

Integrating High Speed Rail, Regional Rail, and Transit Services in California

SPUR

Oakland, CA

September 27, 2017

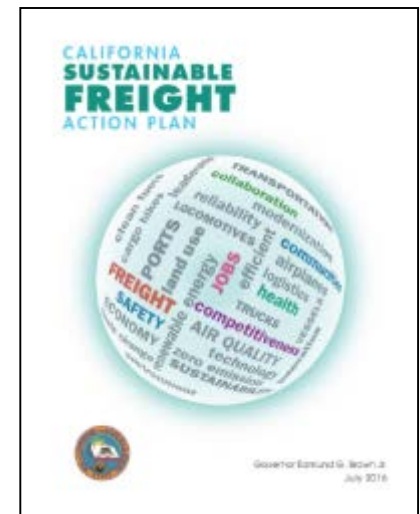
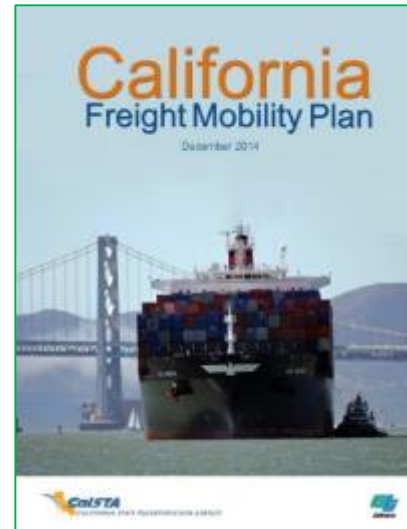
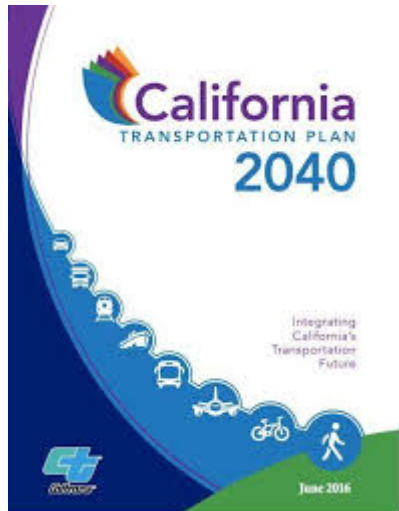


Chad Edison

Deputy Secretary for Transportation
California State Transportation Agency



California State Rail Plan Context



2018 California State Rail Plan

A multimodal plan with integrated rail, bus and transit services

- Responsive to federal and state requirements
- Network Integration Strategic Service Plan
- Needed to integrate high speed rail, intercity rail, and transit, as well as to amplify ridership and achieve environmental goals

Establishes vision for statewide rail network, including multi-state connections

Plans for strategic investments in goods movement by rail

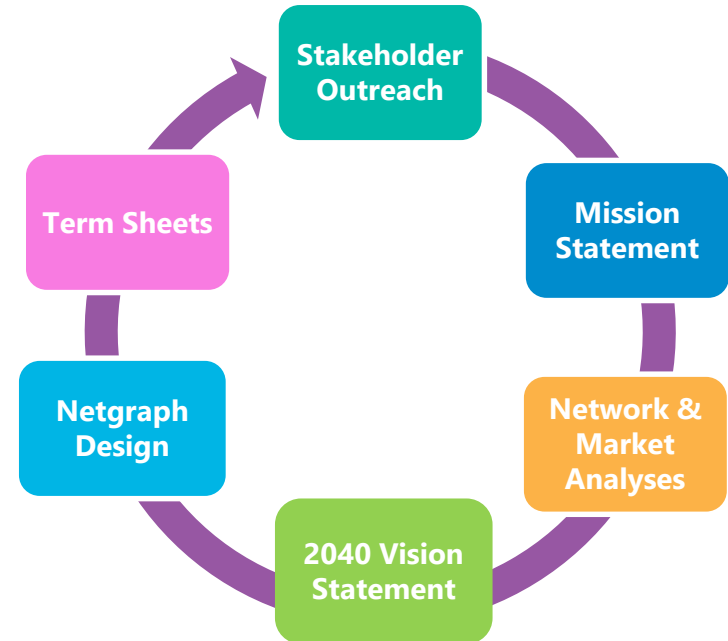
Mission Statement

The mission of the 2018 State Rail Plan is to provide a path to achieve a safe, sustainable, integrated, and efficient California rail network that successfully moves people and goods while enhancing the State's economy and livability.

