

TRANSIT AND RAIL PROGRAMS

Funding and Project Update

American Council of Engineering Companies
Los Angeles County Chapter
September 9, 2020



State Transportation Funding

- ▶ **SB 1 played a significant role in stabilizing state and local funding**
 - ▶ Less variability of funding – fewer sources tied to price of fuels
 - ▶ Vehicle registration fee
 - ▶ Indexing to inflation
- ▶ **Cap and trade auction proceeds**
- ▶ **Broad observations from COVID-19 downturn**

State Transportation Funding

- ▶ **Unique program impacts**
 - ▶ **SHOPP**
 - ▶ **Trade Corridor Enhancement Program**
 - ▶ **Off the top programs**
 - ▶ **Active Transportation**
 - ▶ **Solutions for Congested Corridors**
 - ▶ **Transit and Intercity Rail Capital Program (registration fees, cap and trade)**
 - ▶ **Transit Funding**
 - ▶ **State Transit Assistance & Local Transportation Fund (diesel/general sales tax)**
 - ▶ **State Transit Assistance – State of Good Repair (registration fees)**
 - ▶ **Low Carbon Transit Operations (cap and trade)**
 - ▶ **Intercity Rail (diesel sales tax)**

Historical Rail & Transit Funding

- ▶ **State Public Transportation Account**
 - ▶ Intercity Rail Operating, Equipment and Administration (from 2.375% diesel sales and use tax)
 - ▶ State Transit Assistance (STA) (4.125% diesel sales and use tax)
- ▶ **Local Transportation Fund for Transit** (0.25% general sales tax)
- ▶ **State Transportation Improvement Program**
 - ▶ Interregional (rail minimum 15% of state 25% share)
 - ▶ Regional (75%, sometimes partnered with interregional)
- ▶ **Transit and Intercity Rail Capital Program**
 - ▶ 10% Cap and Trade Auction Proceeds (continuous; amount varies)
 - ▶ One-Time Budget Appropriations (\$144 million in 2016)
- ▶ **High Speed Rail Funding** (see 2016 Business Plan for details)
- ▶ **Local Measure Funding** (most between 0.25% and 2% general sales tax, with a portion to transit)
- ▶ **Federal Grants and FTA Formula Funds**



New Rail & Transit Funding in 2017

▶ SB 1 of 2017

▶ Augments STA, STIP and TIRCP, Commuter/Intercity

- ▶ 3.5% diesel sales and use tax for transit (\$3.1B over 10 yrs.)
- ▶ 0.25% diesel sales and use tax for commuter rail (\$220M over 10 yrs.)
- ▶ 0.25% diesel sales and use tax for intercity rail (\$220M over 10 yrs.)
- ▶ About \$1.1 billion in new STIP capacity over 10 years
- ▶ \$25–175 per year Transportation Improvement Fee (per vehicle; indexed)
 - ▶ \$105 million (indexed) to Transit SGR (\$1.2B over 10 yrs.)
 - ▶ \$245 million (indexed) to TIRCP (\$2.7B over 10 yrs.)
- ▶ \$236 million one-time funding to TIRCP from debt repayment

▶ Solutions for Congested Corridors Program (\$250 million/yr)

▶ Trade Corridor Enhancement Account (10 cents per diesel fuel gallon (CPI-indexed); about \$3 billion over first 10 years)



Transit and Intercity Rail Capital Program (TIRCP) Background

- ▶ TIRCP is a competitive program created to fund a small number of **transformative** projects that improve the statewide transit and rail **network** and reduce **greenhouse gas emissions**
- ▶ Since 2015:
 - ▶ \$5.8 billion
 - ▶ 74 projects with budgets totaling \$26 billion
 - ▶ Ability to fund project development phases
 - ▶ Outcome based
 - ▶ Emphasis on priority population benefits and geographic equity



TIRCP Awards Since 2015

- ▶ Recipients of Past Awards (Partial List through 2018):
 - ▶ **Transit & rail infrastructure:**
 - ▶ BART/VTA (San Jose Extension; Core Capacity)
 - ▶ ACE to Merced & Sacramento
 - ▶ LA Metro Red, Purple, & Blue Lines + BRT
 - ▶ Metrolink SCORE Program
 - ▶ Intercity rail expansion (LOSSAN; San Joaquins; Capitol Corridor)
 - ▶ OC Streetcar, Redlands Rail, San Diego Blue Line & SacRT Gold Line
 - ▶ **Zero-emission and other bus projects:** LADOT DASH Expansion; Anaheim; Stockton; Fresno; Monterey–Salinas; Antelope Valley; San Diego; Orange County; Coachella Valley; Shasta RTA; Santa Barbara; Solano Express; AC Transit
 - ▶ **Railcars / Locomotives to support service expansion:** Metrolink; Caltrain; SF Muni; ACE/San Joaquins; SMART; San Diego MTS; SacRT



TIRCP 2020 Awards

▶ Transforming the Bay Area

- ▶ Completes funding for the BART Core Capacity Program, allowing for an additional 200,000 passengers per day to use BART
- ▶ Key investments in SFMTA's light rail system as part of the Muni Forward program
- ▶ Investments in innovative zero-emission ferry service to Mission Bay and multi-modal transit improvements in Solano County and surrounding counties served by SolanoExpress



TIRCP 2020 Awards

▶ Transforming Southern California

- ▶ Provides funding for 48 zero emission buses for expanded service across the Antelope Valley, Long Beach, Torrance, Santa Monica, and San Bernardino
- ▶ Completes funding for the Inglewood people mover, connecting new housing, existing neighborhoods and sports and entertainment venues with the Los Angeles Metro Rail system
- ▶ Increases rail service on the Metrolink Antelope Valley Line, invests in more reliable San Diego Trolley Service, and provides funding for a new maintenance facility for the Pacific Surfliner that will allow more and longer trains to be operated in the corridor



TIRCP 2020 Awards

▶ Transforming the State of California

- ▶ Provides funding for low-floor operations on the SacRT Gold Line
- ▶ Funding for Lake Transit's innovative intercity service expansion with long-range hydrogen fuel-cell buses and a new transit center
- ▶ Support for Merced County to expand service
- ▶ Investment in a new maintenance facility in San Luis Obispo that supports more and longer intercity trains, allowing ridership on the Pacific Surfliner to grow.



