	APPENDIX
	/ (



Gavin Newsom

Governor

David S. Kim Secretary 915 Capitol Mall, Suite 350B Sacramento, CA 95814 916-323-5400 www.calsta.ca.gov

October 27, 2020 1:00PM – 3:00PM LOSSAN San Diego Region Working Group Agenda

	<u>Item</u>	<u>Topic</u>	Presenter
1:00PM- 1:10PM	Item 1	Welcome and Introductory Remarks (10 Minutes)	CalSTA Secretary David Kim
1:10PM- 1:20PM	Item 2	Report from the Sub Working Group to identify state transportation funding options for Del Mar Bluffs Phases 5 and 6 (10 Minutes)	Robyn Wapner and Laurie Gartrell, SANDAG
1:20PM – 1:30PM	Item 3	SANDAG and California Coastal Commission Coordination Efforts (10 Minutes)	Tim Pesce and Kanani Leslie, SANDAG
1:30PM – 1:45PM	Item 4	Vision for the San Diego Regional Plan (15 Minutes)	Coleen Clementson, SANDAG
1:45PM- 2:00PM	Item 5	Update from the Sub working group to support alignment of state, regional, and local objectives for the LOSSAN Corridor long-term solution (15 minutes)	Linda Culp, SANDAG and Chad Edison, CalSTA

2:00PM – 2:10PM	Item 6	Update from U.S. Representative Mike Levin (10 Minutes)	U.S. Representative Mike Levin
2:10PM – 2:50PM	Item 7	U.S. Department of Transportation Build America Bureau Infrastructure Financing Options (40 minutes)	Daniel Schned, Leo Wetula, Roger Bohnert, Morteza Farajian, U.S. DOT
2:50PM – 3:00PM	Item 8	Closing Remarks	Secretary Kim

LOSSAN San Diego Regional Rail Corridor Working Group October 27, 2020

Meeting Notes

1. Welcome & Introductory Remarks – Secretary David Kim

- a. Good afternoon, thank you for joining us for our 4th meeting. Hard to believe that this is the 3rd video conference, feels like years ago since our first meeting at SANDAG headquarters. Quick shout out to Michael Cheng and IT folks at Caltrans for all their work to make these go smoothly.
- b. To kick this meeting off on a lighter note: This has been a horrible year, 2020 We've all been hearing jokes about what a horrible year it's been. Like, If 2020 were a boating trip it would be "Jaws". If 2020 were a drink, it would be a colonoscopy prep.
- c. Our collective efforts are the fruitful exception to a challenging year. When we first convened the LOSSAN Working Group in January, I anticipated that we would meet for about a year and produce a report. I expect we'll have one last meeting near the end of the year to review the Group's report. It will summarize our work as well as outline next steps to support a continuing regional discussion of long-term solutions for the LOSSAN Corridor San Diego Subdivision.
- d. It's worth reflecting on the progress made together over these months. We started the year with an urgent need to repair emergency storm damage along the bluffs, with a \$100 million estimated costs to stabilize the bluffs for the next 3 decades. We've secured grants for the Del Mar Bluffs stabilization from the Federal Railroad Administration (FRA) and through CalSTA Transit and Intercity Rail Capital program (TIRCP). We've developed a compelling case for bluffs stabilization and other LOSSAN freight capacity improvements currently under consideration for Trade Corridor Enhancement Program (TCEP) funding. If we're successful, we'll have secured all but approximately \$15 million to fully fund Del Mar Bluffs phases 5 and 6.
- e. We've also explored other funding options to complete stabilization, including a feasibility study for a U.S. Army Corps of Engineers Congressionally authorized construction project.

 Appreciate Mike Levin's strong advocacy.

- f. This Working Group has set the stage for regionally led discussions of long-term solutions for the LOSSAN Corridor, which may include realigning the Corridor off the Del Mar Bluffs.
- g. Back in June, Caltrans provided funding for SANDAG to study LOSSAN realignment and our Long-Term Sub Working Group responded to key questions and considered key objectives that might be achieved through LOSSAN realignment. To inform future discussions of long-term solutions, which could entail undertaking a multi-billion dollar investment, I've invited representatives from the Build America Bureau from USDOT who will give us a briefing on financing options and other assistance provided such as exploring project delivery approaches like public-private partnerships and help with navigating project development processes like permitting.
- h. Thank you all and look forward to a productive discussion and participation.

Report from the Sub Working Group to identify state transportation funding options for Del Mar Bluffs Phases 5 and 6 – Robyn Wapner and Laurie Grover, SANDAG

(Robyn Wapner had technical difficulties; Laurie Grover presented)

- a. Federal Update:
 - As most are aware, earlier this year SANDAG and NCTD submitted a Letter of Interest to partner with the Army Corps to conduct a Feasibility Study on the final phase of the Bluff Stabilization efforts.
 - II. While we are still awaiting a response on these efforts and while we continue to advocate for this partnership, we are also pursuing a complementary path to working with the Army Corps through their Planning Assistance for States (PAS) Program through the local district office.
 - III. Through the PAS program, we could receive assistance to aide in some of the technical analyses needed for the Stabilization project like coastal modeling, and other planning and engineering efforts.
 - IV. This work would be a sliver of what would be completed under the feasibility study and is another opportunity for us to leverage a partnership with the Army Corps.
 - V. Following this meeting, we will send copies of letters of support for this project and for the Prop 68 Beach Sand Nourishment grant program that Robyn had mentioned

earlier should your agency/organization like to support these efforts.

b. State Updates:

- We are anxiously awaiting results of the Trade Corridor Enhancement Program. Expect staff recommendations on November 12.
- II. Since we last met with the Working Group, we were very pleased to host CTC Chair Hilary Norton and Caltrans Director Omishakin to tour the bluffs.
- III. So, our fingers are crossed for a successful award announcement in the coming weeks.
- IV. We also are applying for a Prop 68 grant award to further support SLR and beach nourishment efforts as part of DMB 6.

Q: Jewel Edson: Is this only San Diego City specific?

A: Laurie: For entire region. Coastal regions up and down San Diego.

3. SANDAG and California Coastal Commission Coordination Efforts – Tim Pesce, SANDAG and Kanani Leslie, Coastal Commission

Kanani Leslie presented.