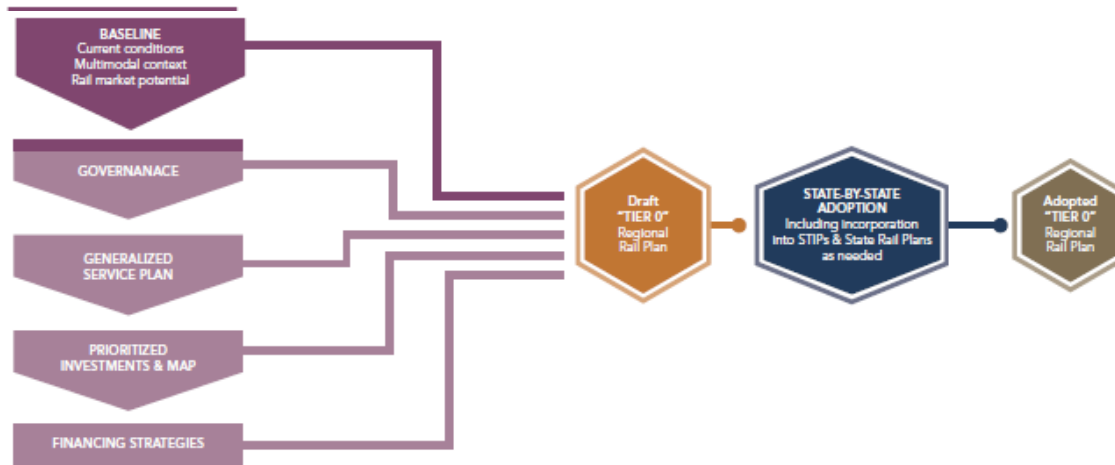


Network Integration Visioning Process

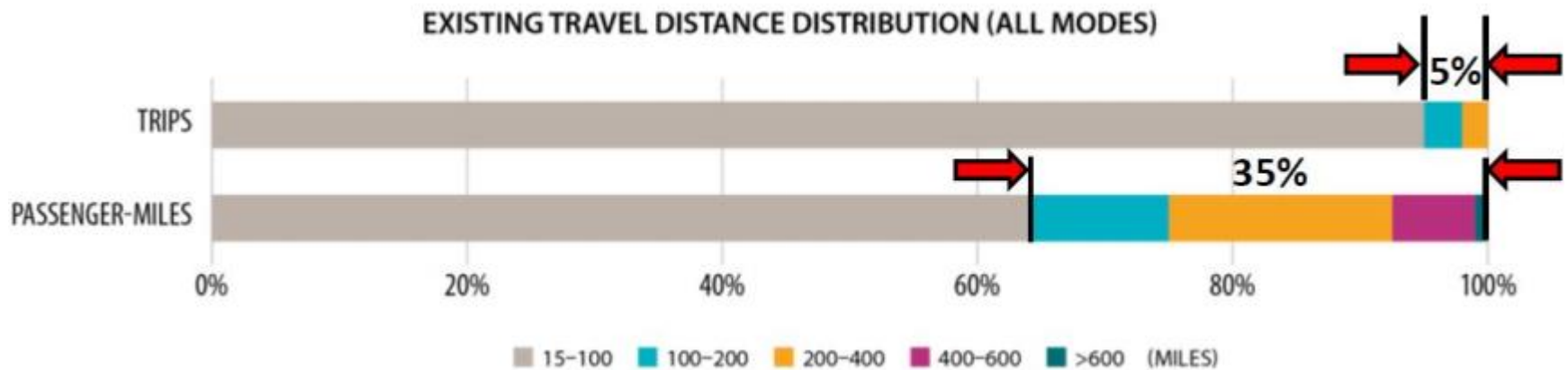
- **Working toward achieving a shared 2040 Vision for rail in California:**
 - Started with understanding our market
 - Analyzed our current and planned-for-construction rail corridors
 - Developed potential rail service alternatives
 - Ongoing, engaged, iterative process, dependent on stakeholder feedback



Southwest Multi-State Rail Planning Study



Why is a Statewide Vision Warranted?



For trips over 15 miles, about 5% of those trips are longer than 100 miles and generate about 35% of passenger miles

Rail Ridership Under Existing Conditions

Rail Ridership Potential by Travel Distance Existing Conditions

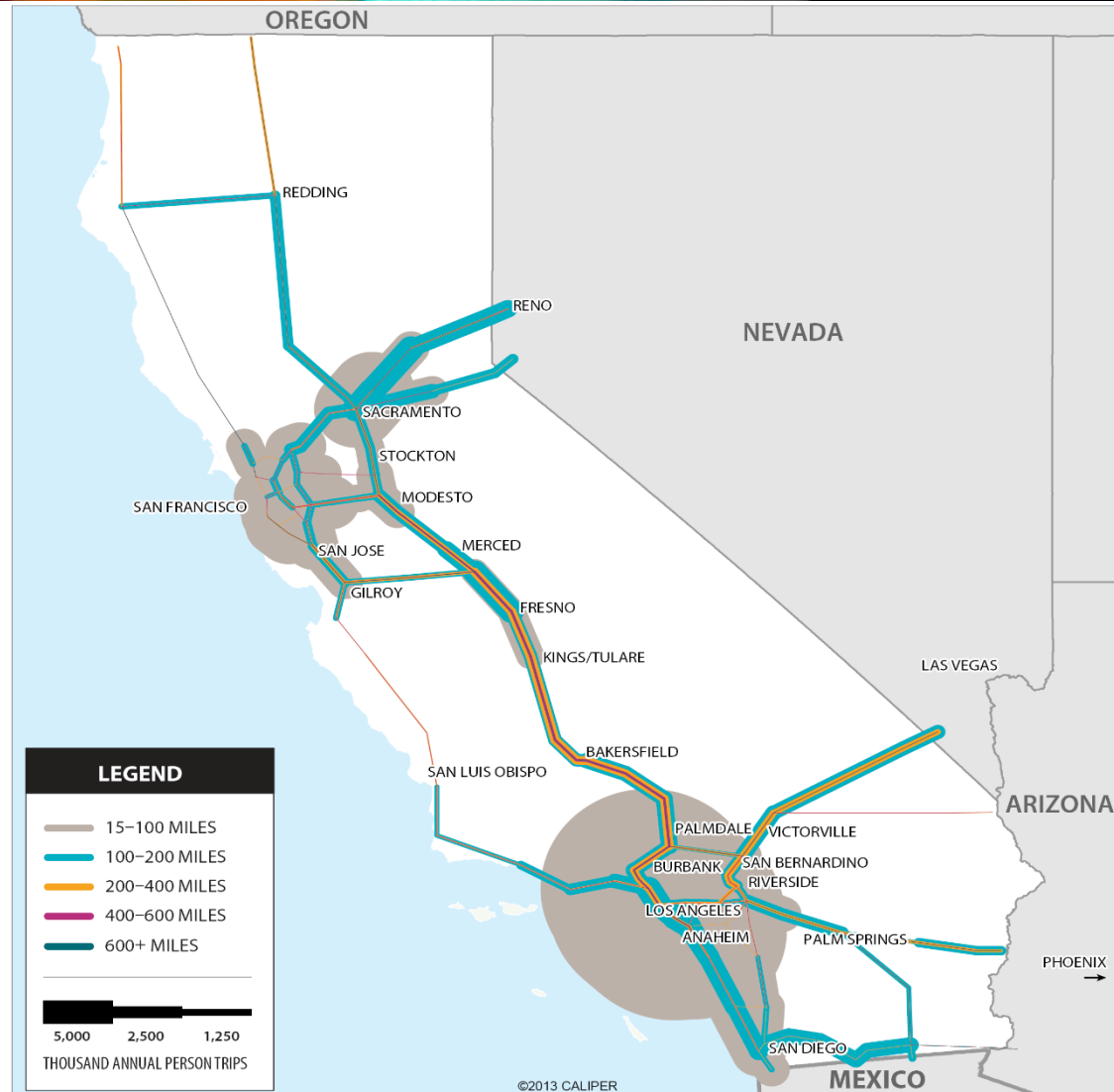
(Thousand Annual Person Trips)



