



CALIFORNIA
High-Speed Rail Authority

**Los Angeles to Anaheim Project Section
Project Alternatives Update & Staff Recommended
Preferred Alternative**

Thursday, May 16, 2024

High-Speed Rail in Southern California



**Bakersfield to
Palmdale**
79 miles

**Palmdale to
Burbank**
41 miles

**Burbank to
Los Angeles**
13 miles

**Los Angeles to
Anaheim**
30 miles

163 miles

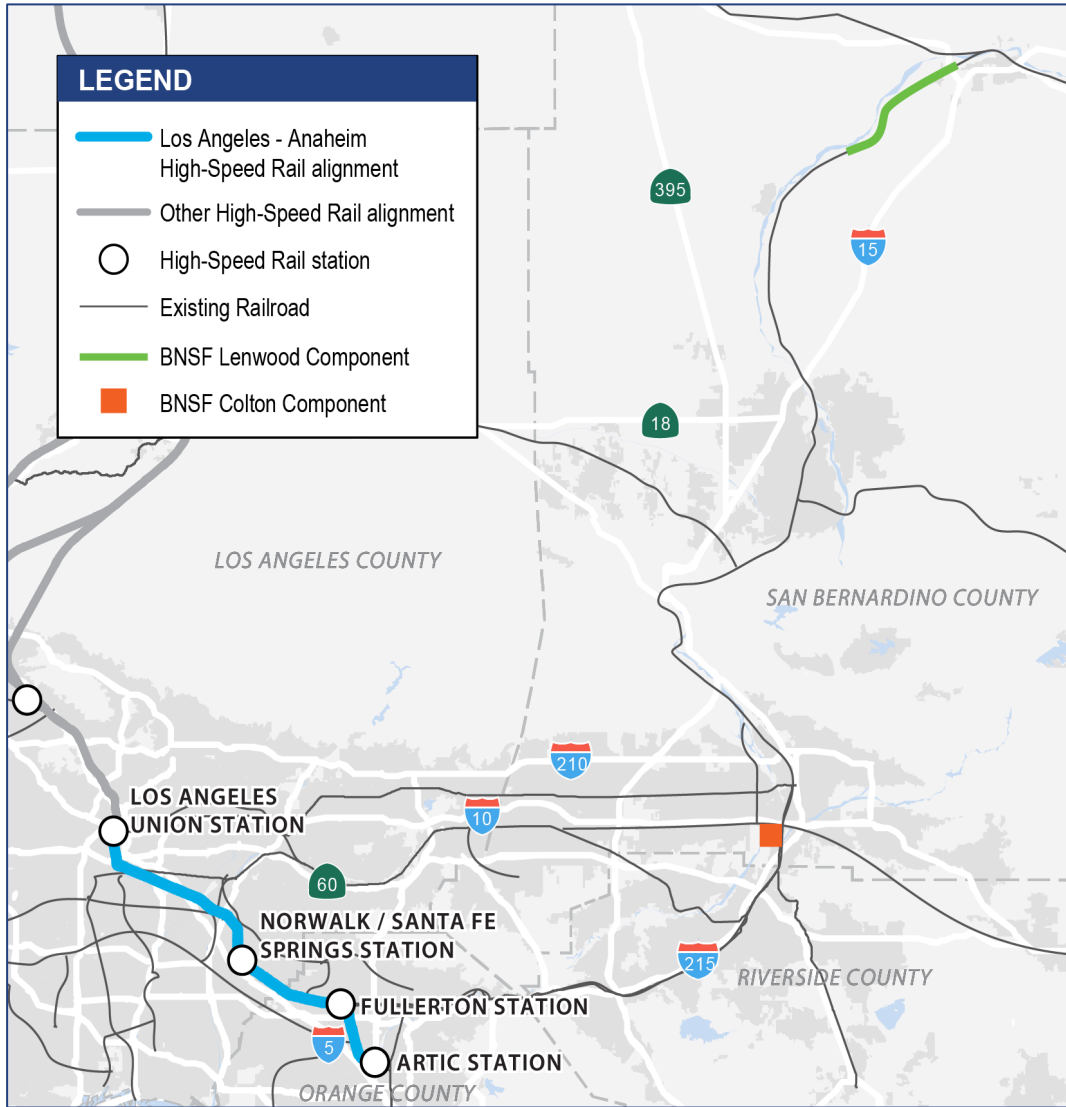


Southern California Update: Los Angeles to Anaheim

- LA-A: 2018 HSR Project Alternative Background
- Recommended New Build Alternative: Shared Passenger Track Alternative, which includes staging track mitigation site in High Desert
- Shared Passenger Track Alternative: Additional Refinements
 - » Light Maintenance Facility (LMF)
 - » Intermediate Stations
 - » Anaheim Grade Crossing Approach
- Outreach
- Staff Recommended Preferred Alternative
- Next Steps