- a. Kanani Leslie
 - I. During the last two meetings on July 22 and August 19 with SANDAG and NCTD, we discussed the Del Mar Bluffs 5 project. The project includes 258 new soldier piles with approximately 10 existing piles needing lagging in between to protect the trackbed; retrofitting of 248 existing soldier pile grading, and bluff top drainage improvements. The locations of improvements are stem from a prioritization system based on distance from bluff edge and years remaining until the design life is reached for the existing piles.
 - II. These improvements are designed for a 30-year design life, which would provide interim protection through 2050, when the inland relocation of the rail corridor is expected. However, they are also designed in somewhat of an adaptive manner to add on features, like additional tiebacks, in the future if the need to extend the service life arises. We also discussed a 1000-ft long portion of the blufftop called the trench area that is not affected by erosion, but could be destabilized by a seismic event. An additional 100 piles would be needed if

- solider piles are chosen. A potential alternative discussed would be to remove portions of the bluff and grade it down to be in line with the trackbed to remove some of the load, but we need to discuss this alternative further with our engineer and geologist, who will be joining us for our next coordination meeting.
- III. We met with SANDAG and the City of Del Mar to discuss potential mitigation opportunities for Del Mar Bluffs 5 and 6, one of which includes the formalization of existing informal public access trails on the east side of the rail corridor. We appreciate all the early coordination efforts among our agencies to date and will make permitting process easier.
- IV. I want to introduce Karl Schwing, Deputy Director in the San Diego office and Long Beach office to briefly address NCTD's recent preemptive request.

b. Karl Schwing -

I. The current situation with NCTD seeking to remove themselves from this process on the basis of a federal preemption came as a surprise. The stated reason has been that continuing to use the existing process would interfere with rail safety and maintenance operations. We have a long history of working with NCTD and others, so we don't see how cutting the commission and community out of the process is a good approach. We hope NCTD will decide to set its filing aside and work collaboratively.

c. Tony Kranz -

I. Disappointing to hear this – this was not on the agenda. The reality is that NCTD took action it thought important – this is not the right forum to discuss this. Will continue to follow up with the process, but not sure this group is the right time to be bringing this up.

d. Secretary Kim -

I. Correct, not on today's agenda. Having said that, I would like to see all parties address this amicably at the local level. That is the best way forward.

e. Tony Kranz -

I. Don't disagree. But the steps taken by the NCTD has been mischaracterized. This was an important step taken and everyone will understand more clearly at the end. This is a right that NCTD is using as railroad operator, and it is protecting its rights and the rights of operators in that corridor. We will be collaborative, but we will protect NCTD rights. Hope we can move on and recognize that everyone has an interest here. We will collaborate.

4. Vision for the San Diego Regional Plan – Coleen Clementson, SANDAG

(Slide presentation)

- a. Thank you Secretary Kim and Working Group. 2 years ago, we were challenged to reimagine the region's transportation future. Vision Lab opened on the 20th floor of the SANDAG office. We took a fresh look using data to help determine the best transportation solutions. What happens in the LOSSAN corridor is critical to success. Trip making data, latest technologies and decades of public input is being used for solving for congestion, social equity, state and federal mandates.
 - I. Congestion: 2020 and COVID-19, despite being in middle of pandemic, congestion is creeping back up. Even with telecommuting, people still making short trips during the day.
 - II. Social equity: Looking at minority populations; how we serve low income populations and senior populations.
 - III. Legislative mandates: SB 375, Title VI, CEQA and SB 743, multimodal transportation.
- b. 40% of greenhouse gas emissions come from transportation/passenger vehicles. Climate change with sea level rise – this is our challenge with the Bluffs. We also are looking at escape routes for fires.
- c. Data-driven planning: Trip making data from cell phones. Longer trips and where people are making those trips. Military bases, the border trips new data helping to shape this vision.
- d. Big 5 Complete Corridors, transit leap, flexible fleets, mobility hubs.
 - Complete corridors: looking at bikeways, highspeed transit, maximizing investments, as already underway on I-5.
 Transportation demand management support.
 - II. Transit Leap: the Coaster, 54 miles of light rail with trolly and Sprinter – how do we speed that up to compete with driving?
 - III. Flexible Fleets: how we connect is called flexible fleets. The operating system is the technology that makes it work. Scooters, e-bikes, rideshare and how rideshare can help us get to transit. Operating system for goods movement and inductive charging for electric vehicles.

- IV. Mobility Hubs: areas of higher employment, adding in multiple transportation options. Affordable housing, jobs for the navy.
- e. Transit Leap we spent time w/NCTD staff to pore over data that will help us understand immediate and long-term needs.
- f. Initial Commuter Rail Routes LOSSAN corridor key element. Connecting North County and downtown SD down to border. 5 miles at Del Mar critical. While looking at above and below ground, the detail on parallel local streets and roads is what really matters.
- g. Proposed Transit Leap Network aligns with Complete Corridors. Communities of concern to have access to employment, health care.
- h. Costs: \$177 billion for the proposed Vision.
- i. Next steps: Putting ideas into transportation model. Hopeful to have draft plan released in spring of next year and approval in the fall.
- j. 2/3 region is forest, state park, habitat. Really talking about western region.
- k. Complete Corridors I-15 applying to all the highways and taking advantage of infrastructure there already. Evacuation and access to tribal communities. Faster, fairer, cleaner.

Secretary Kim: Inspiring and visionary plan. We'll be watching carefully – this has the potential to be truly transformative.

- Update from the Sub working group to support alignment of state, regional, and local objectives for the LOSSAN Corridor long-term solution – Linda Culp, SANDAG and Chad Edison, CalSTA
 - a. Jim Linthicum/SANDAG -
 - I. Thanksgiving 2019 there was a cloudburst that washed a small section and created a washout. We have been trying for 20 years to do what this group has done in less than a year incredible. On the verge of being able to stabilize the bluffs until the tracks are ready. We're all committed to finding a resolution. What comes next? What does the corridor look like until it is moved off the bluffs? SANDAG is committed to stabilizing the bluffs until they are moved. What does it look like to be faster and safer?

b. Chad Edison/CalSTA -

(Slide presentation)

- I. We have a good subcommittee helping us out. Three meetings have gone through major issues.
- II. Critical is local and regional planning like SANDAG's presentation. Questions on local level of what you need, and how that works with broader state network. 2018 saw the first revision to the state rail plan in many years it focused on tying networks together to be more competitive with auto travel.
- III. Key objectives: enhancing safety and resiliency; improving passenger and freight capacity; reducing travel times to make those connections work in a seamless way; making sure it's done linking into mobility hubs and job centers; meeting long term sustainability goals and protecting environment.

c. Linda Culp -

- I. We had a long-term subcommittee meeting October 16 where we talked about our project development team study. We're two meetings in so far, the study kicked off in September. It is looking at the entire 60.1 mile section of the LOSSAN corridor and covering
 - 1. Higher speed feasibility analysis
 - 2. Technical work on design parameters
 - 3. Equipment we can expect
 - 4. Technical evaluation criteria

Will use this to refine the alignment to include 3 components – service, operations, and infrastructure. Also, as a basis of design for track and tunnel; the future of equipment – we have experts on the consulting team who have worked with partners looking at next generation types.

Proposed evaluation criteria: Planning, Construction, Post Construction, and Community.

All this info will go into refining alternative alignments. Public outreach is important to the process. The study will take another year to a year and a half, concentrating on Del Mar section.

Q: Dwight Worden: How do you plan to engage local communities?

A: Linda: COVID has made public outreach challenging. We will use standard tools: information on web, virtual presentations. Social Pinpoint allows us to provide info via web, including community surveys and other tools. This is a new tool, but effective while working virtually.

Q: Dwight: So, I can tell my community it will be engaged and its input will be valued?