Potential Rail/Intercity Bus Ridership

Rail Ridership Potential by Travel Distance Base Conditions

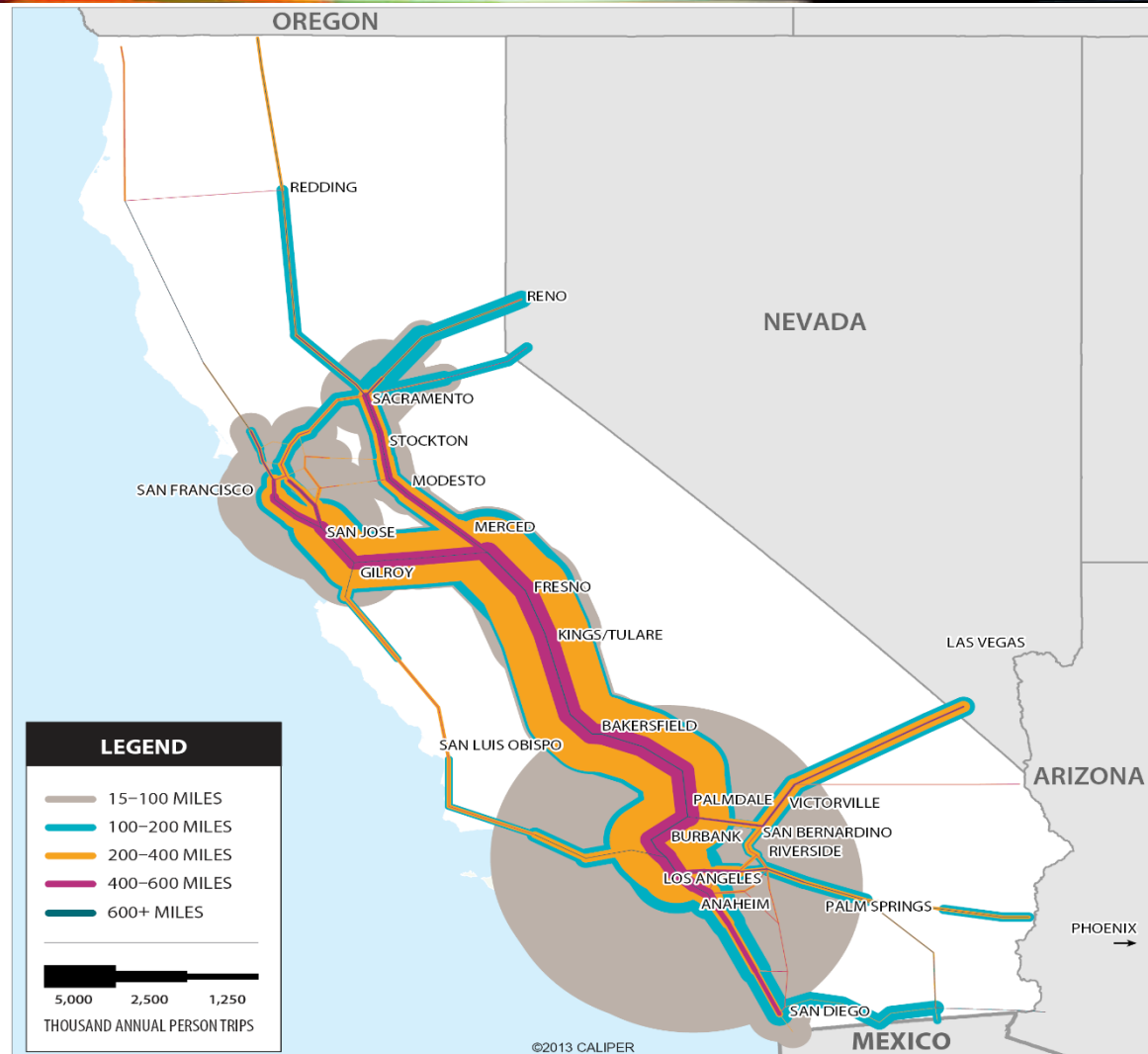
(Thousand Annual
Person Trips)