LA-A: 2018 HSR Project Alternative

Background



- Currently there are 3 mainline tracks in BNSF-owned right-of-way between Redondo Junction (just south of LAUS) and Fullerton Station:
 - » These tracks are used by both passenger (Metrolink & Amtrak) and freight (BNSF) rail services, subject to 1992 Shared Use Agreement signed by BNSF and RCTC/OCTA
- The 2018 HSR Project Alternative (informally, 2+2 Alternative) would add one mainline track to the corridor. Two tracks would be used by BNSF; two tracks would be shared by passenger rail services (HSR, Metrolink, Amtrak)
- The BNSF Intermodal Facility (IMF) at Colton would accommodate future freight train volumes (an average of 10 freight trains per day) that could not be accommodated in the corridor
- The BNSF Staging Tracks at Lenwood would be used for staging freight trains during and after HSR construction

2018 BNSF Project Components

Colton Intermodal Facility (IMF)

Rail yard, railroad lead tracks, and roadway modifications for future freight train volumes that cannot be accommodated in LA-A corridor after HSR operations begin.

Lenwood Staging Tracks

Staging tracks adjacent to the BNSF existing mainline in Lenwood provide for staging of trains prior to entering the Los Angeles to Anaheim HSR passenger rail corridor limits.

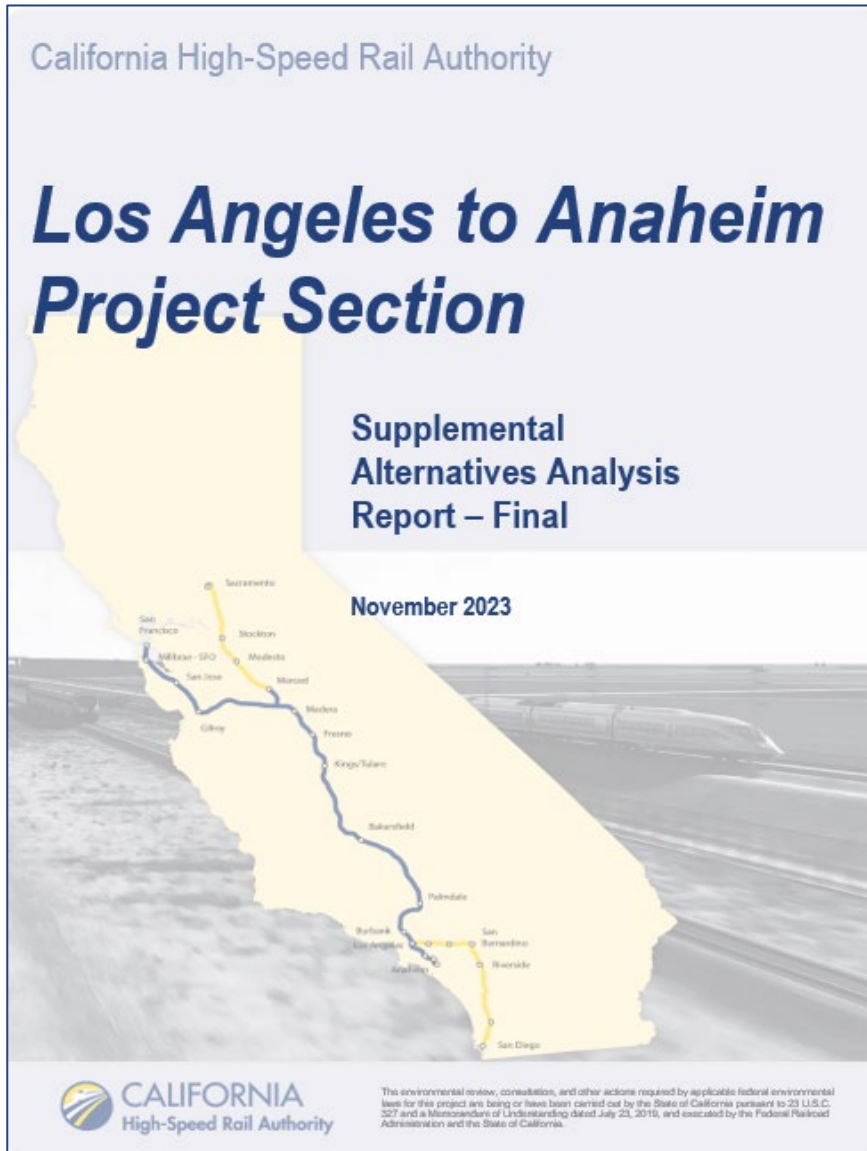
Colton Intermodal Facility



Lenwood Staging Tracks



2023 Supplemental Alternatives Analysis

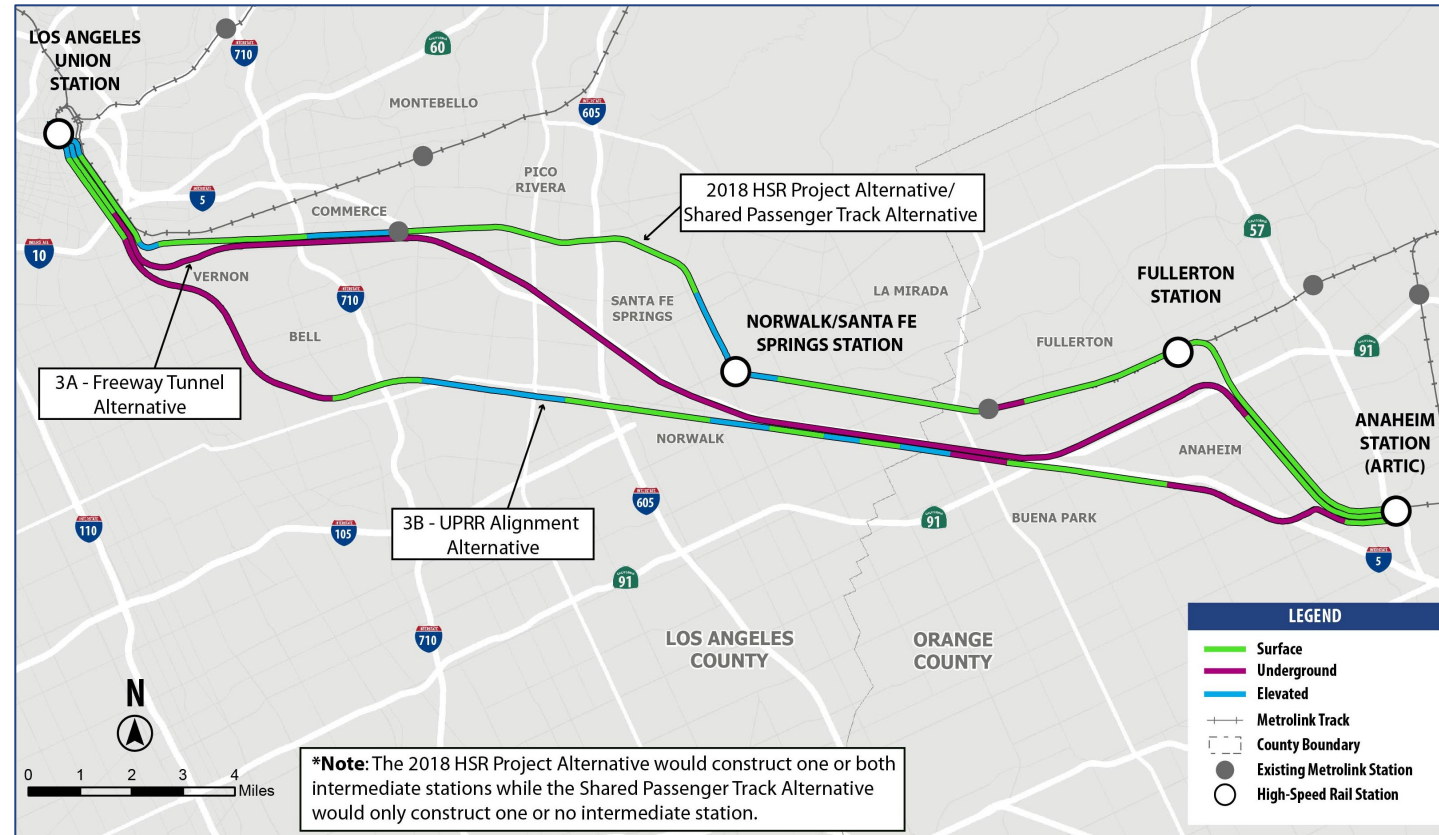


- In response to mounting opposition, the Authority explored alternatives that would eliminate the need for a freight intermodal facility (IMF) outside of the project corridor
- The Authority prepared this Supplemental Alternatives Analysis (SAA), released in November 2023, to evaluate and document potential alternatives