Unique Approach to Projects and Planning

- ▶ **What can go wrong?**
 - ▶ What holds transit and rail back?
- ▶ **Different approaches to building the case for the project**
 - ▶ Project emphases in our 2020 world
- ▶ **CalSTA as a partner in project development**

Poor service design and lack of coordination across agencies

52 min **2 hr 53** 1 d 52 min 6 h

Depart at 12:33 PM [Options](#)

Lamentin Ct

25 3 hr 55 min >

1:34 - 5:30 PM

on time · **1:41 PM** from La Cuenta Dr & Lamentin Ct

MIXED MODES

235 **217** 2 hr 42 min >

Leave by 2:48 PM · Light traffic

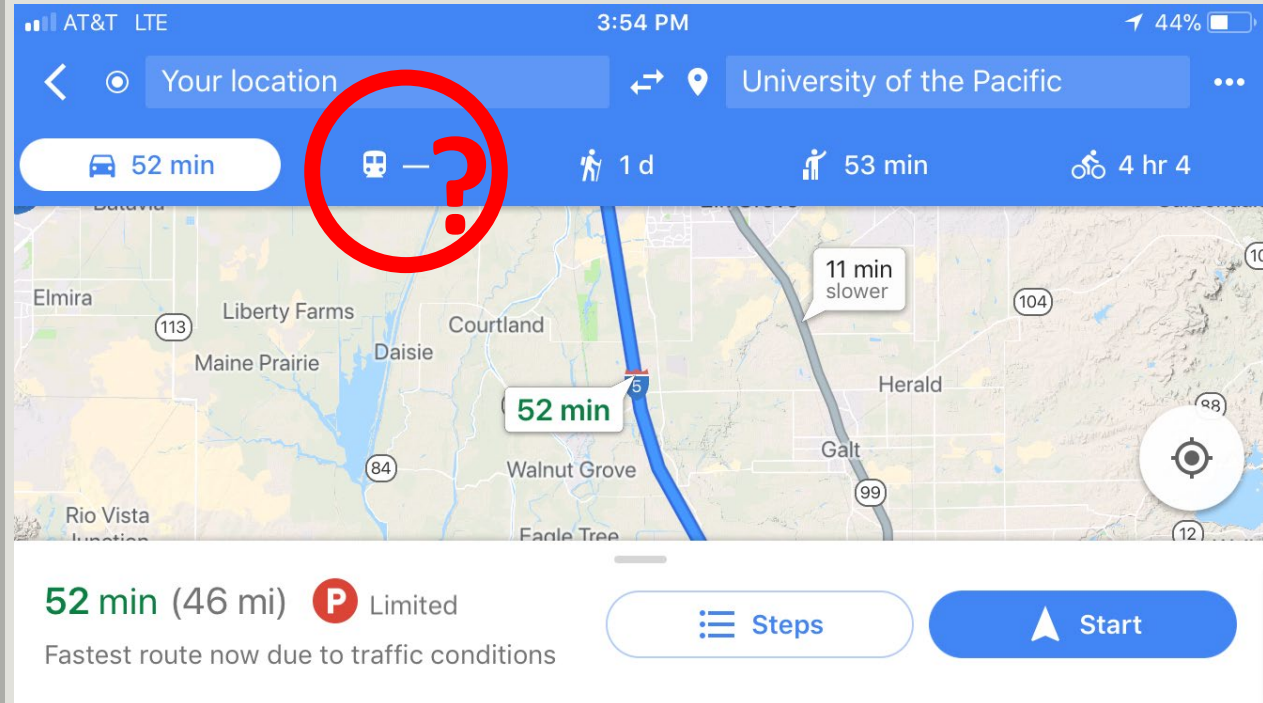
In 2 hr 26 min & 2 hr 41 min from Clairemont Mesa Bl & Ruffin Rd

20 **280** 3 hr 6 min >

Leave by 2:24 PM · Light traffic

In 2 hr 5 min from Clairemont Mesa Bl & Complex Dr

Inadequate
and
inaccurate
trip-planning
information



Unclear fare structure and payments

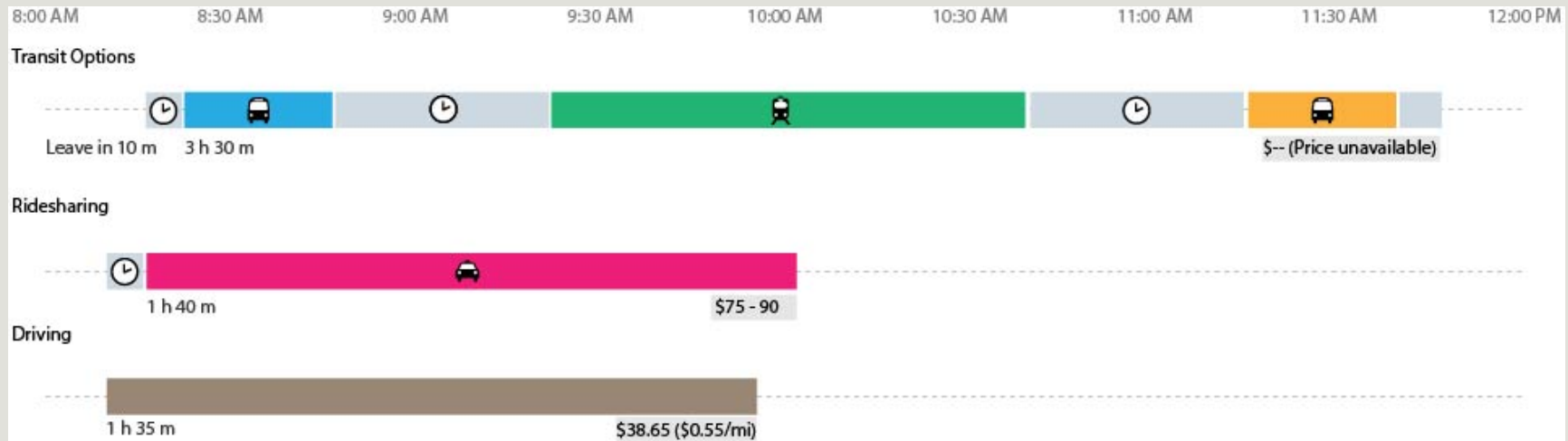
Incompatible fare and ticketing policies between agencies require passengers to purchase multiple tickets for one journey.



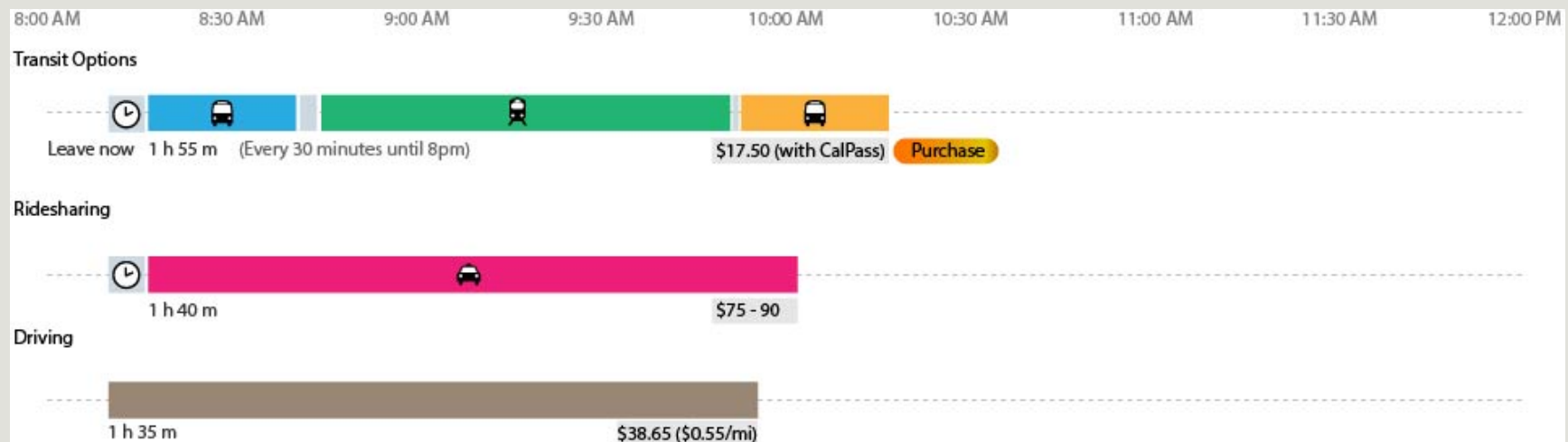
Poor Physical Connections

between travel modes, such as stations that require long walks and lack travel amenities.