A: Linda: yes

U.S. Department of Transportation Build America Bureau Infrastructure Financing Options – Daniel Schned, Leo Wetula, Roger Bohnert, Morteza Farajian, U.S. DOT

a. Roger Bohnert – Build America Bureau, undersecretary for policy office.

(Slide presentation)

- I. Who we are 3 credit programs Transportation Infrastructure Finance & Innovation Act (TIFIA), TIFIA Rural Project Initiative (RPI), Railroad Rehabilitation and Improvement Financing (RRIF) combined. We help to deliver projects faster remove barriers to credit, streamline the process to make it easier. We're a one stop shop for budget sponsors, building capability to provide technical assistance with regulatory requirements and public private partnerships. We offer the capability of operating administrations and convene all the resources.
- II. Underwriting and portfolio management, but also advocate for project sponsors so by the time it gets to underwriting, it's fully baked. Like a mortgage, you don't need an underwriter you use a real estate agent who brings buyer, seller, assets together, then at the bank the loan officer helps.
- III. TIFIA surface transportation loans. They are long-term, and you can defer payment until after construction is complete; interest at 1.6% at this time. Will finance up to 33% of project cost. And money can be drawn as needed, so you're only paying interest on used money used. Plus, the government pays credit subsidy.
- IV. Eligible borrowers and projects include state and local government and transit, rail, highways and bridges.

- V. RPI outside 150 k can finance up to 49% at half the treasury rate. This is a well-received program. 1st loan was in CA and closed in September, 2nd will close in the next few days, also in CA. (1st two loans in CA)
- VI. TIFIA transit oriented development (TOD) finances public infrastructure beyond transportation projects. This is a new authority. Airport terminals served by transit are showing interest. There may be other opportunities in your region.
- VII. RRIF similar interest rate and duration as TIFIA. Can finance up to 100% and borrower has to pay credit risk premium. Eligible borrowers and projects freight, trains, rail. Does not finance operations, more bricks and mortar and technology.
- VIII. RRIF-TOD can finance vertical development condos, retail, mix-use commercial. Expires September 30, 2021, but it has been extended in the past, so it could be extended again. Have not yet financed one of these, the eligibility determination can be challenging.

PAUSE FOR CONGRESSMAN LEVIN and Assemblymember Tasha Boerner-Horvath (See Bullets 7 and 8 below)

- IX. Key Program Requirements for TIFIA and RRIF: must meet federal requirements. TIFIA must be included in the State Transportation Planning Process and be a minimum project size of \$10 million. RRIF has not minimum or maximum project size.
- X. Example: Maryland project fund. Purple Line Project TIFIA.

 Transit P3 \$2.65 Billion project cost. Loan \$874.6 M. State pays for operation of facility.
- XI. Example: MBTA RRIF and TIFIA loan for same project. More than one revenue stream. One more solid/less risky than another.
- XII. Example: Texas DART Cotton Belt. RRIF Loan.
- XIII. Example: Amtrak III RRIF loan (biggest loan done so far, but no maximum)
- XIV. Reach out with any questions happy to work with you. buildamerica@dot.gov
- Secretary Kim good overview of various loan programs and credit assistance available. Two Questions:

Q: Secretary Kim: No such thing as free money. What are most common ways for project sponsors to repay loans?

A: Tax-based revenues – property sales, tax districts. Project-based revenues: toll or farebox revenues. In some cases a combination. A lot of flexibity on working out what that is – Working with gulf states – one is lawsuit settlement. New York City.

Q Secretary Kim: How do you determine credit worthiness? And how do you know if project sponsor is at right level of risk?

A: The project sponsor needs to be investment rated. It's interesting to see the underwriting process. Revenues being pledged are stress-tested based on various scenarios to make sure it's still reasonable for loan to be repaid under those stressers.

Q: Jim Linthicum/SANDAG: With the assumption that public transit runs at a loss, is farebox often being used to be pledged against the loan?

A: No project is just fare box revenue. TIFIA Loan pays risk subsidy, so it frees up tax income for another project.

Secretary Kim: RIFF and TIFIA come with favorable loan rates, low interest rates, long term. If the San Diego region in a few years from now comes to consensus for realignment of the LOSSAN corridor, and applies for a RIFF loan, that's a potentional way to go forward, and you've outlined food for thought to help finance the costly investment.

7. Update from U.S. Representative Mike Levin – Congressman Mike Levin

a. Good to see Dwight. David, we have to go to USC Stanford football game when this is over. Good to see familiar faces. Honored to represent cities impacted by this. The protection of the rail line and our coastline is among my top priorities. It's encouraging what's happening - the Army Corp feasibility study and the Water Appropriations bill is doing great – will expect it to pass during lame duck session, but don't have an exact date. Still trying to get our act together on a COVID relief bill. We have to negotiate a spending package by Dec 11. Earliest funding in fiscal year for the 2021 work plan is 60-90 days after water appropriation. Congress provides a finite number of new starts. Will need to compete well – our project is so unique as it will protect integrity of

- the LOSSAN Corridor, which is important for the military; a strategic importance for the military.
- b. In order to be chosen as a study, the project must be included in the USACE Work Plan with funding that is approved by USACE and the Office of Management and Budget. This decision will likely be undertaken in the next few months after an appropriations bill is signed. I had productive calls with key people –
 - I. on September 23, I spoke with Brian McCormack of the White House Office of Management and Budget, and he said he will sign off on the workload funding of the feasibility study. He is interested in the strategic and military importance.
 - II. On September 1, I spoke with RB James on that call he agreed to help support funding and New Start to get study going.
 - III. On October 15, I had a Zoom meeting with the new Commander of the LA district of Army Corps Julie Balten. She was extremely supportive and said they already have the authority to begin.
- c. The challenge to prioritize the Del Mar Bluff study will keep us busy in the next year and we will continue to make great progress. Grateful for your partnership. Let's see what happens next Tuesday.
- d. Secretary Kim Thank you for reaching out to high-level officials in the executive branch.
- e. Congressman Levin don't hesitate to reach out with other suggestions. You can email Kyle Krahel at Kyle.Krahel@mail.house.gov.

8. Assmeblymember Tasha Boerner-Horvath

- I. Thank you for this important work. Update from state: We introduced AB 2062, unfortunately it was held. I won't stop pushing for it, will just have to wait for sunnier state budget days. Continue the coordination this is a hero's effort. Friends from state local and federal governments working together. At our Select Committee hearings we are worried as a state about sea level rise and ground water inundation affecting coastline infrastructure. A cost of \$300 billion, and add groundwater rise, \$600 billion.
- II. AB 2081 was also held. Will probably reintroduce, but with the constraints of the state budget it will be difficult to get through in the next year or two. But coordination between

agencies can be done without money - important work.

Reach out to Janet Chin, transportation person in the district office Janet.chin@asm.ca.gov

9. Closing Remarks – Secretary David Kim

a. Thank you for being part of this 4th meeting.