Supplemental Alternatives Analysis

Project Alternatives Considered

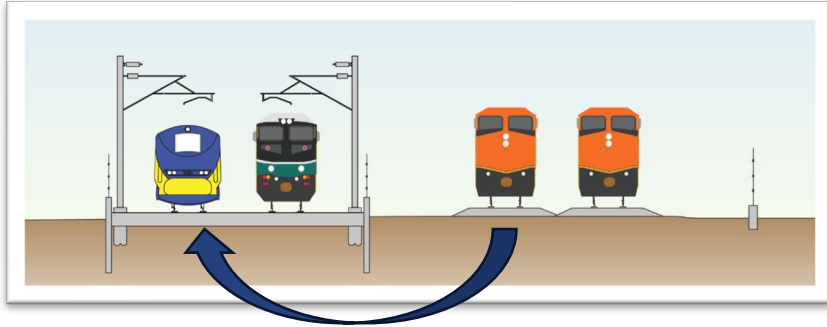
- The Supplemental Alternative Analysis (SAA) evaluates five alternatives, including three build alternatives that eliminate the need for a new BNSF IMF:
 - » Shared Passenger Track Alternative
 - » Freeway Tunnel Alternative*
 - » Union Pacific Railroad (UPRR) Alignment Alternative*
- The SAA also provides comparison to
 - » 2018 HSR Project Alternative
 - » No Build Alternative



**Tunnel and the UPRR Alternatives not recommended for further study due to impacts, functionality, and cost when compared with other build alternatives.*

Shared Passenger Track Alternative

Overview



- Similar to the 2018 HSR Project Alternative:
 - » Construct one additional mainline track within a portion of the Corridor
 - » Electrify two of the four mainline tracks
 - » Consider other modifications at locations including the Commerce viaduct, Norwalk/SFS station, and Fullerton station, and Metrolink's Buena Park and Commerce stations
- BNSF could utilize up to four mainline tracks within its right-of-way
 - » Tracks no longer dedicated for passenger rail service only
- Operations would slightly reduce HSR passenger service levels when compared to the 2018 HSR Alternative but no IMF would be required



Shared Passenger Track Alternative

Summary of Key Features

- Utilizes existing rail corridor
- Excludes controversial BNSF Colton IMF
- Reduces environmental footprint, including property acquisitions
- Reduces construction and operational costs (\$2.5 billion less than 2018 HSR Alternative)
- Maximizes potential for shared maintenance costs with other passenger rail services
- Reduces HSR train operations on section from up to four to two HSR trains per hour per direction
 - » Reflects overall decrease in systemwide service detailed in 2023 Project Update Report (PUR)
- Meets State's 2040 passenger rail operational objectives
- Includes additional staging tracks for freight rail mitigation, located outside project corridor, which will undergo a constraints-level analysis within DEIR/EIS (Appendix to Transportation Section)

Shared Passenger Track Alternative

Staging Track Mitigation

- Additional BNSF staging tracks would mitigate anticipated construction and operational impacts to freight rail
 - » 2 x 16,000' or 1 x 32,000' track
- Six sites evaluated, two proposed for further consideration:
 - » Victorville
 - » Hesperia
- Staging track sites will undergo constraints-level analysis within DEIR/EIS
- Caltrans proposing similar project – High Desert Operational Efficiency Project
 - » If Caltrans completes their project first, HSR will not need this mitigation



Supplemental Alternatives Analysis

Freeway Tunnel (3A) and UPRR (3B) Alternatives

- Construction costs approximately \$18.6-\$31 Billion vs. \$6.6-6.9 Billion for Shared Passenger Track
 - » 23.6 and 8.3 miles of tunneling for 3A and 3B, respectively
 - » 3.88 aerial miles for 3B
- Increased construction time
- Increased maintenance and operational costs
- Infrastructure challenges related to tunneling
- Increased construction impacts (air quality, traffic/transportation, GHG emissions)
- No intermediate stations options



