Agenda

1. Logistics
2. Rail Plan Overview
3. Passenger Rail Vision
4. Freight Rail Vision
5. Program Effects
6. Implementation
7. Next Steps
8. Questions
Presenters and Webinar Staff

**Caltrans**

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State Rail Plan Overview
What is the California State Rail Plan?

- **Statewide Rail Network “Vision”**
  - Passenger & Freight Rail Investments

- **Rail Investment Program**
  - Short-term (2022), Mid-Term (2027) & Vision (2040)

- **Program Effects Analysis**

- **Passenger Rail System Integration**
Passenger Rail Network Integration

- Meeting Customer Expectations
- Synchronized Timetables
- Integrated Mobility Solutions
- Coordination
- Strategic Planning
- Consensus Vision
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 rail corridors
  » Developed potential rail service alternatives
  » Ongoing, engaged, iterative process, dependent on stakeholder feedback
For trips over 15 miles, about 5% of those trips are longer than 100 miles and generate about 35% of passenger miles.
Existing Conditions

Rail Ridership Potential by Travel Distance
(Thousand Annual Person Trips)

Existing Conditions
Potential Rail/Intercity Bus Ridership

Rail Ridership Potential by Travel Distance
(Thousand Annual Person Trips)

Base Conditions
Potential Rail/Intercity Bus Ridership

Rail Ridership Potential by Travel Distance
(Thousand Annual Person Trips)

HSR Phase 1 Conditions
Rail Ridership Potential by Travel Distance
(Thousand Annual Person Trips)

HSR Phase 2 Conditions
California Rail Services: Network Building Blocks
Passenger Rail Vision
California will have a premier, customer-focused, integrated rail system that successfully moves people and products while enhancing economic growth and quality of life.
Rail Plan Vision Network Goals

Connect California’s communities
» Expand rail system and access across state
» Develop emerging regional rail networks

Viable Statewide Travel Options
» Increase rail share of travel market
» Existing Rail ROW = Transportation Capacity
» Infrastructure savings

Efficiency and effectiveness
» More intensive utilization
» Higher frequencies
» Electrified & zero/near zero emission services
» Drive down costs & subsidies
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**
  » Integrated Ticketing
  » Auto and air competitive
The freight component of the Rail Plan includes several key elements:

» A premier system requires improved track, yards, terminals and innovative service concepts

» A customer-focused system will lead to improved access to rail, competitive cost and service, & enhanced options for the State’s shippers

» An integrated system requires improved connections to smooth transfers
Trends: California’s Top Ten Trading Partners by Rail

Inbound and Outbound Tons by Trade Partner

- **Illinois**: 34.7% Inbound, 26.7% Outbound
- **Texas**: 22.3% Inbound, 13.3% Outbound
- **Nebraska**: 7.5% Inbound, 4.3% Outbound
- **Kansas**: 4.0% Inbound, 3.2% Outbound
- **Tennessee**: 5.5% Inbound, 4.6% Outbound
- **Utah**: 1.8% Inbound, 3.1% Outbound
- **Louisiana**: 3.3% Inbound, 3.1% Outbound
- **Oregon**: 2.2% Inbound, 3.8% Outbound
- **Canada**: 0.8% Inbound, 3.7% Outbound
- **Iowa**: 0.5% Inbound, 0.1% Outbound

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*Inbound (% of Total Tons)*

*Outbound (% of Total Tons)*
Trends: Intermodal and International Growth

» Intermodal traffic to double by 2040

» Address Principle Trade Corridor Capacity:
  » Efficient use of capacity
  » Dedicated Freight Capacity
  » Separate Passenger & Freight

Projected Intermodal Growth
Trends: Implications for California

- Reduced pressure on **capacity** in near-term:
  - **Opportunity** to explore new markets/revenue sources for rail

- Projected **intermodal growth** and need to target/preserve capacity
  - **Partnerships** are important to preserve market share for California ports
Trade Corridor Improvements

Map Key
(Rail Subdivision)

5. **UPRR Martinez** (Oakland to Martinez)

6. **Southern Oakland Route** (Oakland to Niles Junction)

7. **BNSF Mainline Stockton to Bakersfield** (San Joaquin Corridor)

8. **UP Roseville to Reno** over Donner Pass
Trade Corridor Improvements

Map Key
(Rail Subdivision)

1. **BNSF San Bernardino** (LA-San Bernardino via Fullerton & Riverside)
2. **BNSF Cajon** (Barstow to Keenbrook)
3. **UPRR Sunset Route** (Yuma Subdivision)
4. **UPRR Alhambra** and Los Angeles
Freight System Opportunities

- Trade Corridor Improvements
- Economic Development and Short Lines
- Grade Crossing Improvements
- Terminal and Yard Capacity
- Short Haul Services
Program Effects
Shifting from Highway to Railway

- The 2040 Vision projects **88 million daily passenger miles** diverted to rail from highways
- **Increase of 92 million daily passenger miles**
- **More trips on rail** means:
  - Fewer hours lost commuting
  - Less damage to roads
  - More efficient travel for goods and people

Rail Mode Share

- Current: 0.34%
- 2040 No Build: 0.52%
- 2040 Vision: 6.8%
Rail Plan Vision: Ridership

» Results show moderate increase in rail ridership demand due to population growth

» However, market potential for networked services is unrealized
Rail Plan Vision: Ridership – Market Potential

» Result of integration and HSR shows huge increase in rail ridership demand

» Satisfies a large market potential for networked services
Driving Operating & Maintenance Costs Down

- Changes in rolling stock
- Changes in speed
- Changes in turnaround time
- Changes in travel distances
Comparing Metrics – Existing v. 2040 (Draft Results)

All costs are in 2015$
Improving Safety

» Passenger rail is already **far safer than driving**

» Positive Train Control
  – Prevents train-to-train collisions
  – Monitors train speed
  – Stops trains in emergency

» Improving **at-grade crossings** and **grade separations**

» Coordinated with State and Federal regulatory partners
Improving Safety

» The 2040 Vision projects a reduction of more than 74 million vehicle miles traveled per day.