Potential Rail/Intercity Bus Ridership

Rail Ridership Potential by Travel Distance HSR Phase 1 Conditions

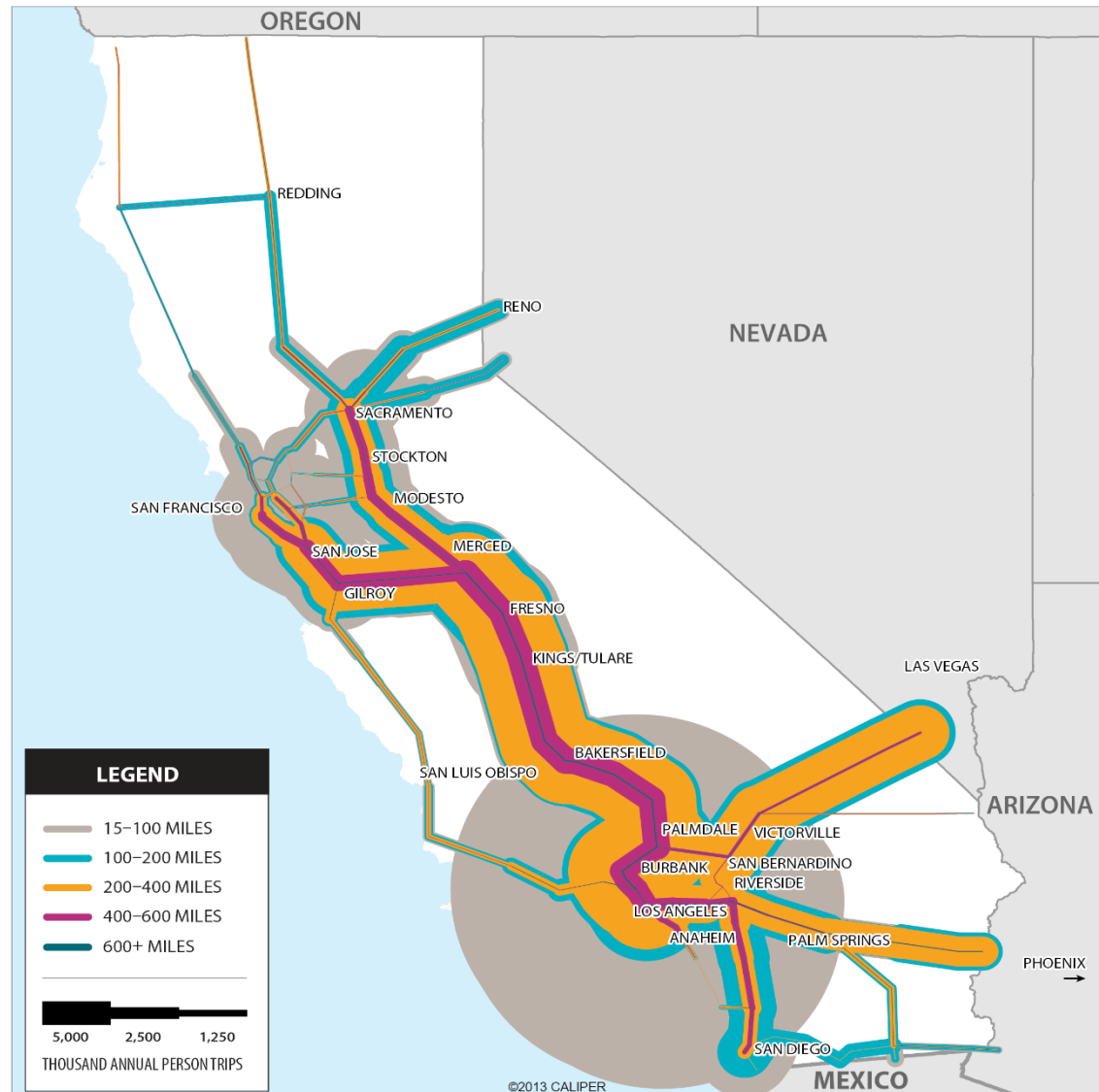
(Thousand Annual
Person Trips)



Potential Rail/Intercity Bus Ridership

Rail Ridership Potential by Travel Distance HSR Phase 2 Conditions

(Thousand Annual Person Trips)



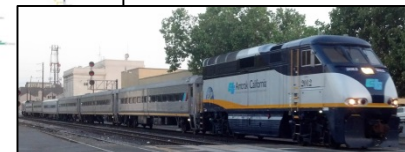
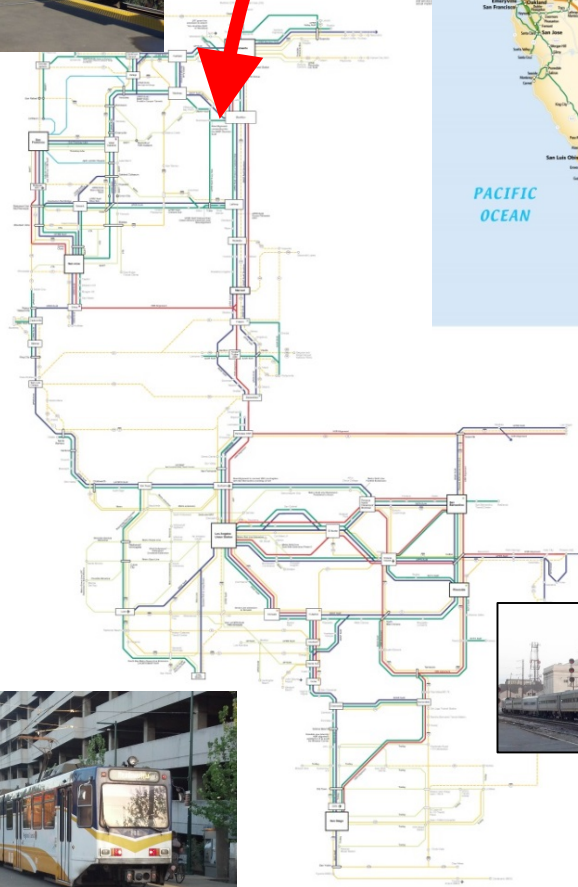
California Rail Services: Both Regional and High Speed