Shared Passenger Track Alternative

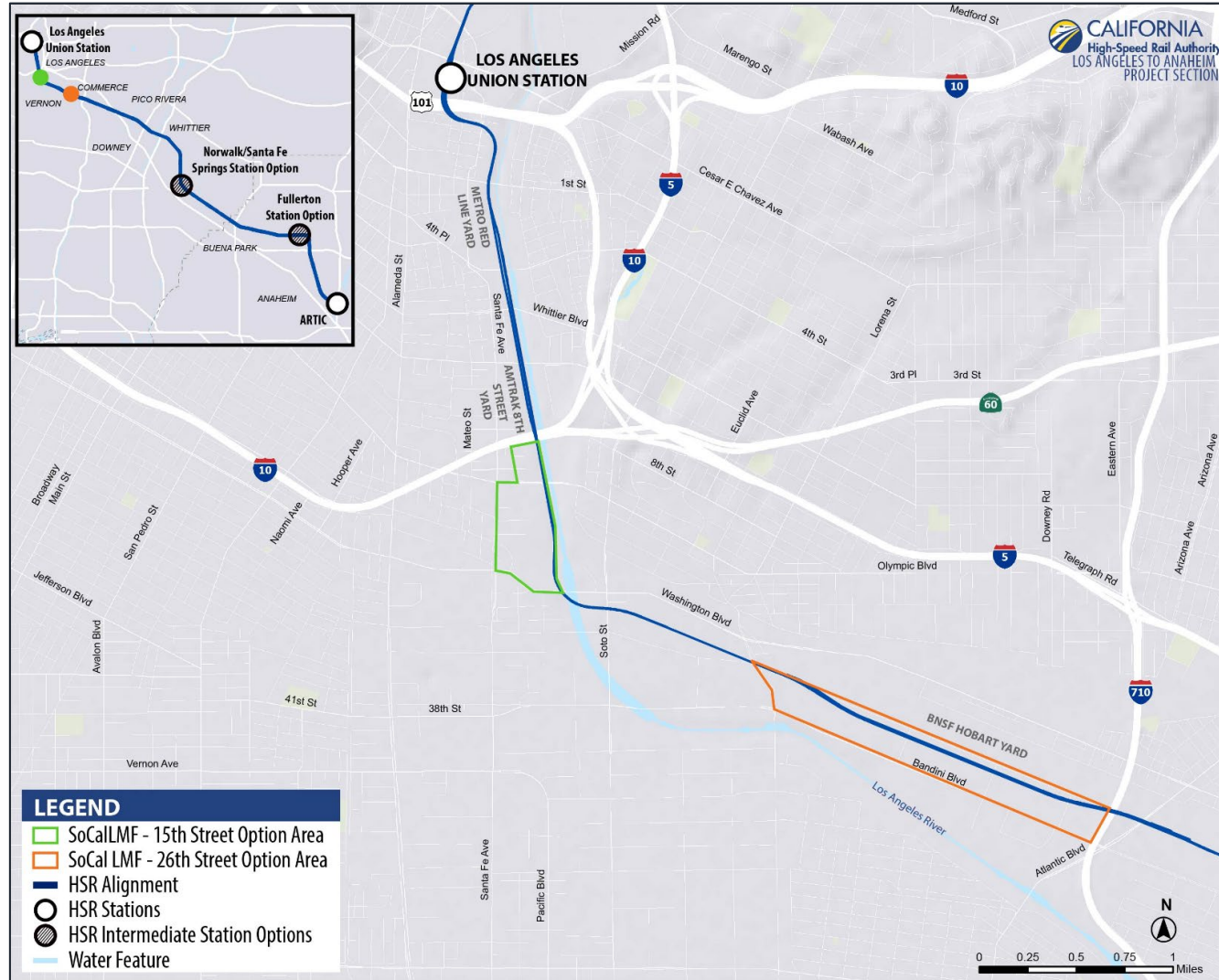
Additional Refinements and Staff Recommendations



- SAA determined that the Shared Passenger Track Alternative will move forward in environmental analysis.
- Design options and components not fully developed within SAA:
 - » Southern California Light Maintenance Facility (SoCal LMF) site.
 - » Intermediate station options.
 - » Grade crossing approach in Anaheim.