10. Action Items:

a. Laurie Grover to send the LOSSAN Working Group DRAFT support letters for SANDAG/NCTD's applications to the Ocean Protection Council's Proposition 68 Coastal Resilience Grant Program and 2) the U.S. Army Corps of Engineers (USACE) Planning Assistance to the States (PAS) Program.



The Vision for the 2021 Regional Plan

LOSSAN San Diego Regional Rail Working Group October 27, 2020







A bold new approach to planning for the future

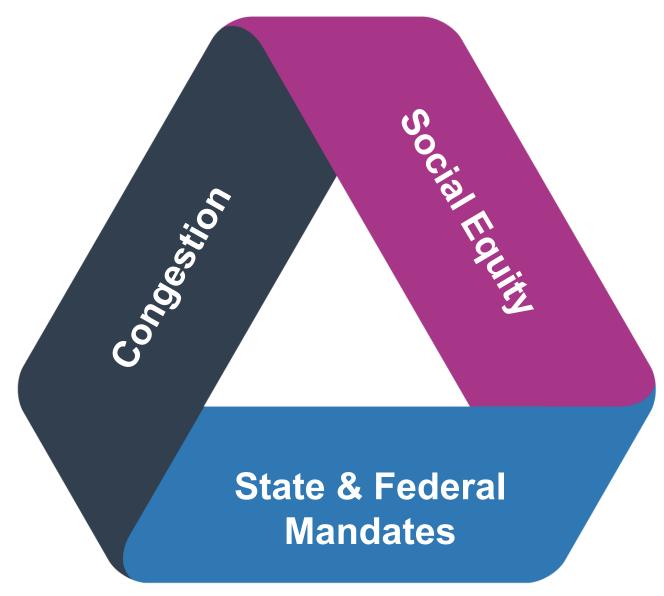
Embracing datadriven planning, incorporating emerging technologies, and incorporating resident input





Three challenges

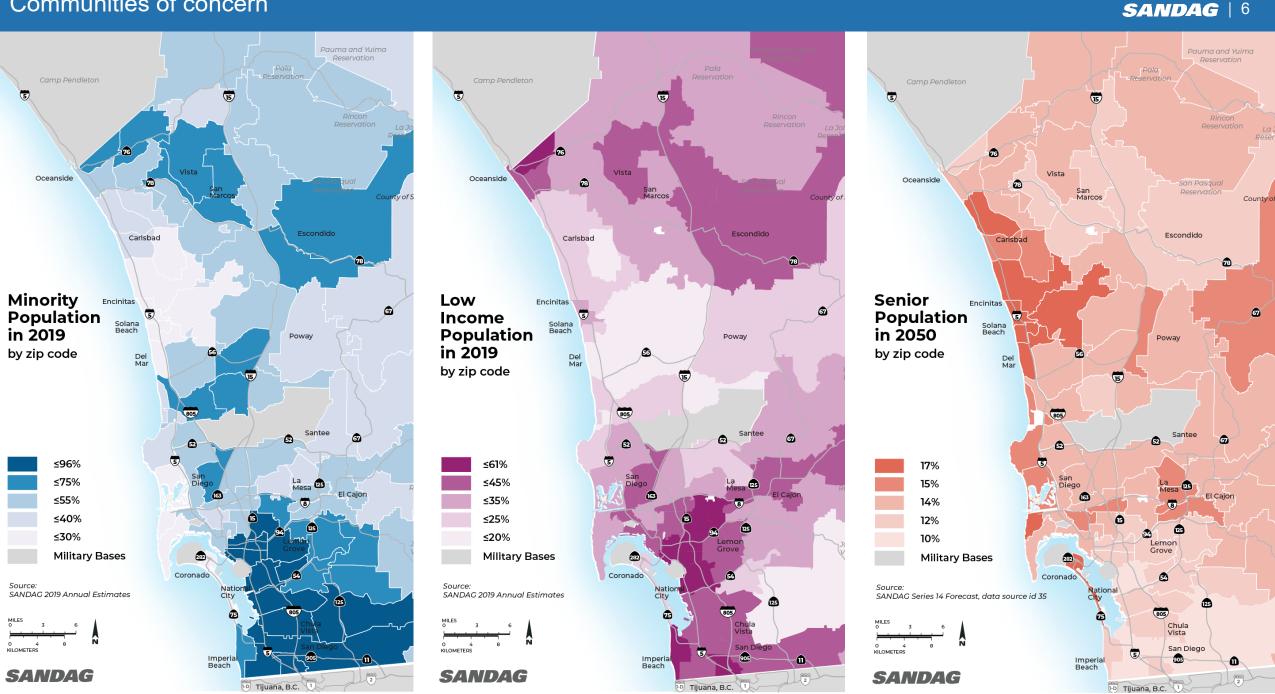
Reduce congestion
Improve social equity
Meet state and
federal mandates —
to be faster, fairer,
and cleaner



Congestion in the San Diego Region

2016 Base Year











SB 375 and Air Quality: meet regional greenhouse gas emissions reduction target and Clean Air Act requirements



Title VI: compliance with federal civil rights requirements and environmental justice considerations



CEQA and SB 743: shift to vehicle miles traveled to evaluate impacts of transportation projects