Developing a Statewide Multimodal Passenger Vision

Potential Characteristics:

- **Useful** and **efficient** public transportation system
- System creates a **comprehensive network**
- **Leverages** the **opportunities** of an expanding **high-speed rail** system
- **Auto-competitive** travel times to offer a reliable alternative to highway travel
- **Seamless** door-to-door travel experience
- The **State** serving as a **coordinator** for planning, funding and technology decisions with system-wide impacts
- Relying on **local agencies** to **know what's best for their region.**

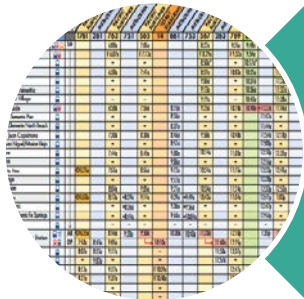


Attributes of an Integrated Network



Network

- Integrated multimodal transportation network.
- All services are connected (Local->HSR).
- Common transfer point locations.



Schedule

- Network-wide coordination through pulsed schedules.
- Designed connectivity at transfer points.



Fare System

- Integrated ticketing system.
- Journeys can be made on a single ticket.

Example of an Integrated Network - Wetzikon



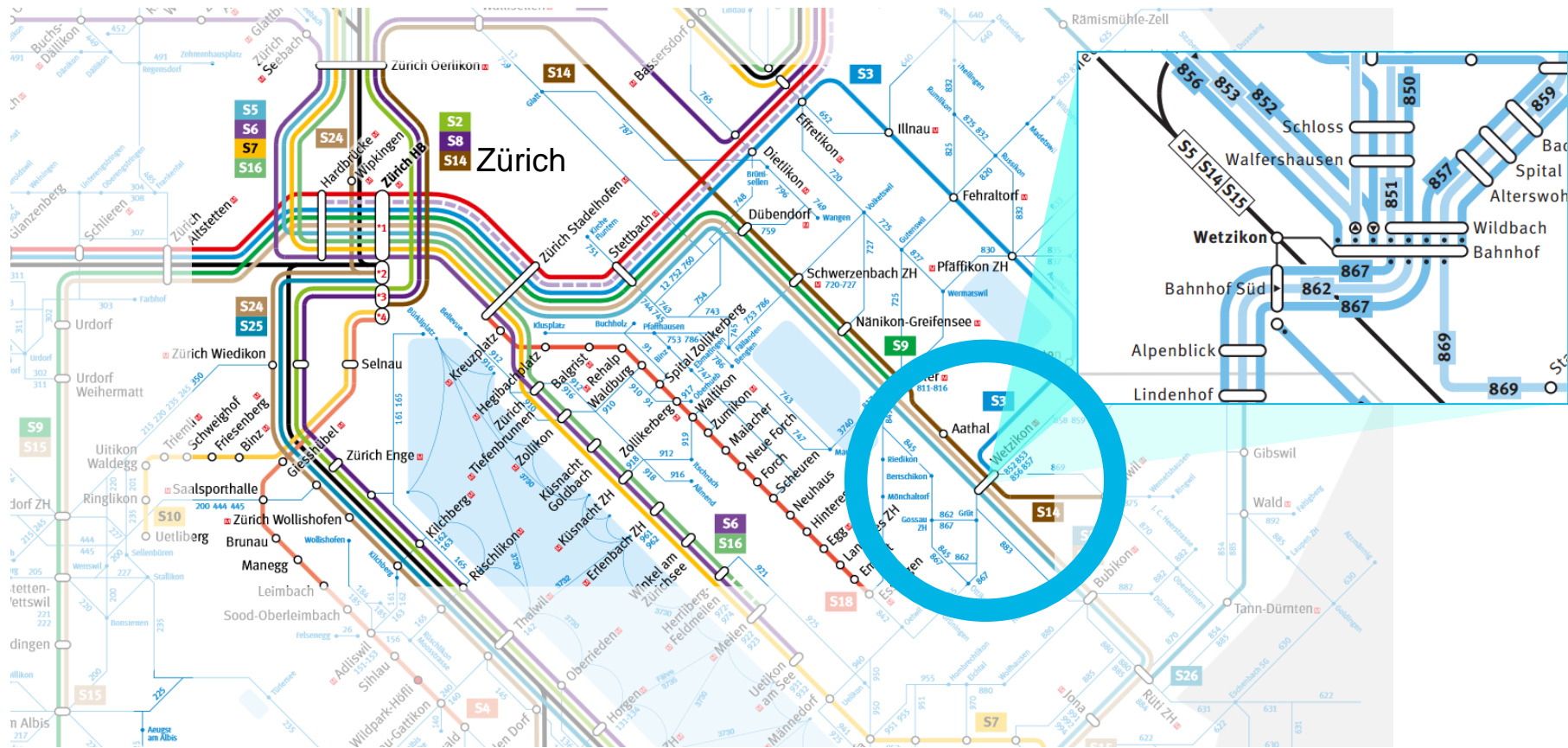
Example of an Integrated Network - Wetzikon



- Multimodal Connectivity:
 - Facilitates Bus-Rail connections
- Transfers occur half-hourly at minutes 15 and 45
- Connections between 3 regional rail lines and 12 bus lines