Shared Passenger Track Alternative

SoCal Light Maintenance Facilities (LMF) – 15th Street and 26th Street Options



Shared Passenger Track Alternative

SoCal Light Maintenance Facility (LMF) – 26th Street Option (Vernon)

Characteristics

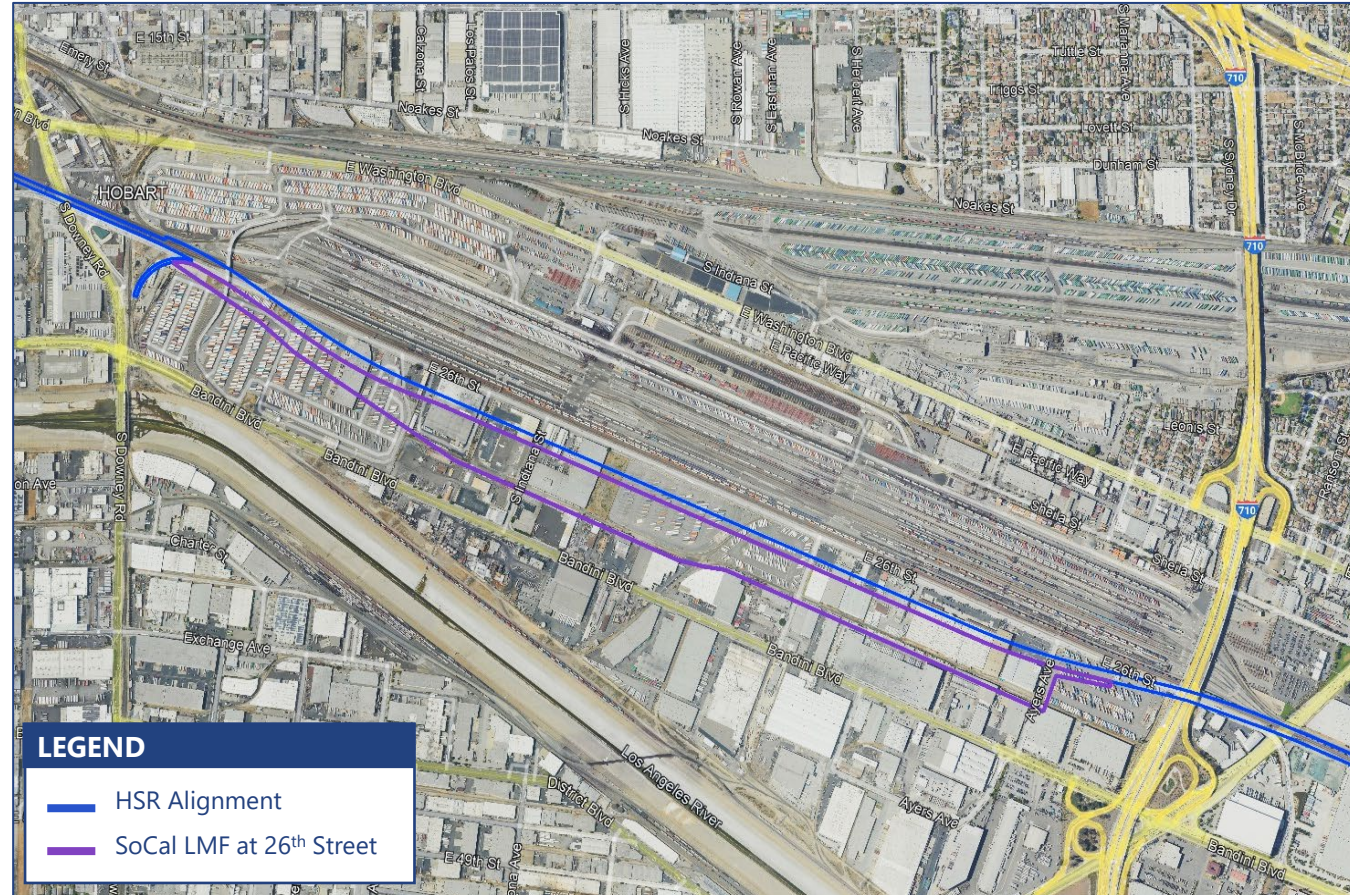
- Located between I-710 and S Downey Rd.
- Capacity for 24 trainsets, 6 shop tracks
- 40+ Acres

Benefits

- More flexible site layout for operations – double ended yard
- Fewer constraints in area – mainly warehouses
- Fewer impacts to Amtrak operations
- Utilizes properties already slated for acquisition

Concerns

- Further from LAUS – longer deadhead moves
- Potentially more operational interaction with BNSF freight trains