The Current Situation: Disconnected Transit



The Future Situation: Integrated Transit

A photograph of a transit station. In the foreground, a red bicycle with a basket is parked on a sidewalk. In the background, a blue bus is stopped at a platform. The scene is set during the day with some shadows. The text "What is Network Integration?" is overlaid in white, centered on the image.

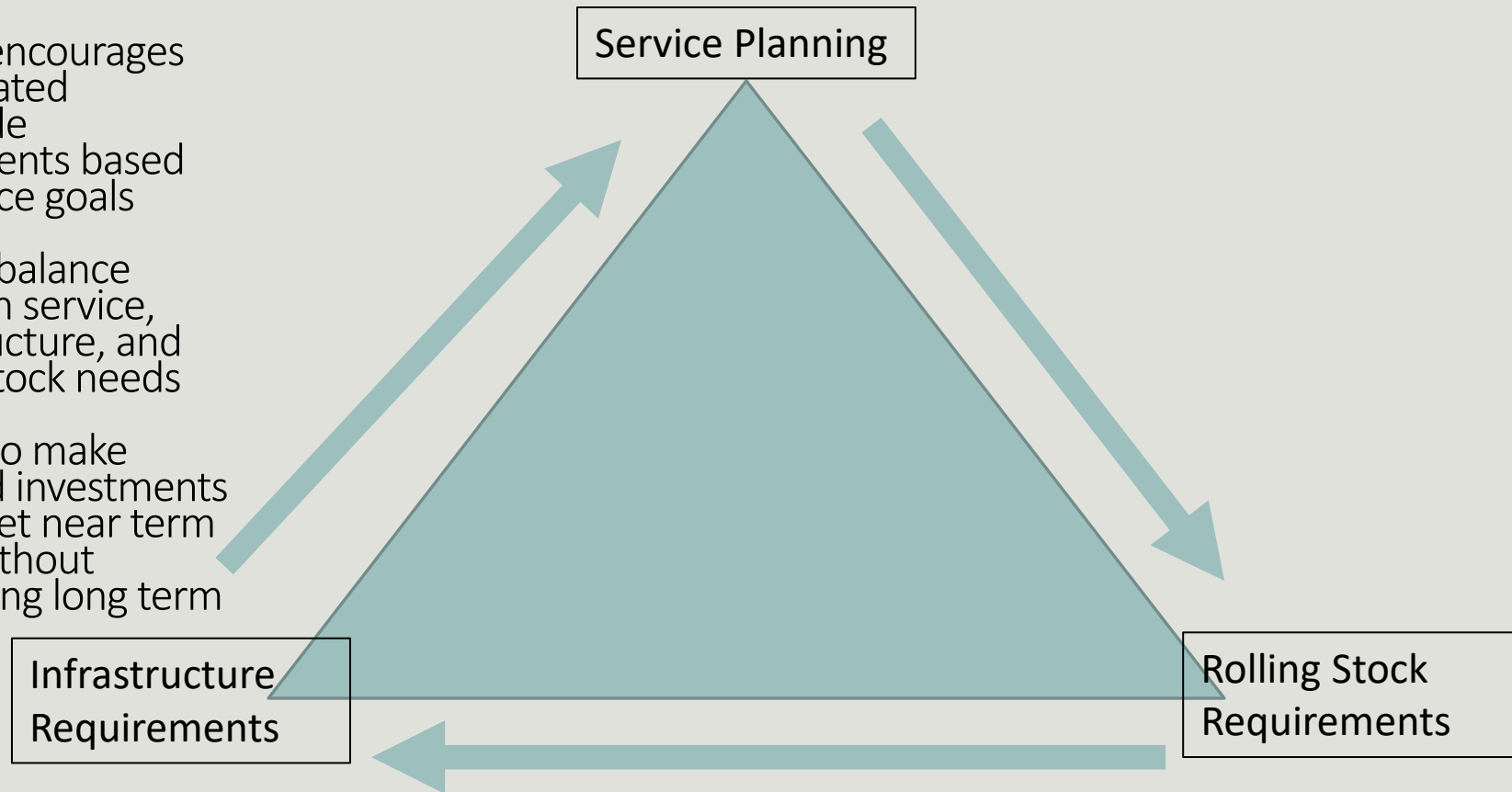
What is Network Integration?

What is Network Integration?

FOR USERS, NETWORK
INTEGRATION FUNDAMENTALLY
MEANS CREATING A *SEAMLESS
TRAVEL EXPERIENCE* ACROSS RAIL
AND TRANSIT IN CALIFORNIA BY
ELIMINATING *POINTS OF FRICTION*.

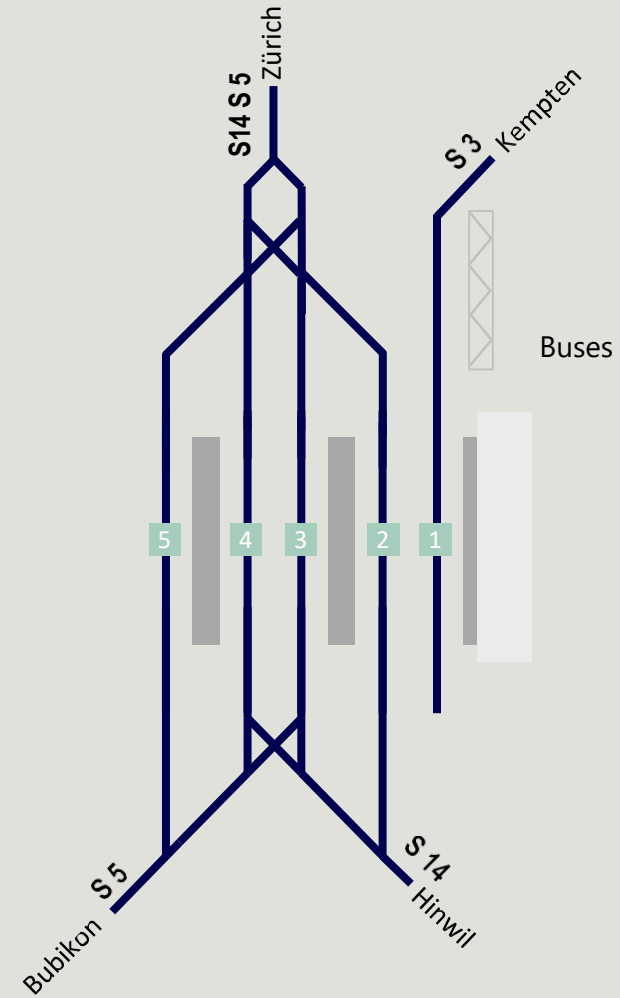
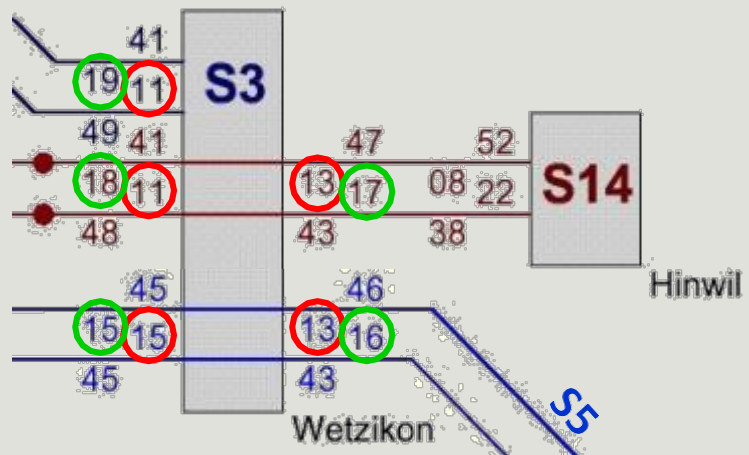
Integrated Planning Approach