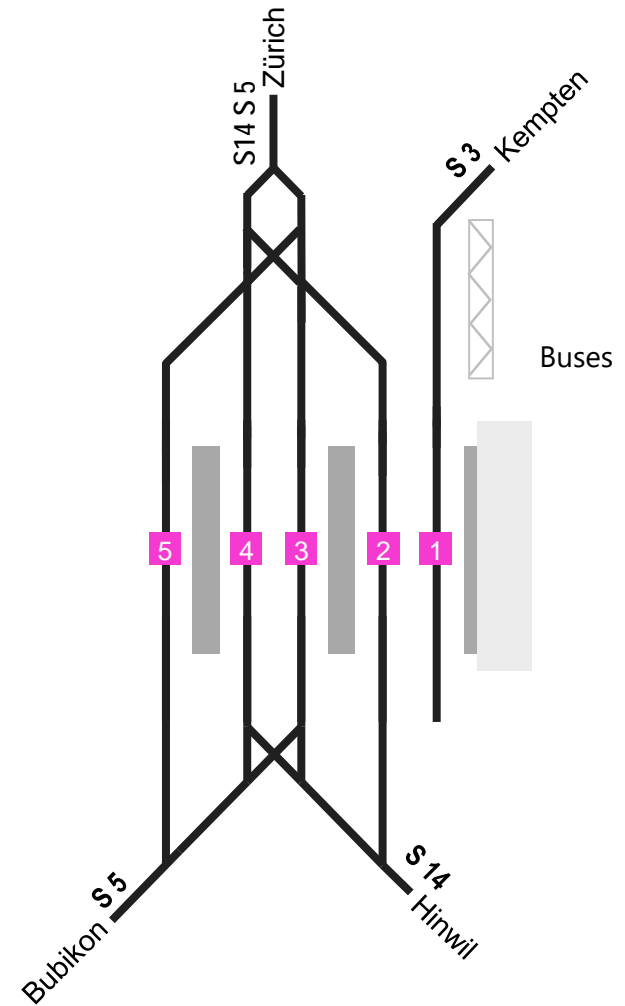
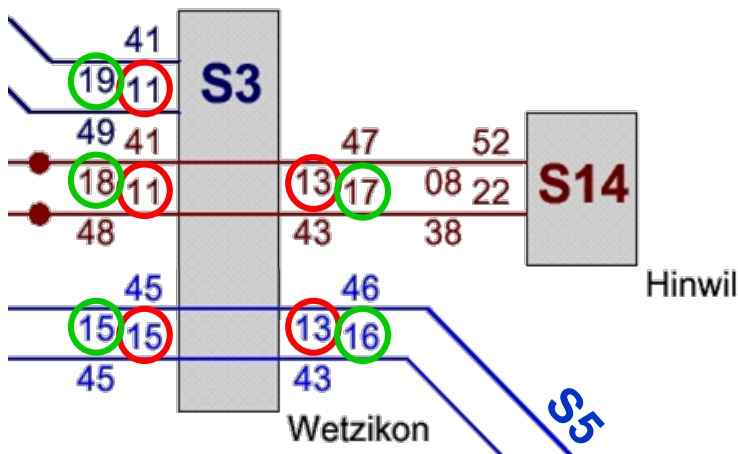
Example of an Integrated Network - Wetzikon

– Network Map



Example of an Integrated Network - 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



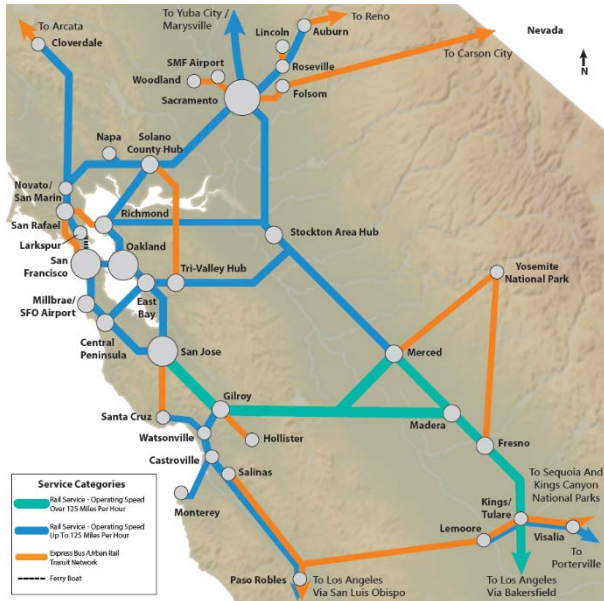
2040 Vision System Map (Draft)



Key Features:

- Integrated Statewide Network
- Integrated HSR, Blended Rail, Express, and Local Services with Urban Mass Transit and Express Bus
- Multimodal connection points at key hubs with regular pulsed service
- Auto and air competitive service throughout the State

Capital Plan Phasing (Draft Results)



2022 (or earlier)

- Planned and committed projects with funding identified and available
- Capacity expansions through grade separations, double tracking, etc.
- Vision Planning
- Integrated ticketing investments

2027 (or earlier)

- Initial HSR Service
- Line extensions
- Full utilization of existing and programmed slots
- Connecting regional networks to HSR
- Implementation planning
- Full development of integrated ticketing
- Key hub investments
- Palmdale to Las Vegas Corridor

2040 (or earlier)

