

BURBANK TO LOS ANGELES PROJECT SECTION

ENGINEERING ELEMENTS



CONNECTING CALIFORNIA

CALIFORNIA HIGH-SPEED RAIL

Blended Operations

- Consolidates HSR and passenger rail service on shared tracks that, in general, will separate passenger and freight operations to minimize operational conflicts
- Modernize the corridor
- Improve corridor safety and reliability, and protect surrounding communities
- Establish operational efficiencies for all operators within a shared railroad corridor with standardized and joint signaling and dispatch
- Improves safety and eliminates wait time with grade separations

SHARED CORRIDOR



CONNECTING CALIFORNIA

CALIFORNIA HIGH-SPEED RAIL

Design Coordination

- Multiply the benefits through a coordinated approach
- Consolidate/coordinate passenger service planning to improve operations and reliability for all users
- Use existing infrastructure and phasing to deliver significant service improvements at the lowest cost per mile/rider
- Coordinate closely with key regional plans to complement other initiatives
- Coordinate with cities, agencies with jurisdiction in this corridor
- Maintain existing rail operation during and after construction

SHARED CORRIDOR



ALIGNMENT FEATURES

CALIFORNIA HIGH-SPEED RAIL

- Below-grade alignment south of Burbank Airport Station
- Remainder of alignment is at surface within existing right-of-way to the extent possible
- New grade separations to separate rail traffic from road traffic along corridor



GRADE SEPARATIONS

CALIFORNIA HIGH-SPEED RAIL

What is a Grade Separation?

A grade separation is a roadway that is realigned over or under train tracks to eliminate hazards. High-Speed Rail proposes to grade separate existing roads. Benefits of grade separations include:

Improves Safety

Grade separations eliminate conflicts between trains and vehicles/pedestrians.



Reduces Noise

Trains do not sound horns when crossing an intersection.

Increases Speed

Trains can travel through areas at a greater speed.



Improves Train Operations Reliability

Provides an opportunity for increased passenger rail service.



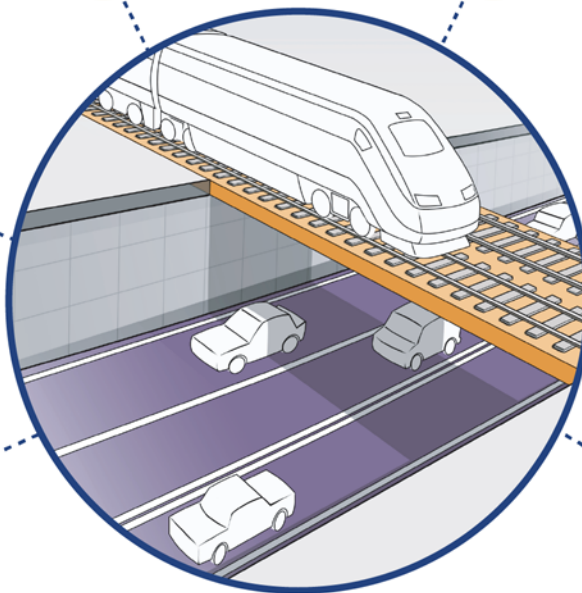
Decreases Traffic Congestion

Trains can continue to flow when a train is crossing the intersection.



Reduces Greenhouse Gas Emissions

Vehicles do not have to idle while waiting for an approaching train.



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Grade Separations Included in Environmental Analysis

City of Burbank

1. Buena Vista Street

City of Glendale

2. Sonora Avenue
3. Grandview Avenue
4. Flower Street

Cities of Glendale/Los Angeles

5. Goodwin Avenue
 - Chevy Chase Drive (pedestrian & bicycle crossing only, closed to vehicles)

City of Los Angeles

6. Main Street

Metro Grade Separation

7. Sperry St./Salem St. (Glendale/Atwater Village)*

* Doran Street and Broadway/Brazil Streets will be closed; this Metro project is in environmental planning.