- CalSTA encourages coordinated statewide investments based on service goals
- Strike a balance between service, infrastructure, and rolling stock needs
- Crucial to make targeted investments that meet near term goals without precluding long term vision.



Wetzikon

1. Buses arrive in advance of the trains
2. Trains arrive in the station
3. All services are in the station
4. Trains depart from the station
5. Buses depart from the station



What is Network Integration?

FOR THE STATE AND OUR PARTNERS,
NETWORK INTEGRATION MEANS:

- COLLABORATING TO ELIMINATE
DUPLICATE INVESTMENTS;
- PLANNING OF SHARED CORRIDORS
AND INFRASTRUCTURE;
- COORDINATED SCHEDULES;
- COORDINATING ROLLING STOCK
PROCUREMENT AND MANAGEMENT.

Why Network Integration?

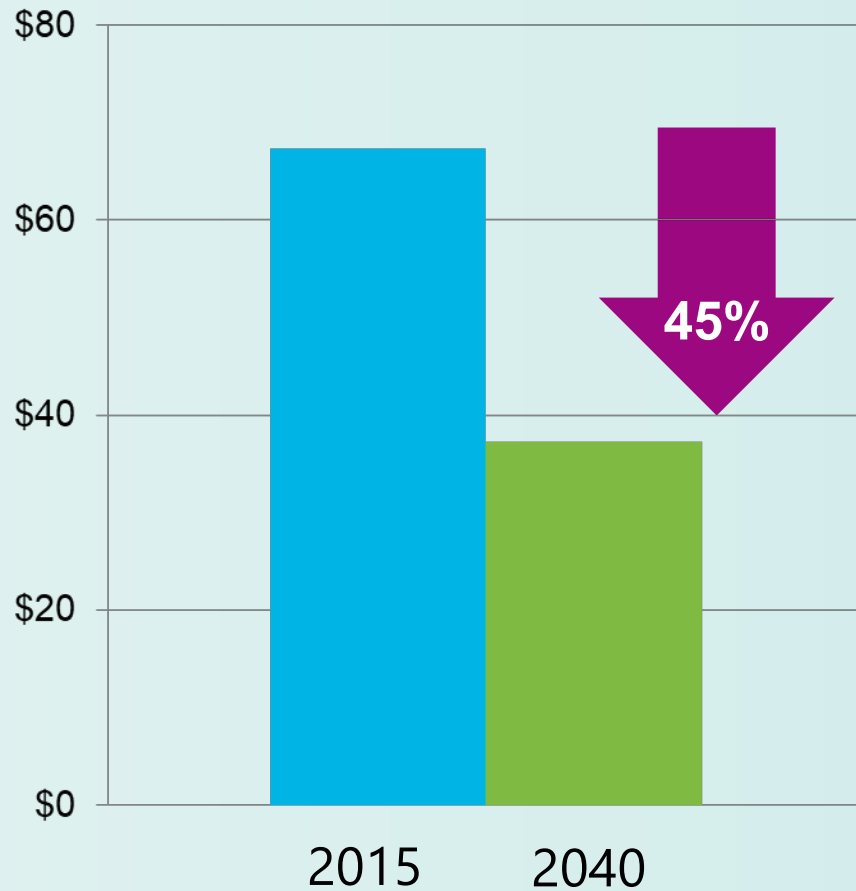
Through network effects, **economies of scale**, simplification, and the adoption of uniform standards and practices, we can realize greater benefits:

- Reduced costs to operate public transportation
- Reduced cost for travelers to use public transportation
- Increased ridership
- Increased farebox recovery and revenue

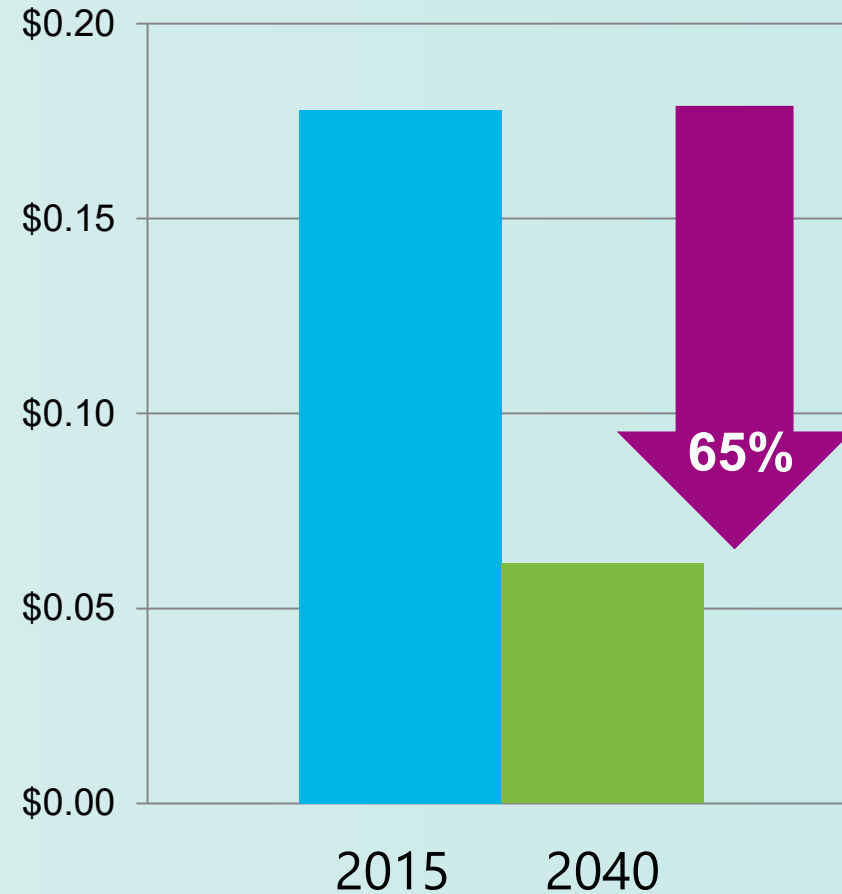
The California State Rail Plan and the forthcoming Statewide Transit Strategic Plan describe the need to coordinate investments in a way that ties together public transit offerings across California into a cohesive system.