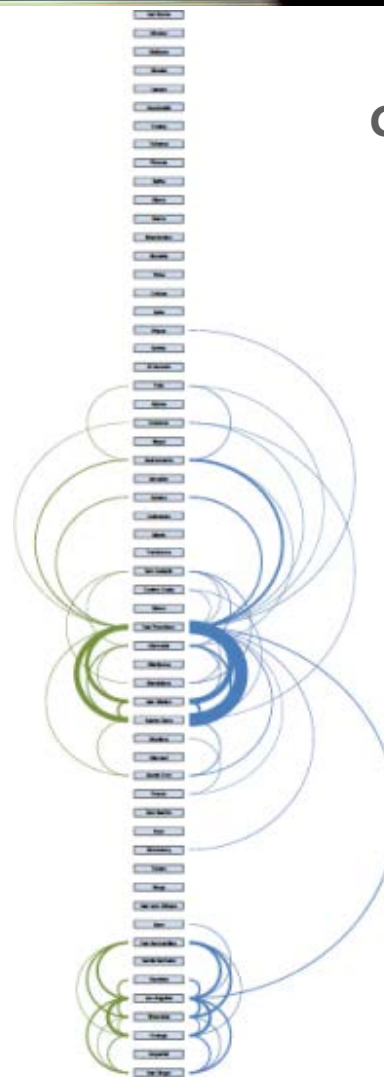
- Expanded HSR Service
- New Transbay Tube and service implications of through running rail service in SF
- Development of regional networks in North Bay, Central Coast and Central Valley
- Full Blended Rail Service in the Central Valley
- Completion of hub investments and additional electrification

Baseline 2040 Ridership (Draft Results)

- Results show large increase in rail ridership demand by 2040 just incorporating demographic growth
- However, market potential for networked services is **unrealized**

Base Year

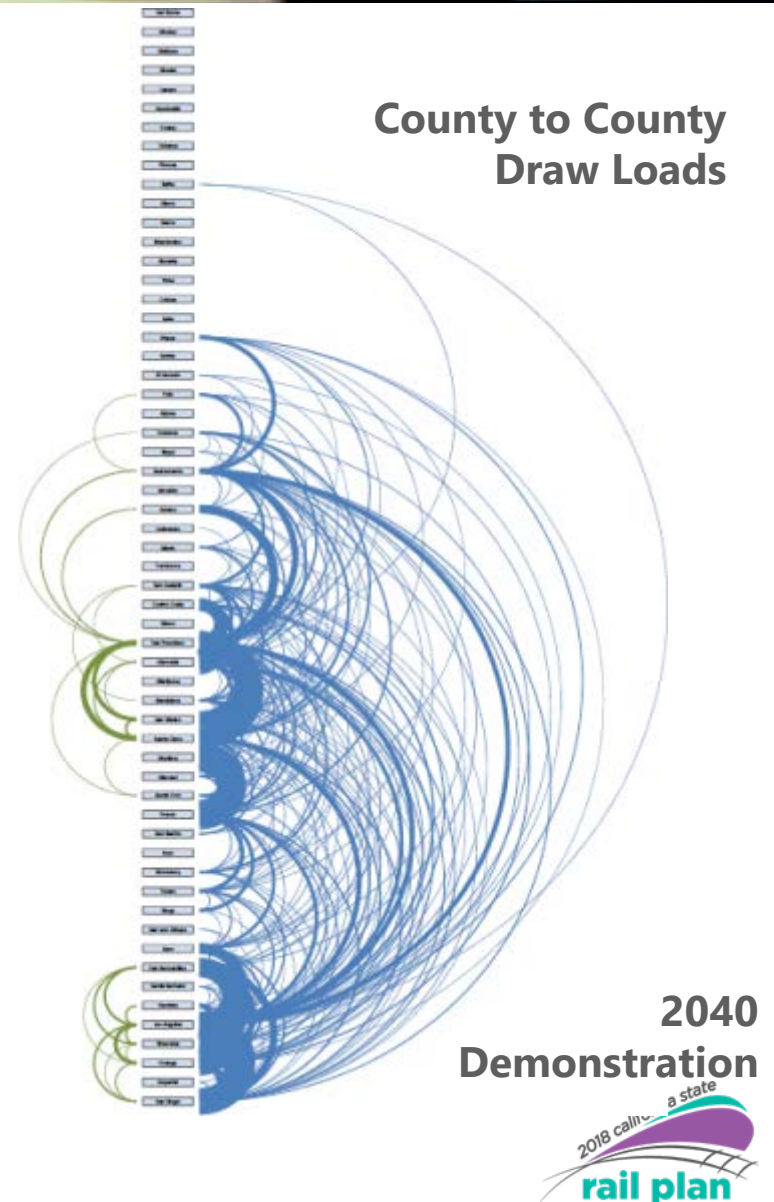
County to County
Draw Loads



Integrated Network 2040 Scenario (Draft Results)

- Results show **huge increase** in rail ridership demand
- Satisfies a **large market** potential for **networked services**