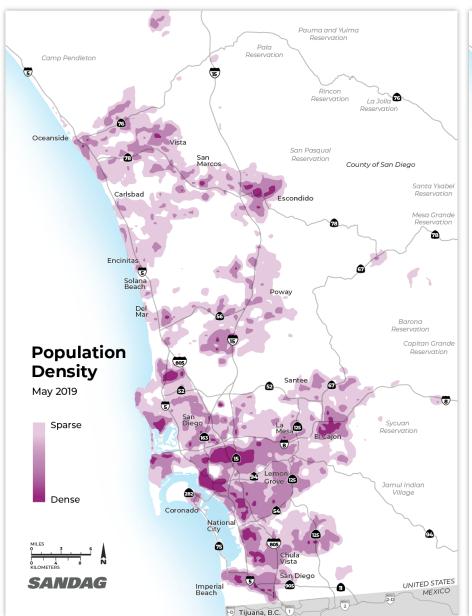
Tribal Consultation

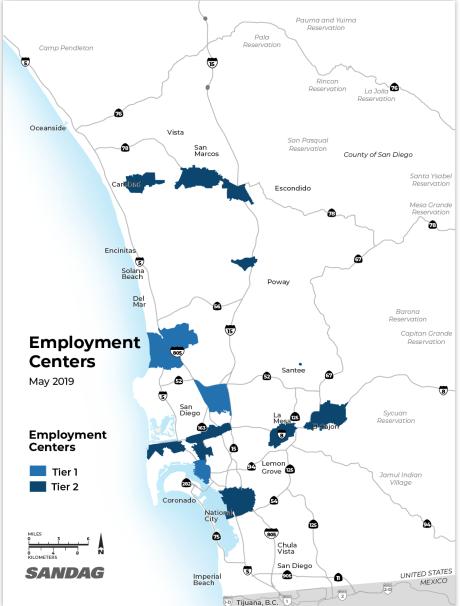




Data-Driven **Planning**

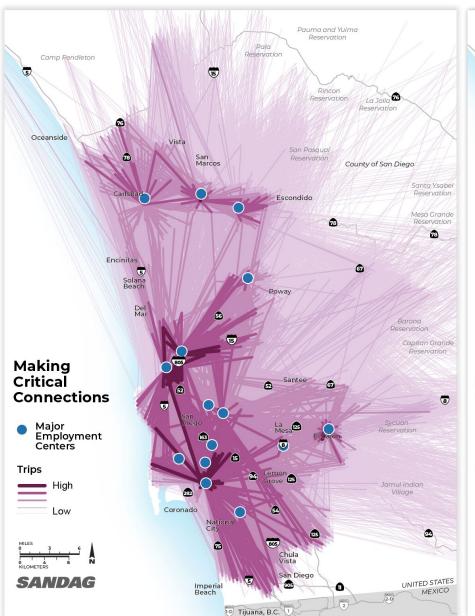
Where people live and work

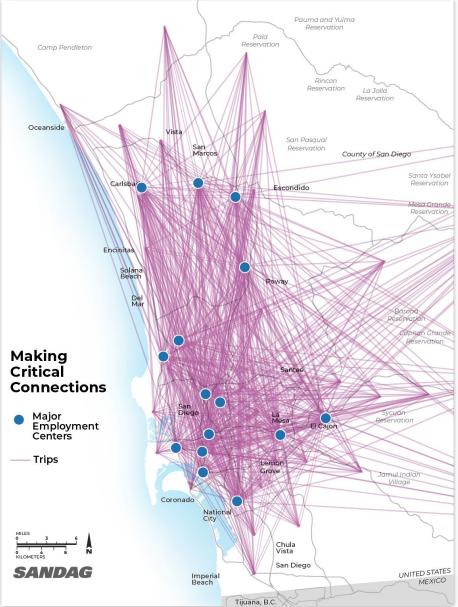






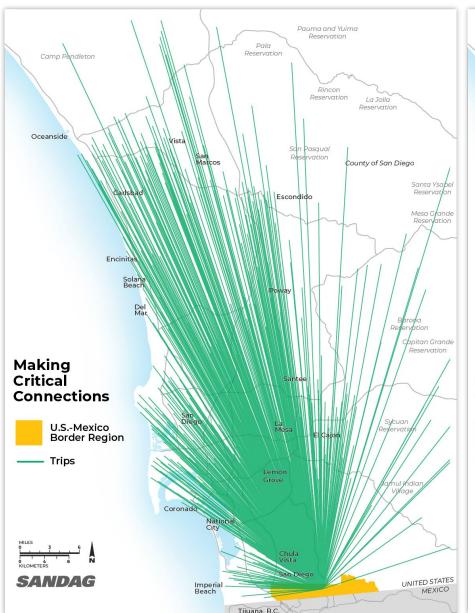
Trips to and from employment centers are the most predictable

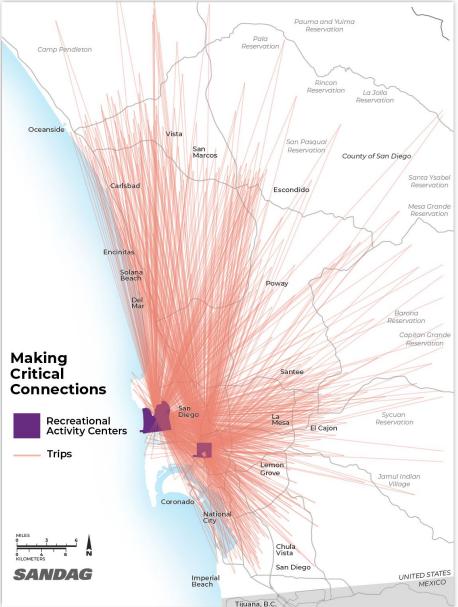




Other regional trips, including trips from the border and to recreation in Balboa Park and Mission Bay