Comparing Metrics – Existing v. 2040

Cost per Train Mile



Cost per Seat Mile



All costs are in 2015\$

Unique Approach to Projects and Planning

- ▶ **Different approaches to building the case for the project**
 - ▶ Focus on outcomes and benefits
 - ▶ Importance of network effects
 - ▶ Multi-stakeholder and multi-operator collaboration
 - ▶ Ridership and network capacity modeling tools suited to the decision
 - ▶ Building block approach to capital investment rooted in future schedule
- ▶ **Project emphases in our 2020 world**
 - ▶ High priority on creating foundational value from investment
 - ▶ Importance of lowering long term operating and capital costs
 - ▶ Importance of being able to scale up
 - ▶ Importance of addressing social equity
- ▶ **CalSTA functioning as a partner in project development**



Project Examples

- ▶ **CalSTA and Caltrans partnering with SANDAG, NCTD, LOSSAN and BNSF**
 - ▶ **Result: Integrated \$200M project to benefit both freight and passenger travel to/from San Diego**
- ▶ **CalSTA and Caltrans partnering with SBCTA to develop Zero Emission Rail Vehicles**
 - ▶ **Result: Redlands Passenger Rail selection of hybrid hydrogen fuel cell–battery rail multiple unit**
- ▶ **CalSTA and Caltrans partnering with CCJPA to develop the Integrated Travel Project (Cal-ITP)**
 - ▶ **Result: Monterey Salinas Transit Contactless Payment Demonstration**



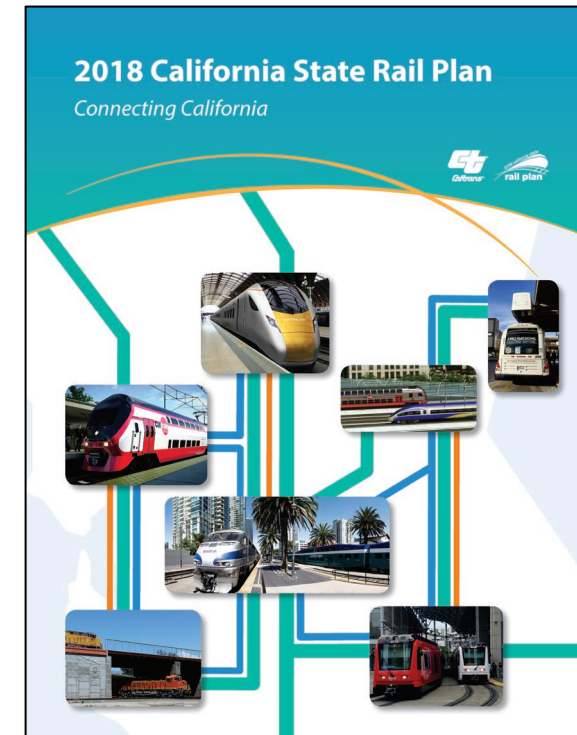
Key Study Objectives

- 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 environmental and preserving the ecology and natural beauty of the region



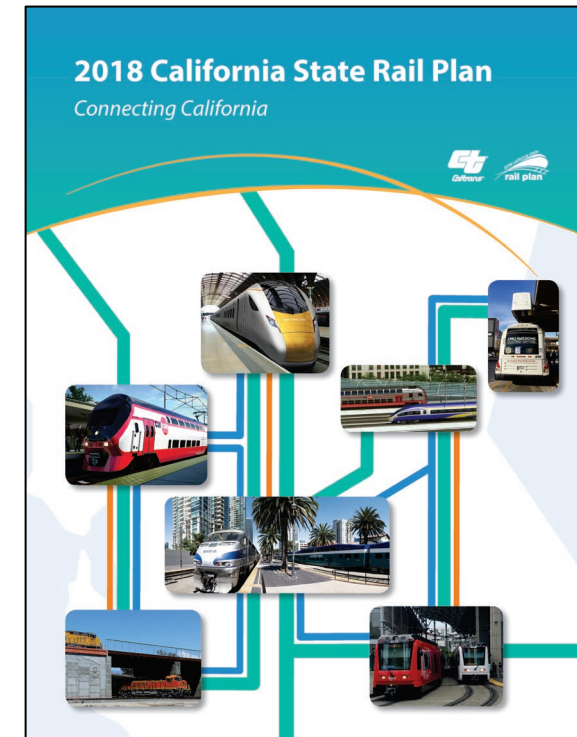
Incremental Steps to Attaining California State Rail Plan Vision

- Regular passenger rail service (regular interval, reliable, integrated network)
- Regional goal of at least half-hourly express and half-hourly local service on LOSSAN Corridor
- And frequent high-speed service to Inland Empire, Los Angeles, and beyond
- *LOSSAN Corridor Optimization Study* and *SANDAG Long-Term San Diego Regional Rail Alternative Alignment Study* will address



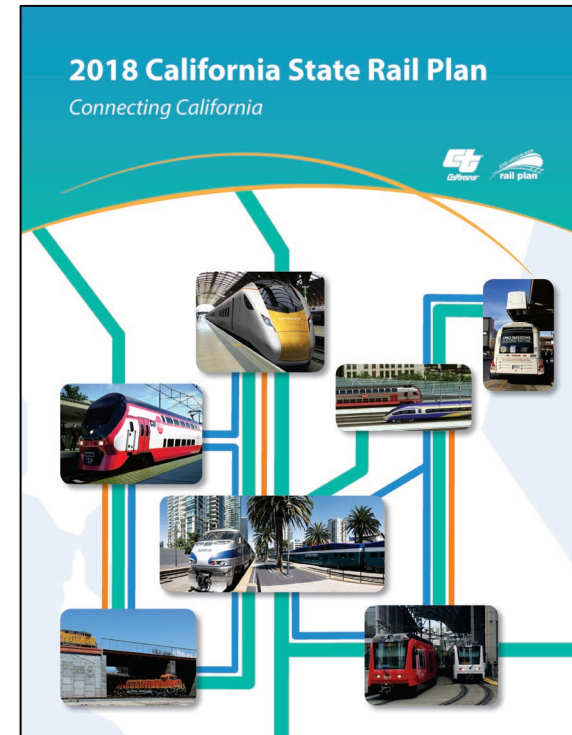
Incremental Steps to Attaining California State Rail Plan Vision (cont.)

- Plan also expects corridor to use electrified or zero-emission technology
- Considerations for tunnel design and realignment options



Incremental Steps to Attaining California State Rail Plan Vision (cont.)