Base Year



Driving Operating and Maintenance Costs Down



Changes in rolling stock



Changes in speed



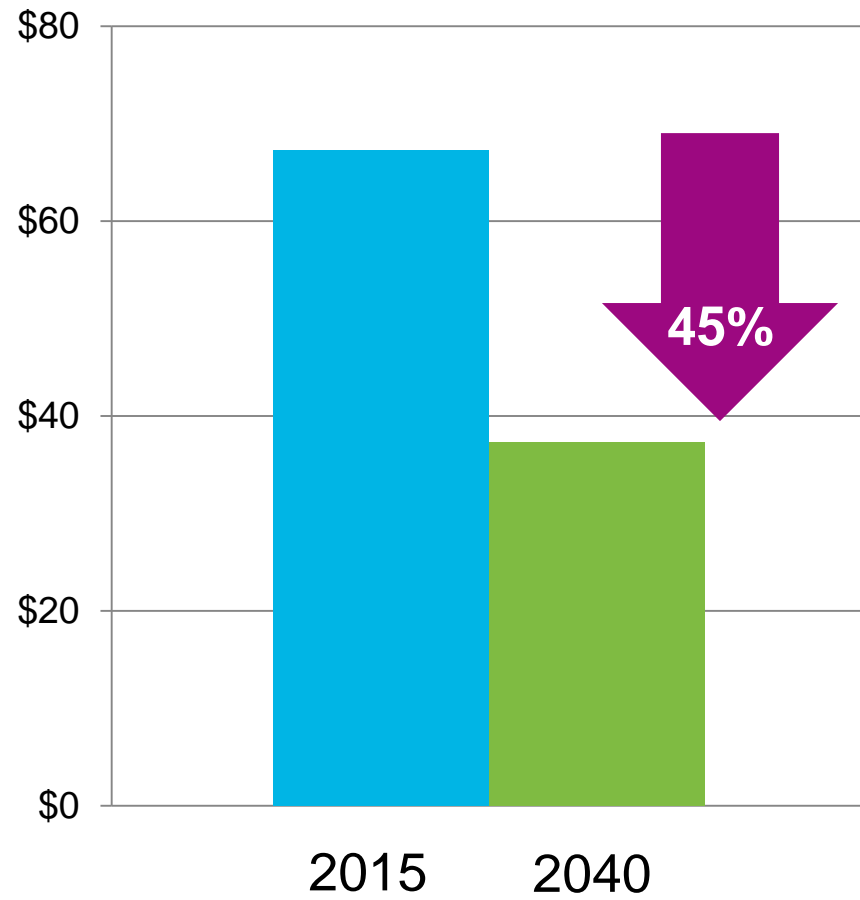
Changes in turnaround time



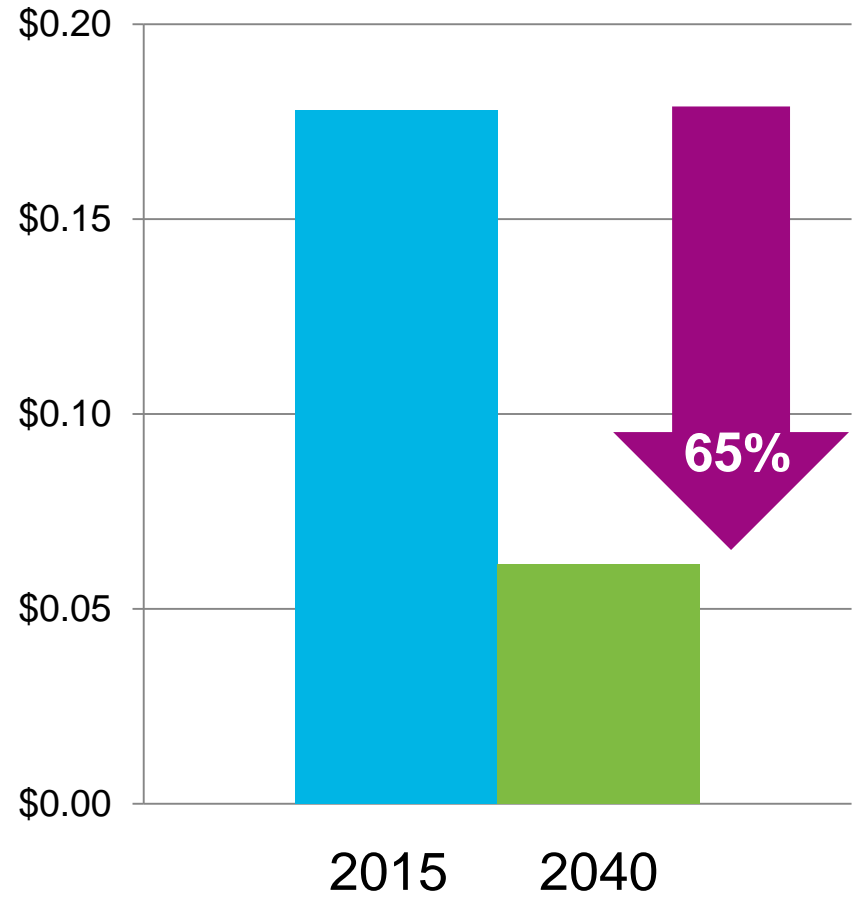
Changes in travel distances

Comparing Metrics – Existing versus 2040 (Draft Results)

Cost per Train Mile



Cost per Seat Mile



All costs are in 2015\$

Historical 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 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)

Near-Term Tools Supporting Rail Plan Vision

1. State Funding Priority on Transit-Rail Integration

- Focus of cap and trade funding for transit and rail
- Guiding future interregional project selection

2. Improved Existing Services

- Improved network planning & operations
- Significantly increased capital investment

3. Improved Customer Experience

- Next generation smart cards and mobile ticketing
- More extensive ticketing and service integration

4. Long Range Planning with Vision in Mind

- Not-to-preclude framework for planning and investment
- Regional strategic planning focused on future service goals

Next Steps

- ▶ **Release Draft State Rail Plan**
- ▶ **Program New Funding:**
 - ▶ **5-year Transit and Intercity Rail Capital Program**
 - ▶ **5-year STIP**
 - ▶ **3-years State Rail Assistance**
- ▶ **Detailed Planning**
 - ▶ **NorCal Megaregion “Deeper Dive”**
 - ▶ **Statewide Rail Corridor Improvement Project Development**
 - ▶ **Integrated Ticketing and Trip-Planning**
 - ▶ **Updated Fleet Strategy and Fleet Plan**