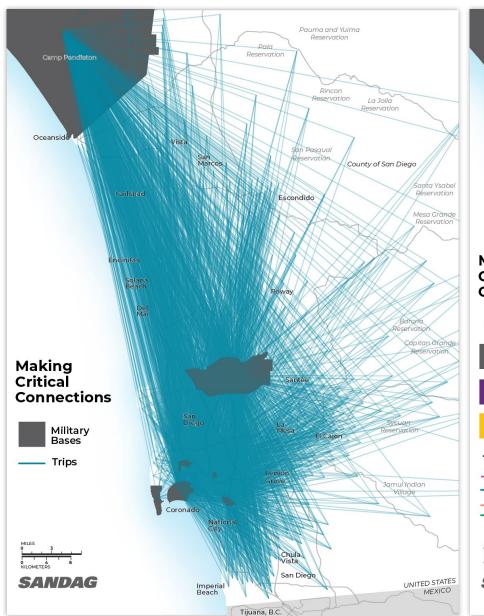


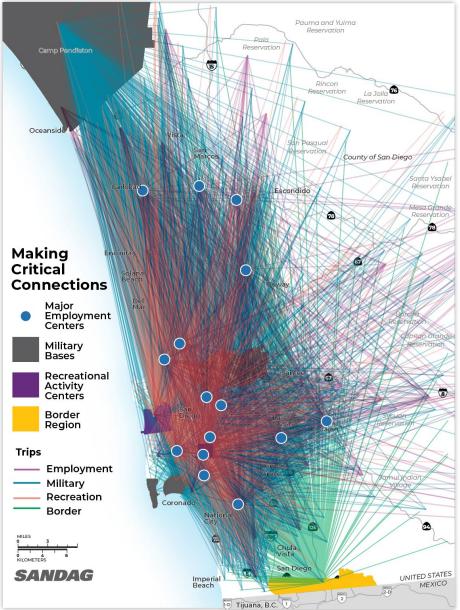






Other work trips including military bases

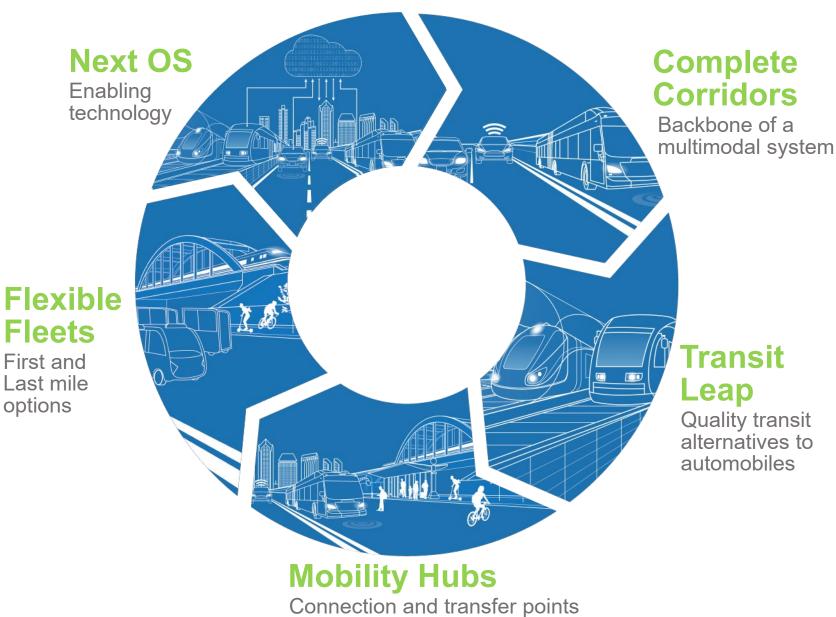






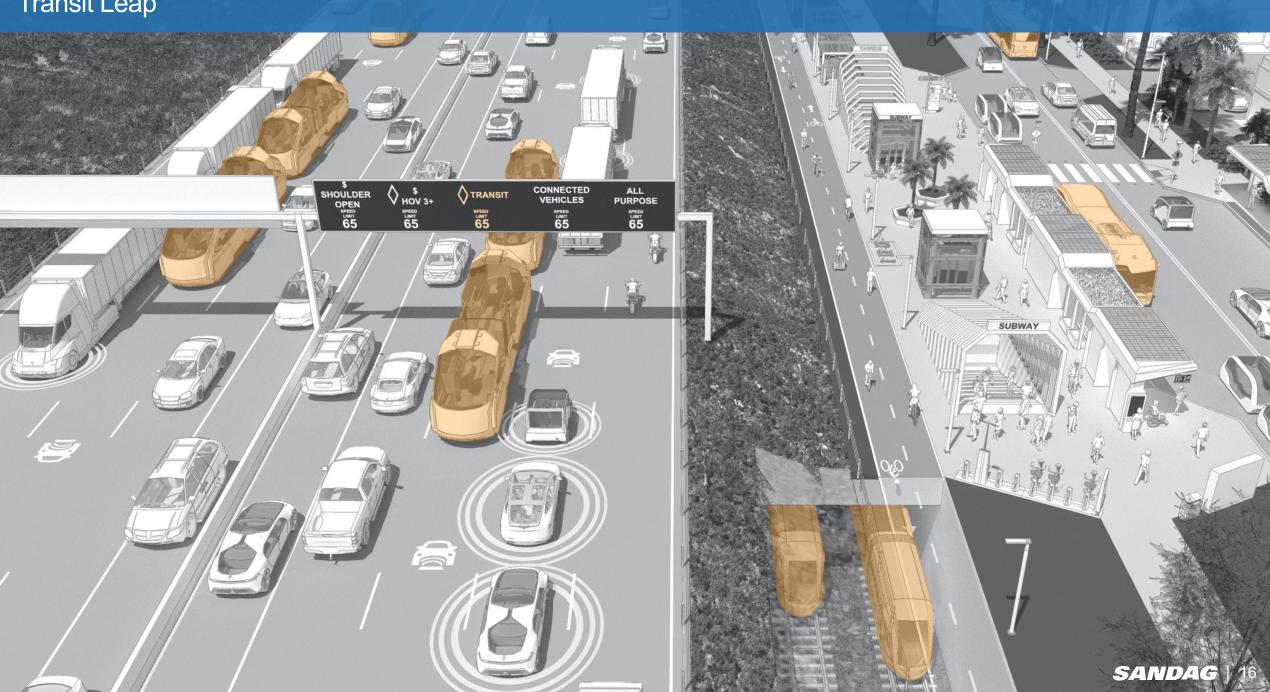
5 Big Moves

Key strategies to envision our future transportation ecosystem



Complete Corridors SHOULDER OPEN SPEED LIMIT 65 ALL PURPOSE SPEED LIMIT 65 CONNECTED VEHICLES TRANSIT SUBWAY SANDAG | 15

Transit Leap



Flexible Fleets

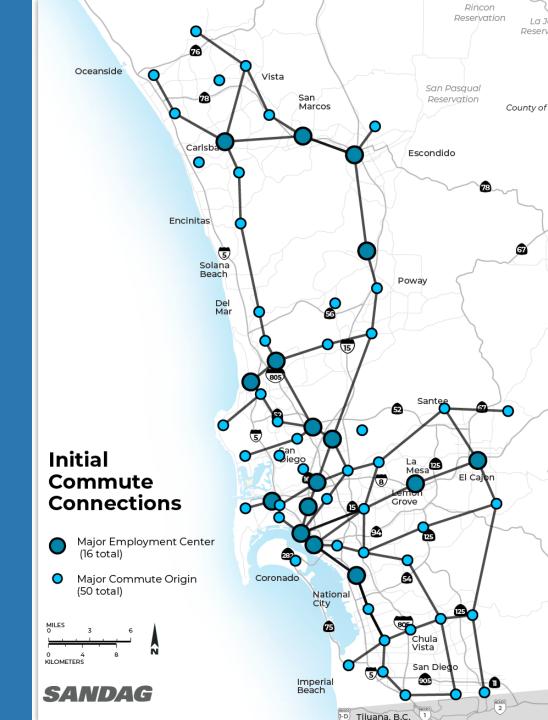


Next OS ALL PURPOSE SPEED LIMIT 65 CONNECTED VEHICLES \$ HOV 3+ SHOULDER OPEN SPEED LIMIT 65 SUBWAY **SANDAG** | 18

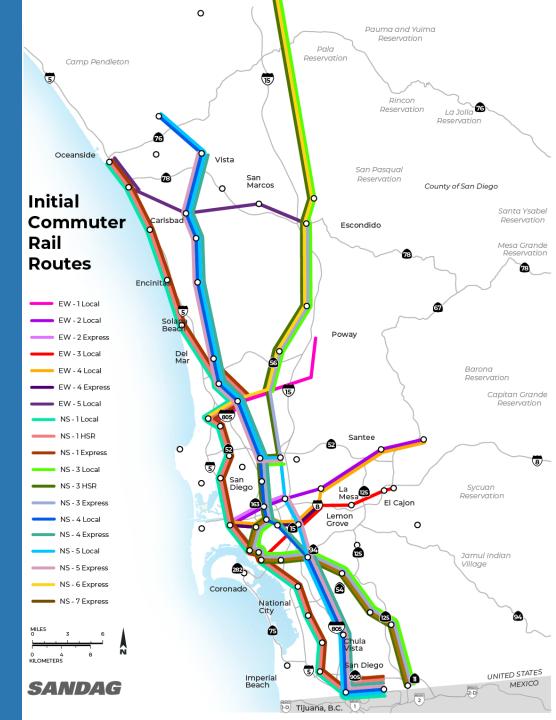




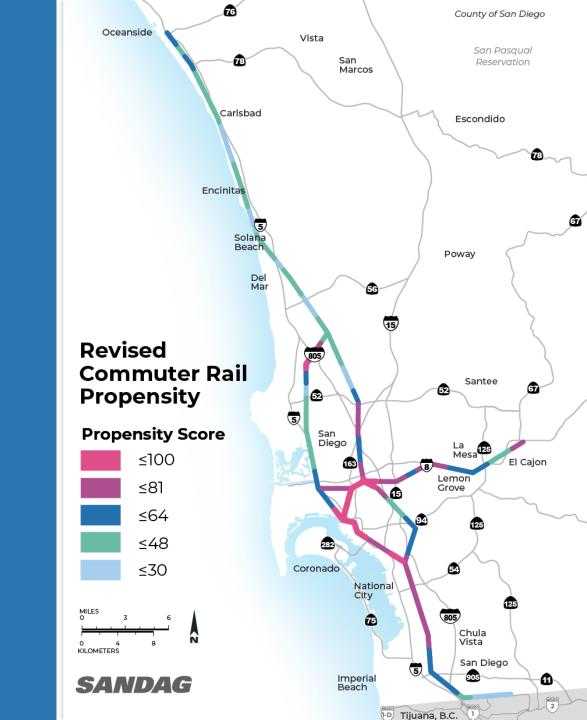
Data connects employment centers with areas that have the highest concentration of commute origins, revealing potential connections