- High-speed rail services to Inland Empire and Los Angeles may share portions of current LOSSAN Corridor
- Considerations for alternative alignments near Del Mar
- Timing of high-speed rail and LOSSAN Corridor service needs

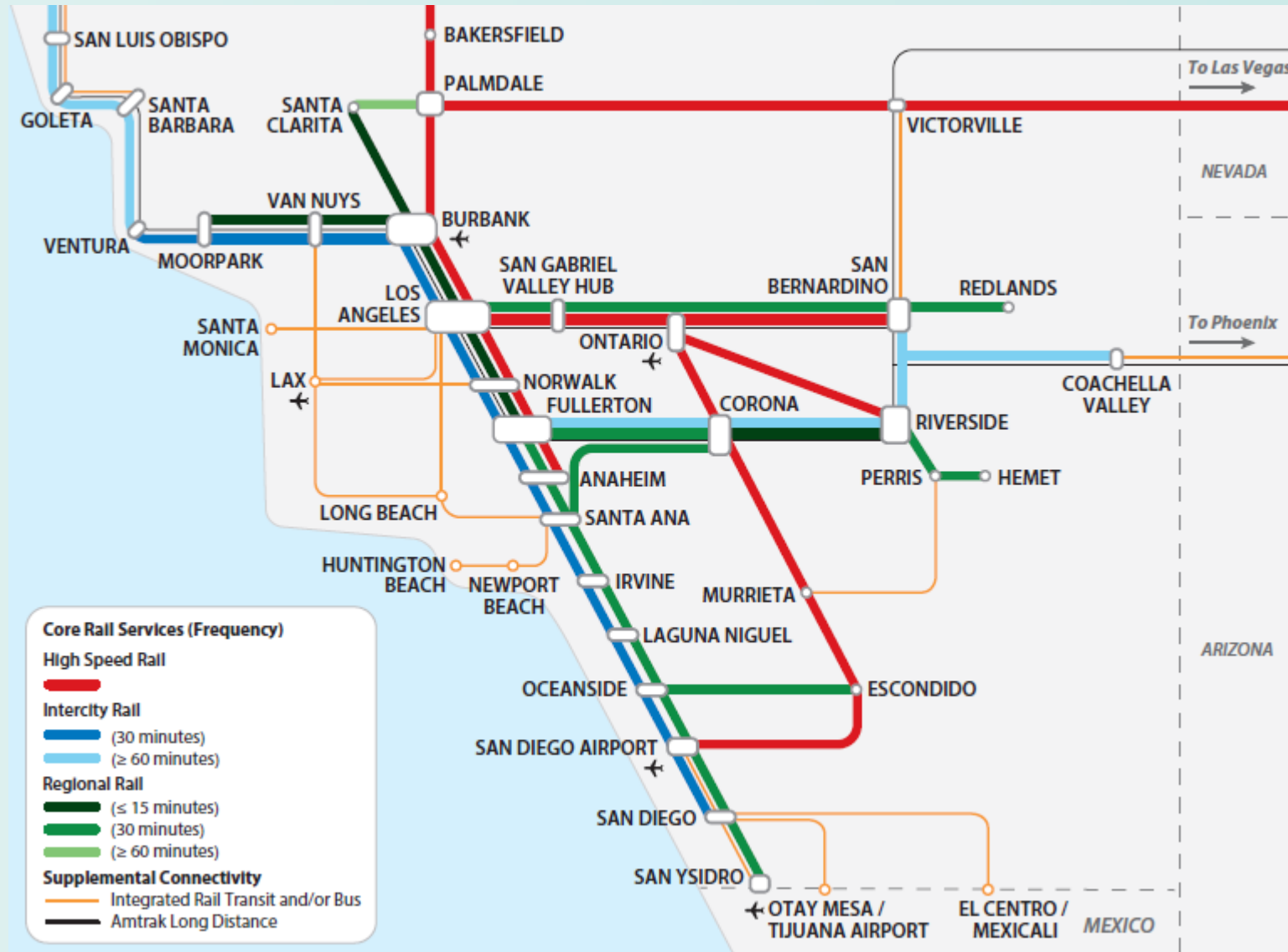


2040 Vision for Passenger Rail

- » **Integrated Statewide Network**
 - » High Speed Rail
 - » Intercity and Regional Services
 - » Integrated Express Bus
- » **Coordinated Schedules**
 - » Regular pulsed service
 - » Key transfer hubs
 - » Public Transit Connections
- » **Customer Focus**
 - » Seamless First/Last-Mile Access
 - » Integrated Ticketing
 - » Auto and air competitive



2040 Vision: Southern California



Service Extension to US/Mexico International Border

- Considerations for service goals, phasing, and integration with the LOSSAN Rail Corridor
- Addressed in *LOSSAN Corridor Optimization Study and Freight Pathing and Passenger Service Extension Study*



- Current level of service is 6 trains daily
- Plans call for 22 trains daily by 2028
- Addressed in LOSSAN Corridor Optimization Study and Freight Pathing and Passenger Service Extension Study



Results from LOSSAN South Optimization

- ▶ **Selection of a \$200M project that meets State Rail Plan goals for both goods movement and a premier, customer-focused, integrated passenger rail system**
 - ▶ Daily freight slots from 6 to 16
 - ▶ Pulsed schedules that allow all-day, anywhere-to-anywhere connections
 - ▶ Extension of passenger service south of Santa Fe Depot in San Diego
 - ▶ Movement of maintenance activities to a larger site south of the Santa Fe Depot
 - ▶ Full funding for Del Mar Bluffs Stabilization (Phase 5)
- ▶ **Assurance that all projects serve as building blocks to additional service and capacity growth in the future**
 - ▶ Identification of key bottlenecks that need to be addressed before additional service can be provided
- ▶ **Demonstration of critical value in aligning analysis and projects with funding opportunities**