Shared Passenger Track Alternative

SoCal Light Maintenance Facility (LMF) – 15th Street Option (Los Angeles)



Characteristics

- Located between I-10 and E Washington Blvd
- Capacity for 20 trainsets, 6 shop tracks
- 50+ Acres

Benefits

- Closer to LA Union Station

Concerns

- Potential Impacts to historic Los Angeles River bridges
- Potential Impacts to operations of Amtrak 8th St yard
- Less flexible site layout for operations – single ended yard

Shared Passenger Track Alternative

Light Maintenance Facility (LMF) Feature Comparison

Feature	SoCal LMF-26 th Street*	SoCal LMF-15 th Street
Location	Located between I-710 and S Downey Road. Existing within previously identified HSR project footprint, adjacent to Hobart Yard	Located west of Amtrak 8 th Street Yard
Size (Acres)	Approximately 40 Acres	Approximately 50 Acres
Yard Type	Double-ended	Single-ended
Impact on Displacements and Cost	Minimizes displacements and cost impacts	Higher displacement and cost impacts- Requires new ROW
Single Trainsets	24	20
Shop Tracks	6	6
Layover Tracks	4	4

**Staff Recommends SoCal LMF-26th Street Site*

Shared Passenger Track Alternative

Intermediate Stations

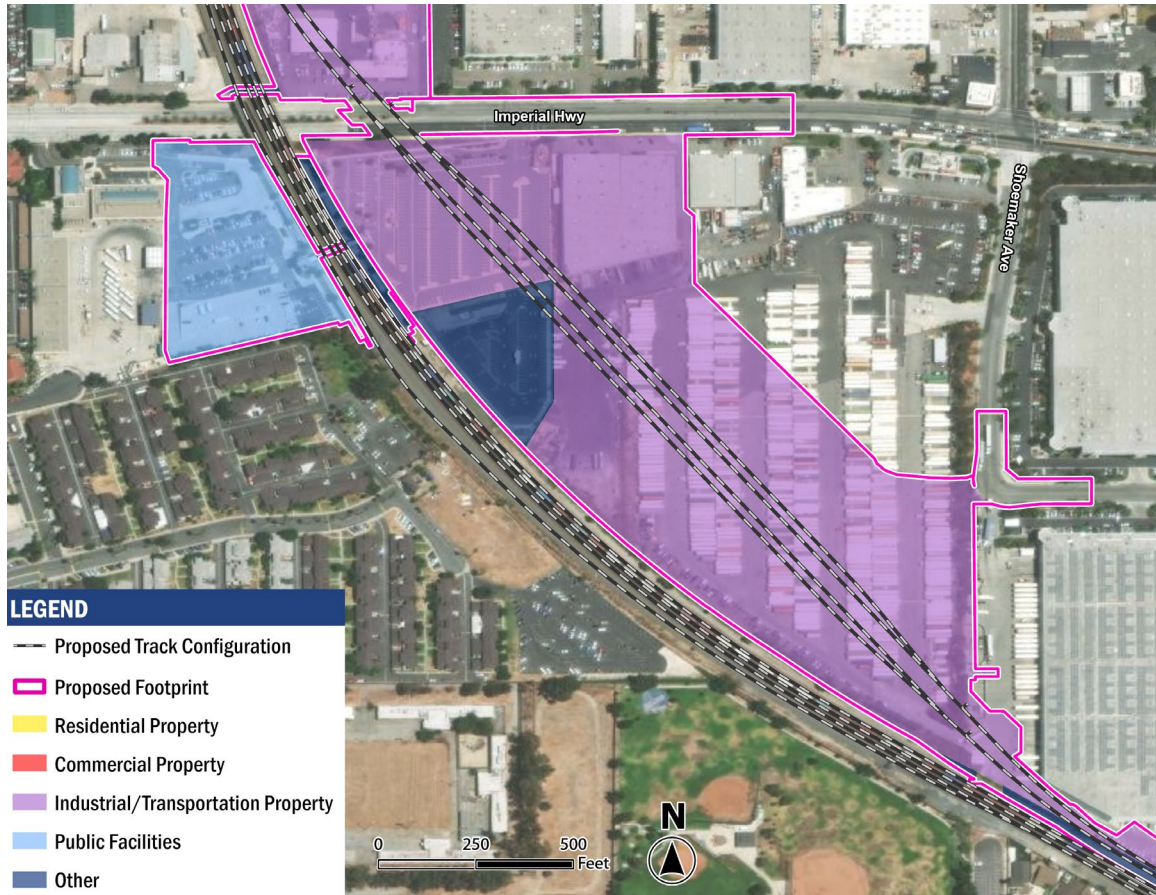
- Proposes to remove intermediate station at Norwalk/Santa Fe Springs and Fullerton
 - » Prop 1A limits HSR station development
 - » Stations are ~10 miles apart
 - » Existing Metrolink/Amtrak service at stations
- Design and parking constraints exist at both stations
- Building no intermediate station could increase efficiencies in cost, schedule, and operations while reducing impacts
- HSR will include both N/SFS and Fullerton in the environmental studies, should they be considered in the future
 - » Final design may include at most one intermediate station