Initial Commuter Rail Routes

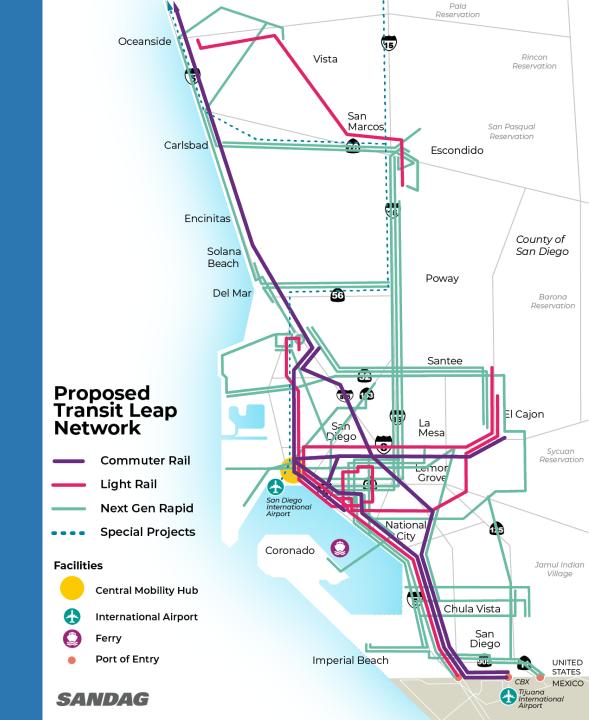


Refining proposed Commuter Rail Routes



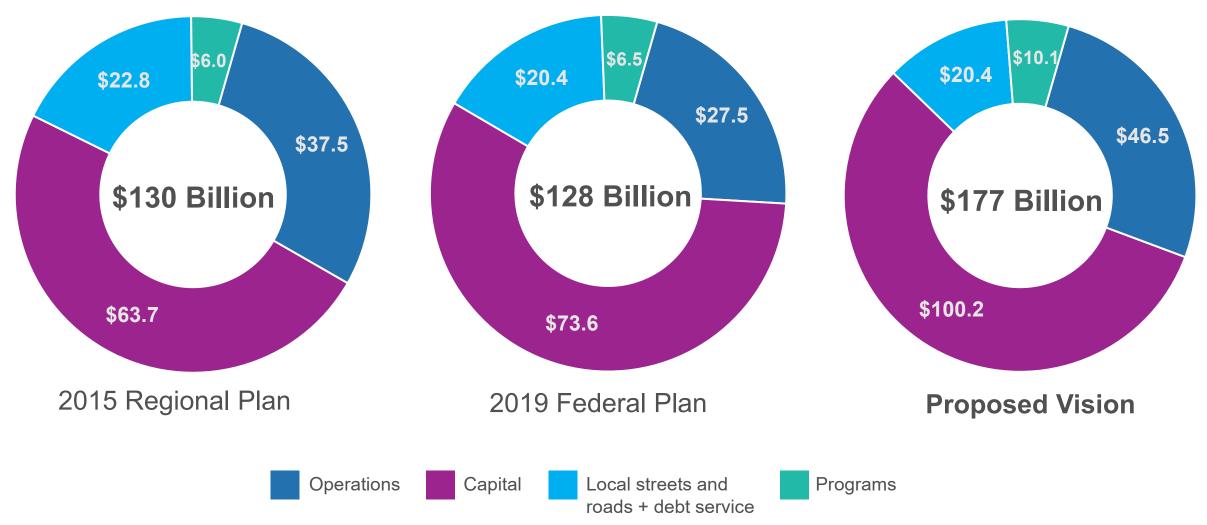
Proposed Transit Leap Network

This network aligns with Complete Corridors and has three primary services





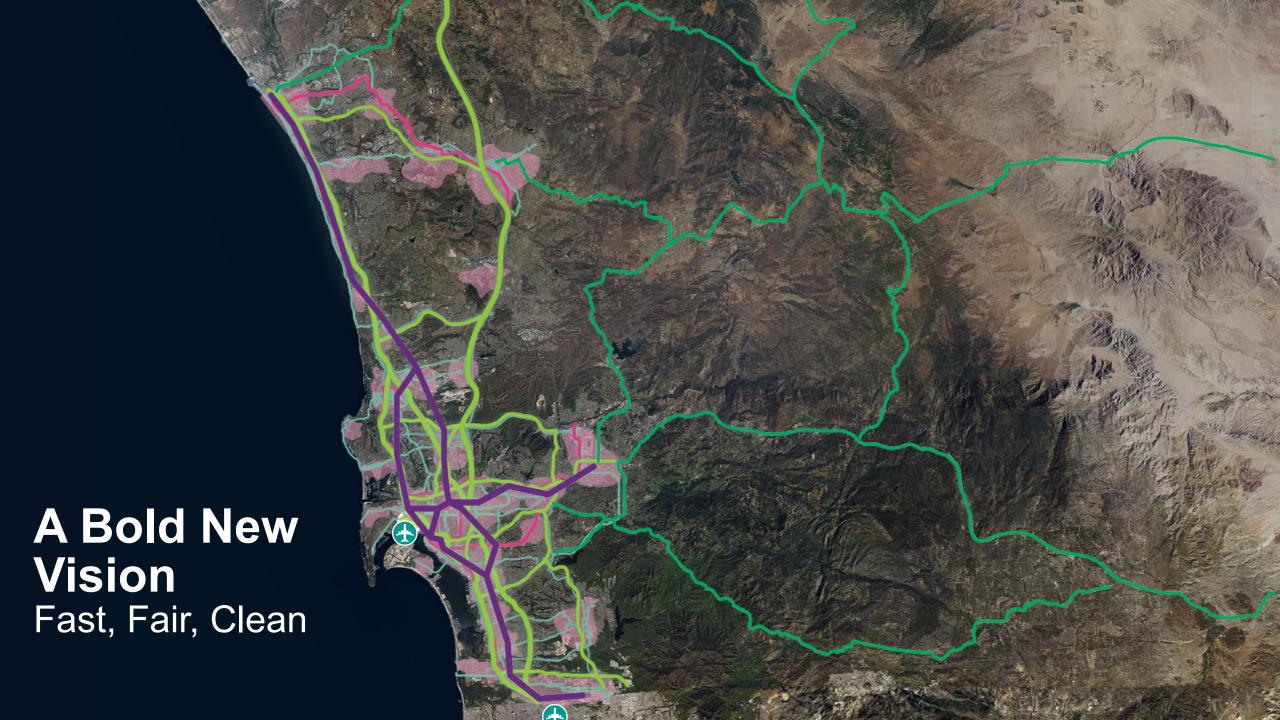
Comparing Costs Past plans and proposed Vision (in billions of 2020 dollars)