» Can potentially eliminate 250 fatalities and 19,000 transportation related injuries by 2040.
Mitigation and Adaptation

» State greenhouse gas emissions targets:
  » 80 percent reduction from 1990 levels by 2050

» The Rail Plan helps hit these goals and build in resiliency
  » Emergency Preparedness
  » Sea level rise adaptation
    » Raising track
    » Relocation of rail lines to higher ground
    » Implementing water barriers such as dykes and berms
Advancing Sustainability and Livability

» High-speed rail will be fully **electrified**, and powered by 100% renewable energy → reduced GHG and other pollutant emissions

» Eliminate the equivalent of over **13 million metric tons of CO₂** annually

» **Zero and near-zero emission locomotives**

- Reduce greenhouse gas emissions
- Mitigate roadway congestion
- Reduce vehicle emissions
- Offer a convenient and reliable alternative to private vehicle travel
- Increase electric and zero emission trains
- Provide alternative to truck transport of containerized cargo
Supporting Sustainable Communities

» Rail is a **spatially efficient** mode
  » Lends itself to **efficient land use**
  » Compact development around stations **spares rural land and open space from development**

» Creates many **more connection and access points** along the system

» Successful station area planning can:
  » Maximize ridership
  » Eliminate first/last mile challenges
  » Integrate statewide services
Moving Goods and Enhancing the Economy

» $40.8 billion of direct expenditures

» **Direct Economic Benefits:**
  » 463,000 full time jobs
  » $28 billion in labor income
  » $77.5 billion in new State economic output by 2040
  » *Nearly two dollars for every dollar invested*
Implementation
Funding Opportunities: Sources and Programs

- Local Transportation Fund
- Local Sales Tax
- State Transit Assistance
- Intercity Rail Program Funding
- State Transportation Improvement Program
- California Greenhouse Gas Reduction Fund
- Transit and Intercity Rail Capital Program
- HSR Funding
  - Proposition 1A bonds
- Additional funding and program enhancements guided by SB 1
  - State Transit Assistance
  - State Rail Assistance
  - Transit and Intercity Rail Capital Program
  - Congested Corridor Program
  - Trade Corridor Enhancement Account
- Federal Discretionary Programs
  - TIGER
  - FASTLANE/INFRA
  - FTA’s Capital Investment Grants
  - FRA’s FAST Act Grants
- Federal Formula Programs

2040 Vision
Overall Capital Program (in billions) Time Horizon

- $85
- $47
- $4.8

2022
2027
2040
Principles used to prioritize investment are under development, and include, but are not limited to:

» Services Tailored to Market Demand
» Minimize Freight Interference
» Avoid Duplication of Services and Investments
» Minimize “Throw-Away” Interim Investments
Implementation Goals: A Phased Approach

The 2022 Short-Term represents funded and committed improvements now enhanced by SB 1 funding programs.

**2022 Highlights**

» **Rail Freight:** Address ports & existing trade corridor bottlenecks
» Improving & integrating passenger rail network
» **Caltrain electrification**
» **High speed rail** “Valley-to-Valley” corridor segments
» Expanding service to Salinas and Larkspur
» Early integrated ticketing investments
» **Service Implementation Planning**
Implementation Goals: A Phased Approach

The 2027 Mid-Term Plan - **Phasing of the Long Term Vision** to fully utilize existing corridors, supported by the funding capacity in SB 1

### 2027 Highlights

- **Rail Freight:**
  - Dedicated Rail Freight Investment
  - Shared Corridor Investment

- **High speed rail** Central Valley to Silicon Valley

- **Integrating** regional & intercity rail with HSR

- **Maximizing** existing rail corridor capacity

- Expanding service to SF Transbay Terminal, Yuba City, Merced, Redlands, Coachella Valley, Las Vegas

- Full implementation of integrated ticketing
Implementation Goals: A Phased Approach

The 2040 Vision represents the **full build-out** of the long-term planning goals for the integrated statewide rail network.

### 2040 Highlights

- **Rail Freight:**
  - Full Realization of Trade Corridor Improvements
  - Investments in Shared Corridors
  - Interregional Transportation Corridor Investments
- **High Speed Rail** from Anaheim to San Francisco
- **High Speed Rail** Connections: Sacramento, Inland Empire, San Diego
- New **Transbay Crossing:** Sacramento - San Francisco - San Jose
- **New regional services** - Central Valley, Central Coast, & North Bay
- Expanding network capacity & intensifying existing services
Next Steps & Opportunities to Comment
2018 California State Rail Plan Schedule

<table>
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<tr>
<th>Event</th>
<th>Date/Period</th>
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<tbody>
<tr>
<td>Release of Public Review Draft</td>
<td>October 11, 2017</td>
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<tr>
<td>Public Comment Period</td>
<td>60 days: October 11 – December 11, 2017</td>
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<tr>
<td>Revision of Draft</td>
<td>Winter 2017/2018</td>
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<tr>
<td>Document review; approval process (CTC, CalSTA, FRA); and submittal to Legislature</td>
<td>Spring 2018</td>
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How to Submit a Comment

Your input is important to us. Please submit your comments:

- **Online Form:** [californiastaterailplan.com/comments.html](http://californiastaterailplan.com/comments.html)
- **Email:** RailPlan@dot.ca.gov
- **Mail:** CA Department of Transportation - Division of Rail and Mass Transportation, Rail Planning Branch, 1120 N Street, MS 74, Sacramento, CA 95814
Questions?