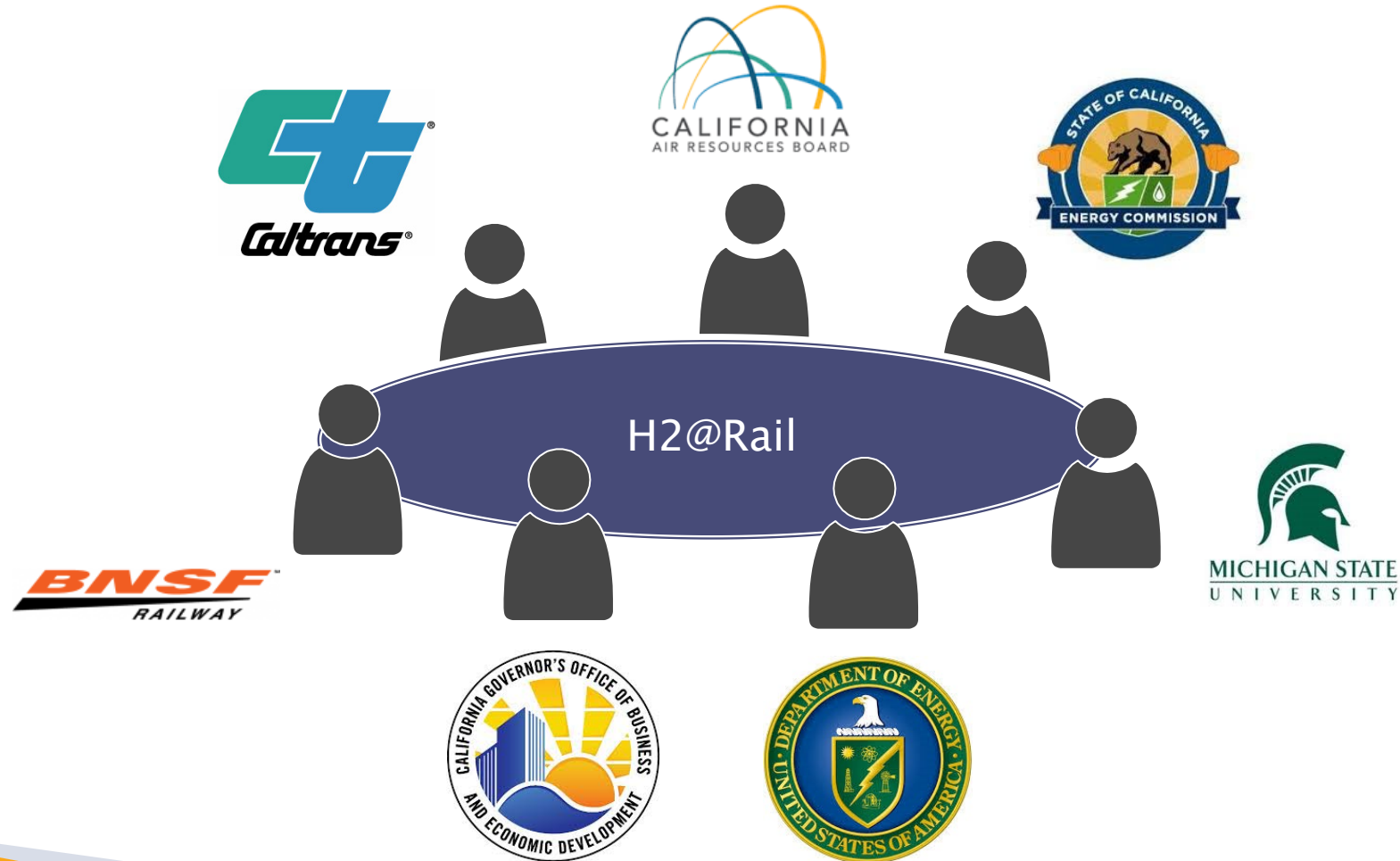
San Bernardino County Transportation Authority's Zero Emission Multiple Unit

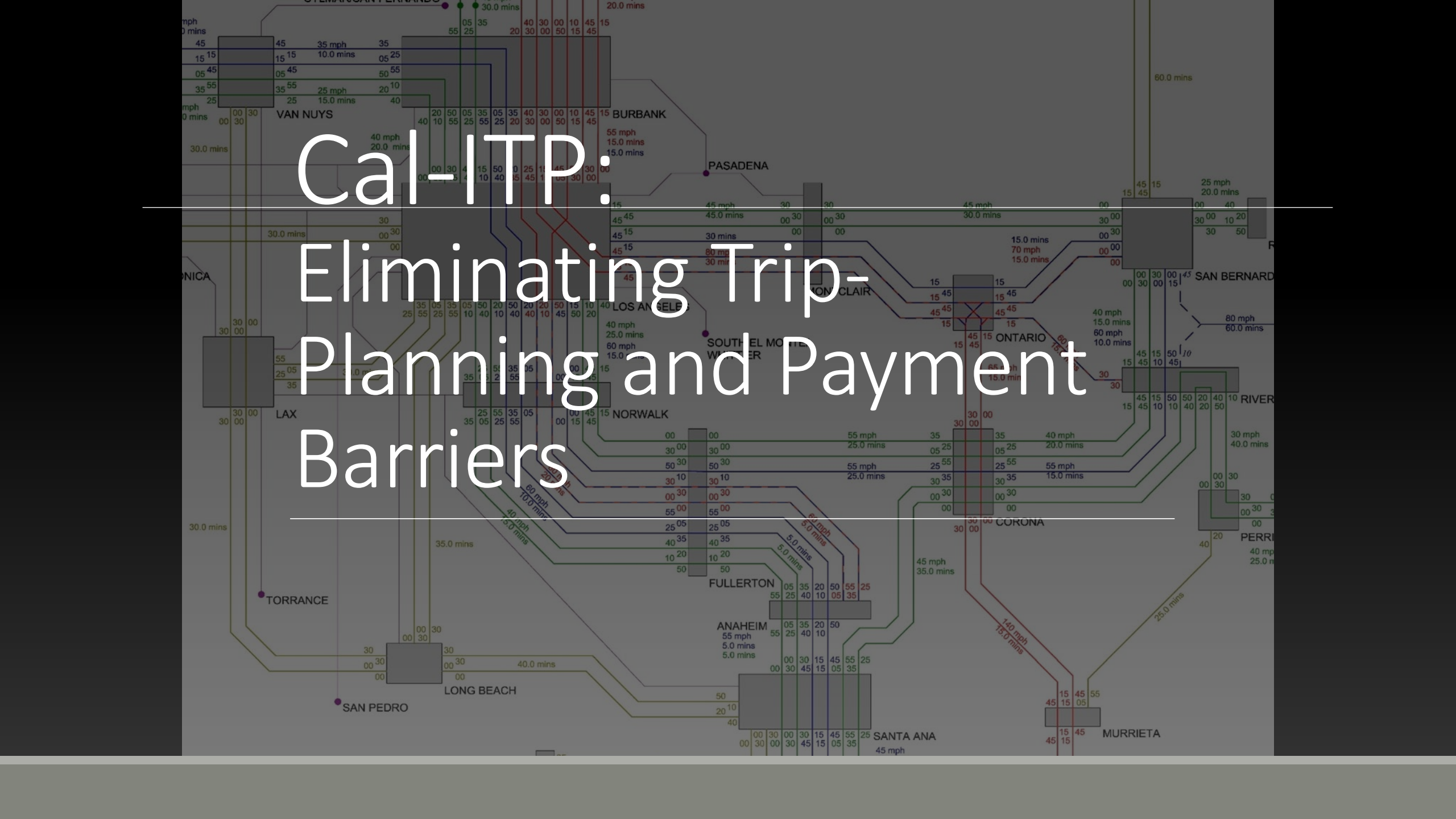
- \$30 Million TIRCP Grant to purchase an additional DMUs
- Research & Development on ZEMU and supporting infrastructure
- Moving forward with Hybrid Battery-Hydrogen fuel cell system, selected after life cycle cost analysis completed
- Arrow Service between San Bernardino and Redlands





H2@Rail: regular meeting established





Cal-ITP: Eliminating Trip- Planning and Payment Barriers

California Integrated Travel Project (Cal-ITP)

- Increase ridership by offering seamless trip planning and contactless payment across modes and across California
- Making transit easier for the transit rider by enabling a great user experience
- Lower costs of fare/revenue collection/information management due to advantage of economies of scale
- Critical role of standards

What Can We Integrate?