Next Steps





















LOSSAN San Diego Regional Rail Corridor Working Group Item 5 | Long-Term Subcommittee Report

October 27, 2020

KeepSanDiegoMoving.com

Subcommittee

Representatives:

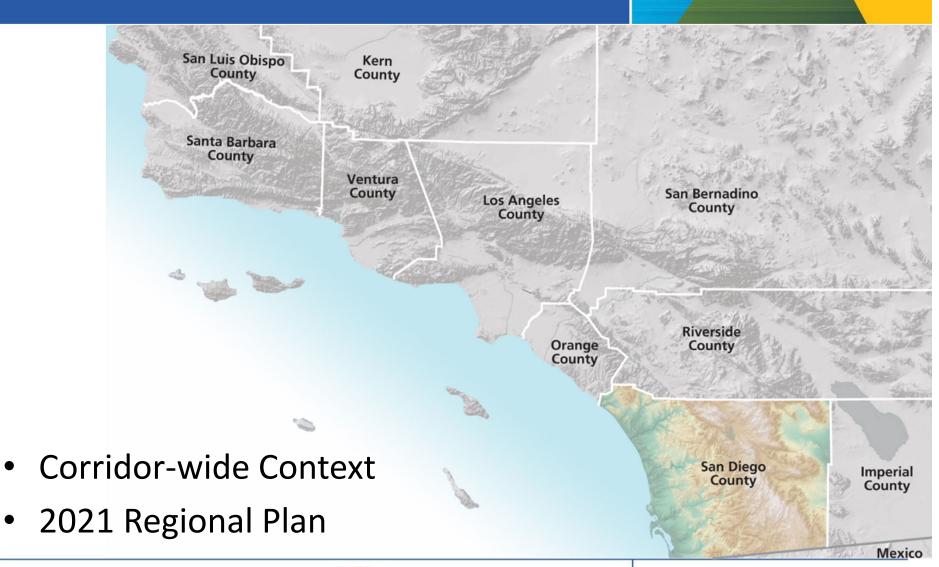
- CalSTA
- Cities of Encinitas, Solana
 Beach, Del Mar
- 22nd Agricultural District/
 Fairgrounds
- NCTD
- SDMTS

- SANDAG
- BNSF Railway
- LOSSAN Rail Corridor Agency
- California Coastal Commission
- Office of Senate President pro Tem Toni Atkins
- Third meeting held on October 16, 2020





Regional Coordination









Regional Coordination

- Review Key Objectives
 - Enhancing safety and resiliency
 - Improving passenger and freight capacity
 - Reducing travel time and improving passenger service reliability as necessary to meet connectivity & ridership goals
 - Providing greater connectivity to Mobility Hubs and job centers
 - Meeting long-term sustainability goals through mode shift to rail from roads
 - Protecting the environment and preserving the ecology and natural beauty of the region







Regional Rail Corridor Alternative Alignment and Conceptual Engineering Study (SD-LOSSAN)

- Project Development Team:
 - NCTD
 - BNSF Railway
 - SDMTS
 - LOSSAN
 - SCRRA/Metrolink
 - Federal Railroad Administration
 - Caltrans



 Overall goal to reduce travel time, enhance safety, and increase capacity of the corridor







Del Mar Alternatives Analysis

Underway:

- Existing conditions
- Operational feasibility of higher speeds
- Basis of design
- Next generation equipment
- Technical evaluation criteria
- Alignment refinements

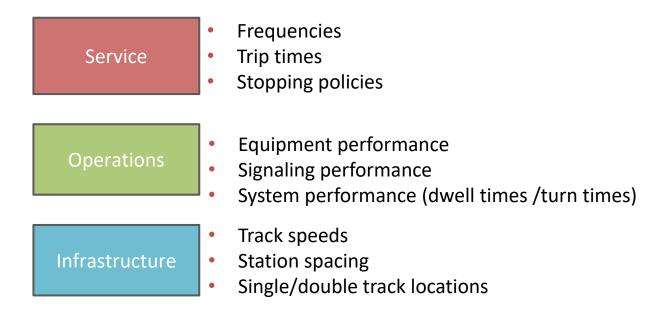








 Operational considerations can be categorized under three themes to address the purpose of the rail system:









Basis of Design:

Service and Operations Planning

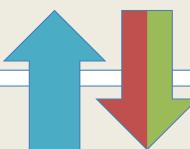
Service

- LOSSAN optimization long term 2027/28 concept
- Auto-competitive trip times

Operations

- Rolling-stock performance
- Track speed testing

Feedback and Refinement Loop



Engineering Design

Infrastructure

- Track speed specifications
- Alignment choice
- Ventilation and access







Next Generation Equipment:

ELECTRIC

Stadler Bi-level EMU (Electric Multiple Unit)



Stadler FLIRT Akku (BMU train)



! HYDROGEN

Zero emission train Alstom iLint



Hydrogen locomotive and bi-level coaches









Proposed Technical Evaluation Criteria:

Planning	Travel Time	Minimizes overall travel times (e.g., proposed alignment geometry, grades, tie-ins, and stations)
	Environmental Consequences	Minimizes impacts and maximizes benefits to environmentally sensitive areas, mitigations, permitting schedule, GHG reductions
	ROW Impacts and Acquisitions	Minimizes temporary and permanent impacts to properties and acquisition schedule
	Connectivity and Travel Demand	Provides connectivity and access to future mobility hubs, potential to combine transit services like HSR
	Safety Improvements	Provides safety improvements (e.g., grade separations)
Construction	Constructability, Construction Impacts, and Duration	Minimizes construction complexity. Limits construction impacts to the public including local roads, utilities, traffic, material hauling
	Capital Costs	Minimizes capital costs
	Operational Impacts	Minimizes impacts to existing railroad operations during con
Post Construction	Operational Complexity	Minimizes complexity of requirements of operations and maintenance (e.g., ventilation, maintenance access)
	Operations and Maintenance Costs	Minimizes costs related to tunnel operation and maintenance
Community	Community Acceptance	Provides positive feedback from the public







Alternatives Analysis – Next Steps

- Alignment Refinements
 - Higher speed alternatives
 - Enhanced safety
 - Technology alternatives
- Public/Stakeholder Outreach









Q&A

For More Information:

Chad Edison, CalSTA
Chad.Edison@calsta.ca.gov
(916) 247-0322

Linda Culp, SANDAG lcu@sandag.org (619) 699-6957