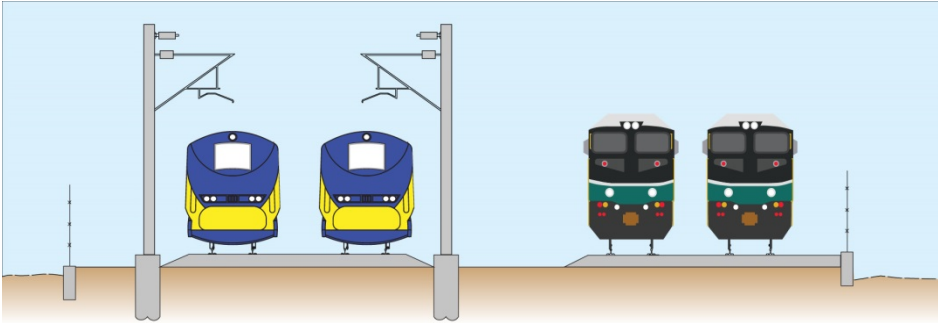
Grade Separation – Undercrossing Concept



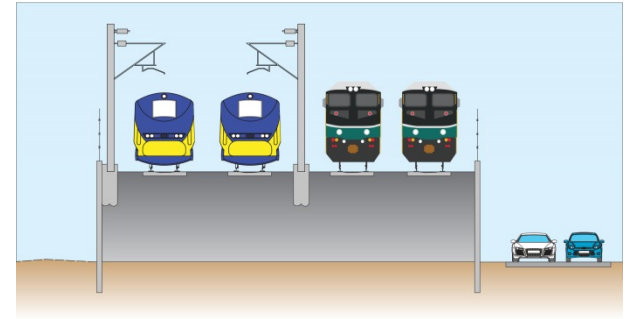
ALIGNMENT: SURFACE

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At-Grade



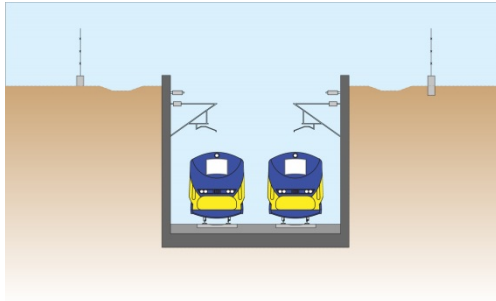
Retained Fill



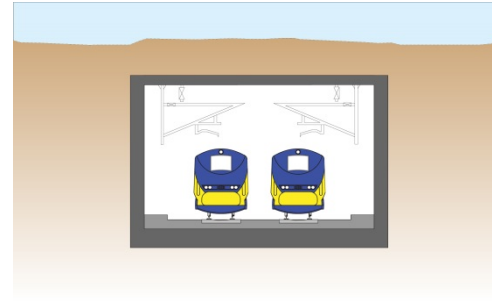
ALIGNMENT: BELOW-GRADE

CALIFORNIA HIGH-SPEED RAIL

Trench



Tunnel



BRIDGE DESIGN EXAMPLES

CALIFORNIA HIGH-SPEED RAIL



SOUNDWALL EXAMPLES

CALIFORNIA HIGH-SPEED RAIL



PORTAL EXAMPLES

CALIFORNIA HIGH-SPEED RAIL



ADDITIONAL HIGH-SPEED RAIL FEATURES

CALIFORNIA HIGH-SPEED RAIL

Overhead Contact Systems

- Supplies electric energy to rail vehicles

Paralleling Station

- Provides voltage stabilization and equalizes current flow
- Located every 5 miles between paralleling stations and Traction Power Substations (TPPS)

Communication Tower

- Uses a radio-based communications network to provide Positive Train Control (PTC)
- Located every 2-3 miles

Maintenance of Way



Overhead Contact System



Paralleling Station



Communication Tower

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Shared Corridor Features

Positive Train Control

- Restricts train speeds and serves as fail-safe system
- Takes over system preventing running red signals

Corridor Protection/Detection

- Fencing
- Walls
- Sound Barriers

Grade Separations

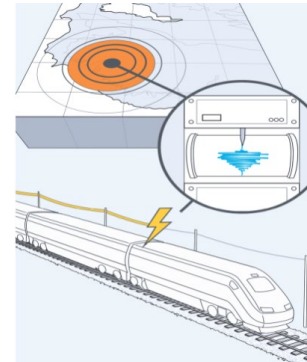
- Take vehicles, bicycles and pedestrians over or under active railroad tracks to prevent accidents and free up traffic flow

Early Earthquake Warning System

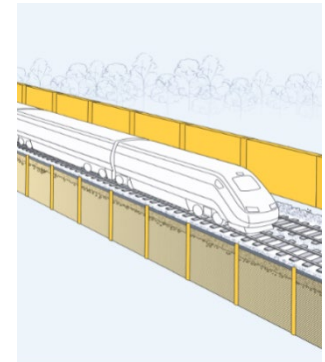
- Detects initial seismic wave
- Immediately cuts off power to trains

Planning Around Stations

- Working with cities on Transit-Oriented Development (TOD)



Early Earthquake Warning



Corridor Protection



Soundwall Concept



STAY INVOLVED

CALIFORNIA HIGH-SPEED RAIL

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