TRIP PLANNING PHASE

TRANSACTION PHASE

Mobility
Service
Data

Payment
Systems

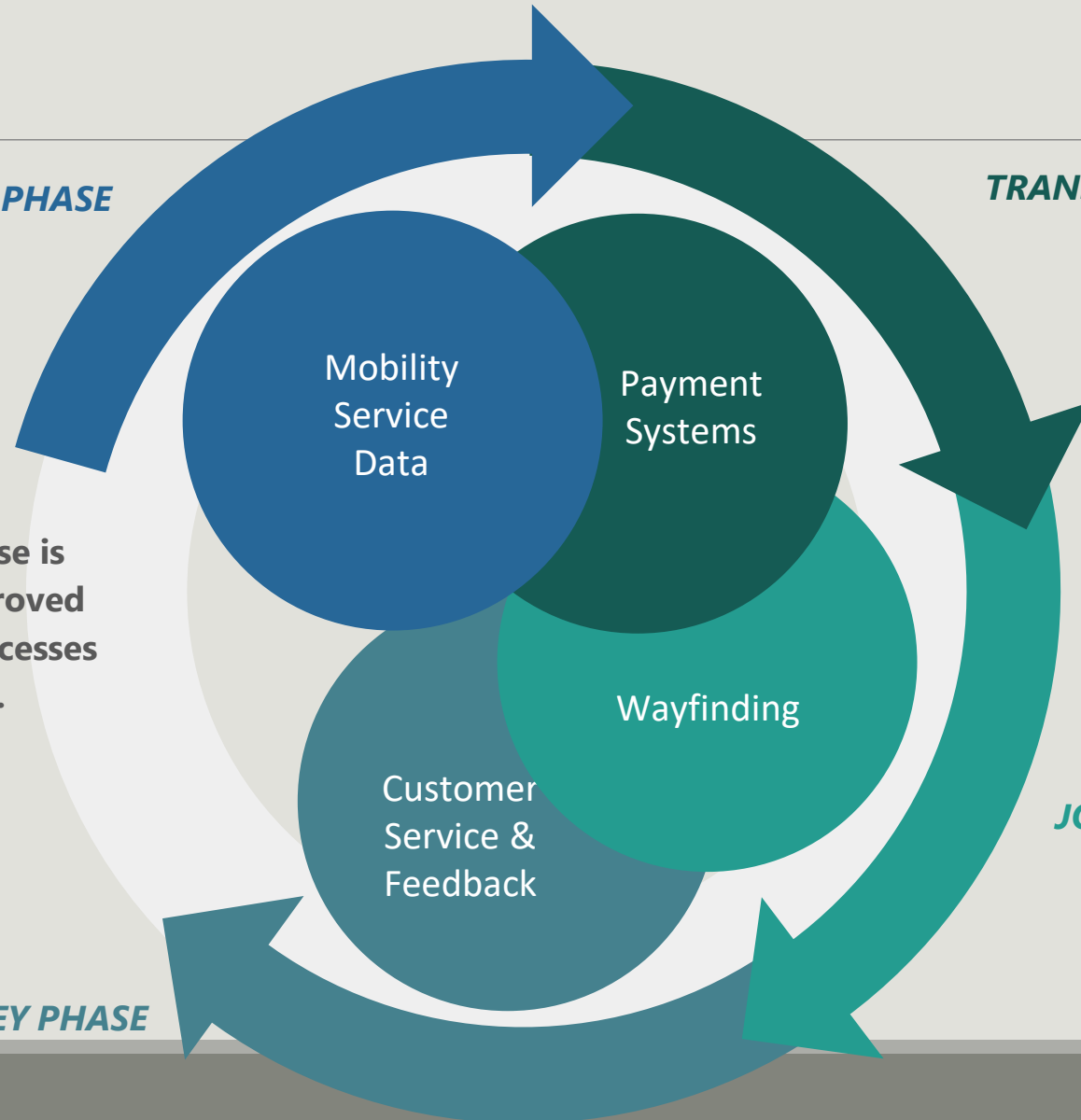
Wayfinding

Customer
Service &
Feedback

JOURNEY PHASE

Each journey phase is enabled and improved by a series of processes and technologies.

POST-JOURNEY PHASE



Cal-ITP Demonstration with MST



Why contactless payment?

- ▶ Helps prevent the spread of COVID-19 by:
 - Decreasing touch points
 - Speeding boarding, limiting close contact
- ▶ Customers expect contactless payment option
- ▶ Open payment enables contactless credit/debit or mobile wallet use
- ▶ No special fare media required to ride
- ▶ Enables pay-by-distance fare



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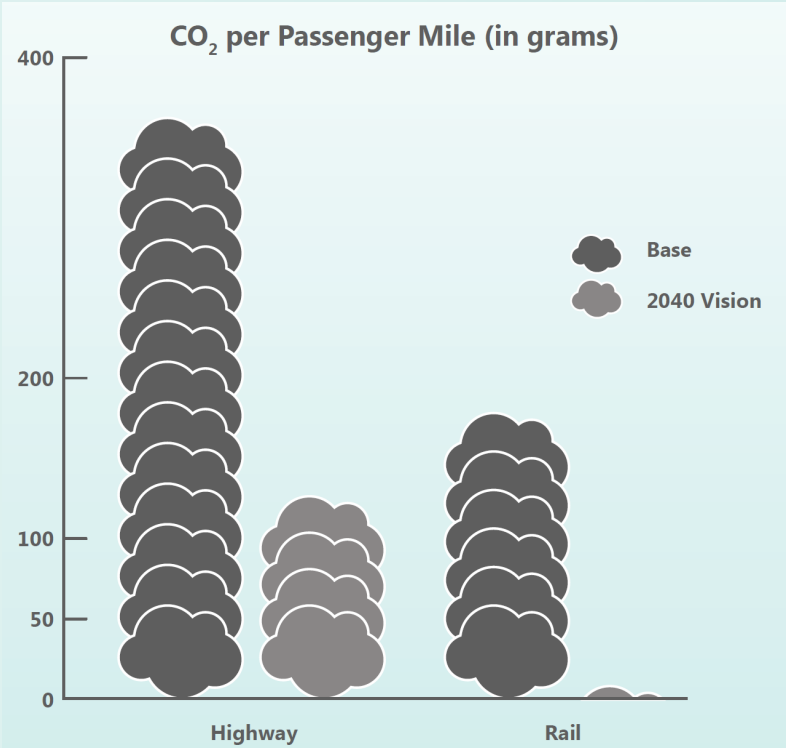


2040 Vision: Northern California



Rail Plan Vision: Outcomes

- Reduce greenhouse gas emissions
- Mitigate roadway congestion
- Reduce vehicle emissions



- Current Ridership**
110,000 Daily Trips
- Business as Usual (2040)**
161,000 Daily Trips
- 2040 Vision**
1,313,000 Daily Trips

- Offer a convenient and reliable alternative to private vehicle travel
- Increase electric and zero emission trains
- Provide alternative to truck transport of containerized cargo

Rail Mode Share

- Current: 0.34%**
- 2040 No Build: 0.52%**
- 2040 Vision: 6.8%**