTD and BNSF agree that the focus should be on achieving near- or zero-emissions on the locomotive without significant wayside investments such as catenary systems. BNSF is also requesting NCTD and other transit agencies to consider participation in a project to re-power a diesel locomotive with a battery electric propulsion system. BNSF is awaiting a formal response from NCTD.

The LOSSAN San Diego Regional Rail Corridor Working Group also believes the LOSSAN Corridor realignment should avoid a catenary-based system to preserve the region's natural coastal beauty. These expectations are also consistent with the *2018 California State Rail Plan*, in which hybrid technologies are anticipated. These technologies could potentially make use of catenary in locations where it is suitable and rely on battery or fuel cell technology in locations where such infrastructure is especially expensive or not desirable due to community impacts.

Finally, SANDAG plans to study how to increase operational speeds along the corridor, including an evaluation of technologies and potential future electrification. Coordination with San Diego Gas and Electric (SDG&E) or successor Community Choice Aggregators will be necessary to ensure grid capacity and system resilience are addressed to support the final realignment.

Additionally, a high-level review and a very preliminary cost estimate for a new "Fallbrook Line" transit rail service between Temecula (Southern Riverside County) and Fallbrook Junction in Oceanside (San Diego County) has been prepared. A new Fallbrook Line could provide Southern Riverside County residents a viable and more direct alternative for accessing the LOSSAN Corridor than utilizing Metrolink from the 91/Perris Valley and the Inland Empire-Orange County lines. Further, a "Fallbrook Line" could also provide northern San Diego County residents an alternative to using the I-15 and various branching state routes to access LOSSAN trains.

- c. High-speed rail services to the Inland Empire and LA may share portions of the current LOSSAN corridor for access to San Diego. Are there options that would impact the alignment alternatives under consideration near the Del Mar Bluffs? How does the timing of advancing high-speed rail influence the amount of capacity needed in the LOSSAN corridor?**

High-speed rail services to the Inland Empire and LA would need to connect passengers to the Interstate-15 freeway high-speed rail corridor and through Temecula into the Inland Empire and the LA Basin, where Metrolink currently provides service. The development of high-speed rail services has a specific impact on the degree of service needed in the LOSSAN corridor, as travel times will be significantly faster on that alignment for passengers heading north of Orange County.

The existing SPRINTER line utilizes the same gage rail and runs freight between Oceanside and Escondido regularly. The SPRINTER corridor will provide an important connection to both the LOSSAN and high-speed rail corridors.

All alignments for Del Mar Bluffs will still provide connections to the Solana Beach and Sorrento Valley stations, which service major employment hubs for the region.

- 3. Part of SANDAG's Long-Term San Diego Regional Rail Alternative Alignment Study will update plans for extending passenger rail service to the US/Mexico border, consistent with the State Rail Plan and building**

upon past studies. What should the realignment address in terms of the service goals, phasing, and integration with the LOSSAN rail corridor?

The *2018 California State Rail Plan* recognizes the value of extending passenger services south of Downtown San Diego towards the Mexico border. In connection to the ongoing *LOSSAN Corridor Optimization Study*, BNSF and NCTD recently advanced a study with DB Engineering & Consulting to understand how capacity on the San Diego Subdivision can be improved to accommodate greater passenger and freight service levels. The study specifically evaluates freight pathing between CP Atwood and the Port of San Diego and passenger service extensions south of downtown San Diego (referred to here as "*Freight Pathing and Passenger Service Extension Study*").

This study investigates how service objectives can be achieved through operations and infrastructure plans, including:

- Mid-term Planning Horizon (2024): extend COASTER services south to a new station at San Diego's Convention Center.
- Long-term Planning Horizon (2028): extend Amtrak services south to a new maintenance facility in National City.

SANDAG's *Long-Term San Diego Regional Rail Alternative Alignment Study* should incorporate the findings of the *LOSSAN Optimization Study* and the *Freight Pathing and Passenger Service Extension Study*. The recently completed *Freight Pathing and Passenger Service Extension Study* identifies capital investments to support freight growth to the Port of San Diego and passenger extensions south of the Santa Fe Depot.

The *2018 California State Rail Plan's* future vision for the San Diego region includes at least half-hourly express and half-hourly local services in the LOSSAN corridor. The LOSSAN San Diego Region Working Group recommends more aggressive frequency objectives. COASTER, for example, has a future goal of 30-minute frequencies during peak periods to begin upon delivery of new trains. Combined with the hourly service goal for the Pacific Surfliner passenger service, improvements result 3 trains per hour in each direction, matching the frequency envisioned in past regional plans calling for 20-min passenger rail service headways.

- 4. The LOSSAN rail corridor is the San Diego Region's only viable freight rail corridor. Although freight service is somewhat limited currently, recent studies have identified significant increases in freight rail service needs**

over the long term. What specific freight needs should be addressed as part of the realignment?

There is a need and desire to increase freight service in the San Diego Region and current limitations on freight service are widely known. There are challenges associated with running both passenger and freight service on the same rails.

The LOSSAN Corridor, which runs along the Del Mar Bluffs and through Coastal cities like Solana Beach, may not offer sufficient right-of-way to increase beyond existing single track in areas like the bluffs or double track through Coastal cities like Solana Beach.

Acquisition of increased right-of-way along the San Diego Region's scenic, environmentally fragile, coast line does not seem like a viable path forward especially once the cost of land is considered.

According to the *LOSSAN Corridor Optimization Study*, the LOSSAN Corridor's mainline infrastructure needs to scale according to near-term, mid-term, and long-term passenger and freight traffic needs.

- Mid-term (2024) infrastructure needs are driven by the goals of introducing five additional slots per day per direction for freight services and hourly off-peak local and express passenger services.
- Long-term infrastructure needs (2028) are driven by the need for eight additional freight paths per day and per direction while allowing for hourly local and express passenger services off-peak.

The result of these efforts would increase the number of freight trains from six (6) trains per day in 2020 to 22 trains per day in 2028.

The *LOSSAN Corridor Optimization study*, and associated *Freight Pathing and Passenger Service Extension Study*, provide an opportunity for regional consensus surrounding significant expansion of the Port of San Diego, freight capacity, and passenger service capacity. The realignment should include the capital investment included in these studies, which provide an opportunity to meet growing freight service needs.

Some members of the LOSSAN San Diego Regional Rail Corridor Working Group suggested examining the possibility of restoring and reopening the Desert Line of the *San Diego and Arizona Eastern Railway* for freight service.

The *San Diego and Arizona Eastern Railway Company*ⁱ is a short-line American railroad founded in 1906 by sugar magnate, developer, and entrepreneur John D. Spreckels. The line was established in part to provide San Diego with a direct rail link to the east by connecting with the Southern Pacific Railroad lines in El Centro, California. The *San Diego and Arizona Eastern Railway* route originates in San Diego, California and terminates in El Centro, California. Many sections of the original railway have been damaged or sold off; sections of the railway cross the Mexican border and have been sold to Mexican companies.

The consensus of the LOSSAN San Diego Regional Rail Corridor Working Group is that restoring and reopening the *San Diego and Arizona Eastern Railway Company* would present large binational engineering and commercial challenges.

ⁱ Wikipedia, San Diego and Arizona Eastern Railway:

https://en.wikipedia.org/wiki/San_Diego_and_Arizona_Eastern_Railway

Metropolitan Transit System, SAN DIEGO & ARIZONA EASTERN (SD&AE) RAILWAY:
<https://web.archive.org/web/20120510101526/http://www.sdmts.com/MTS/documents/SDAE-FactSheet.pdf>