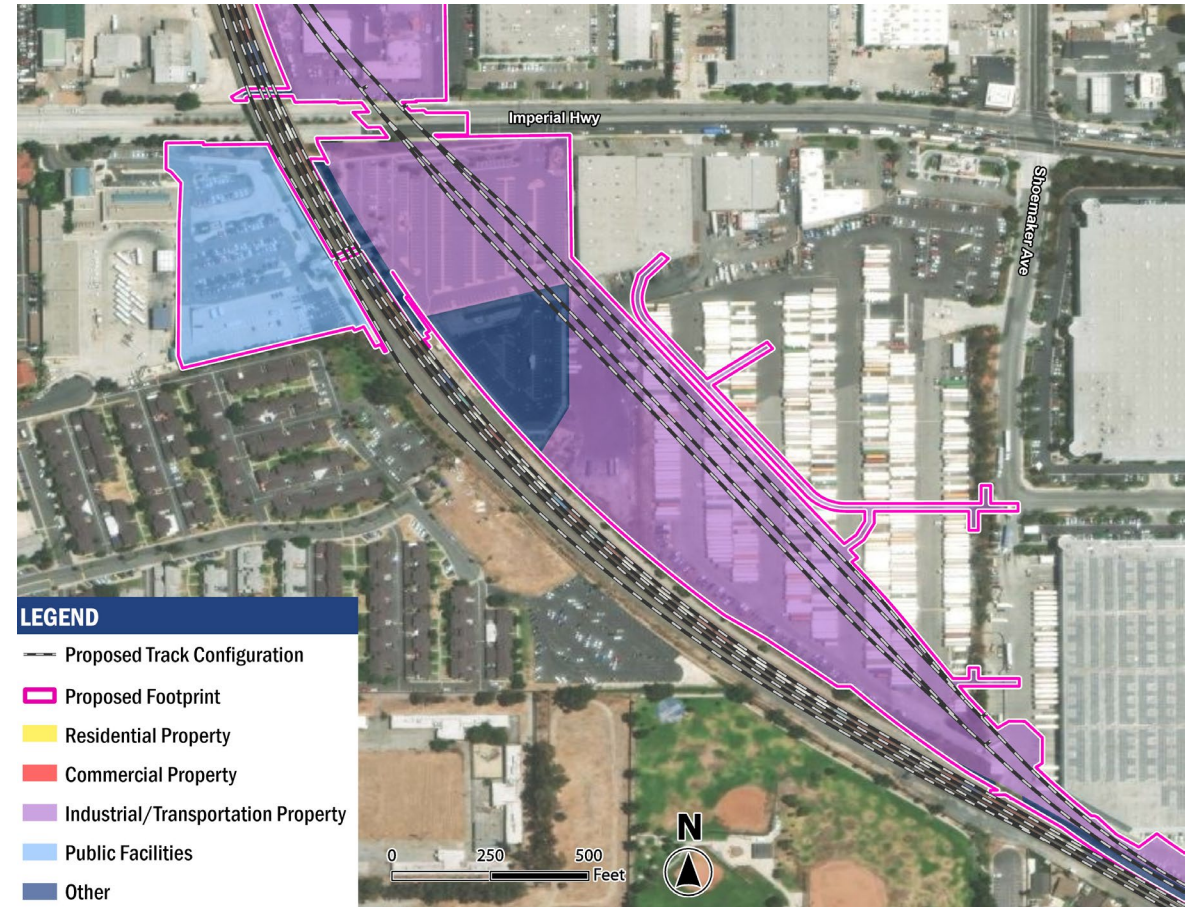
Station Options

Norwalk/Santa Fe Springs Station

With HSR Station



Without HSR Station*

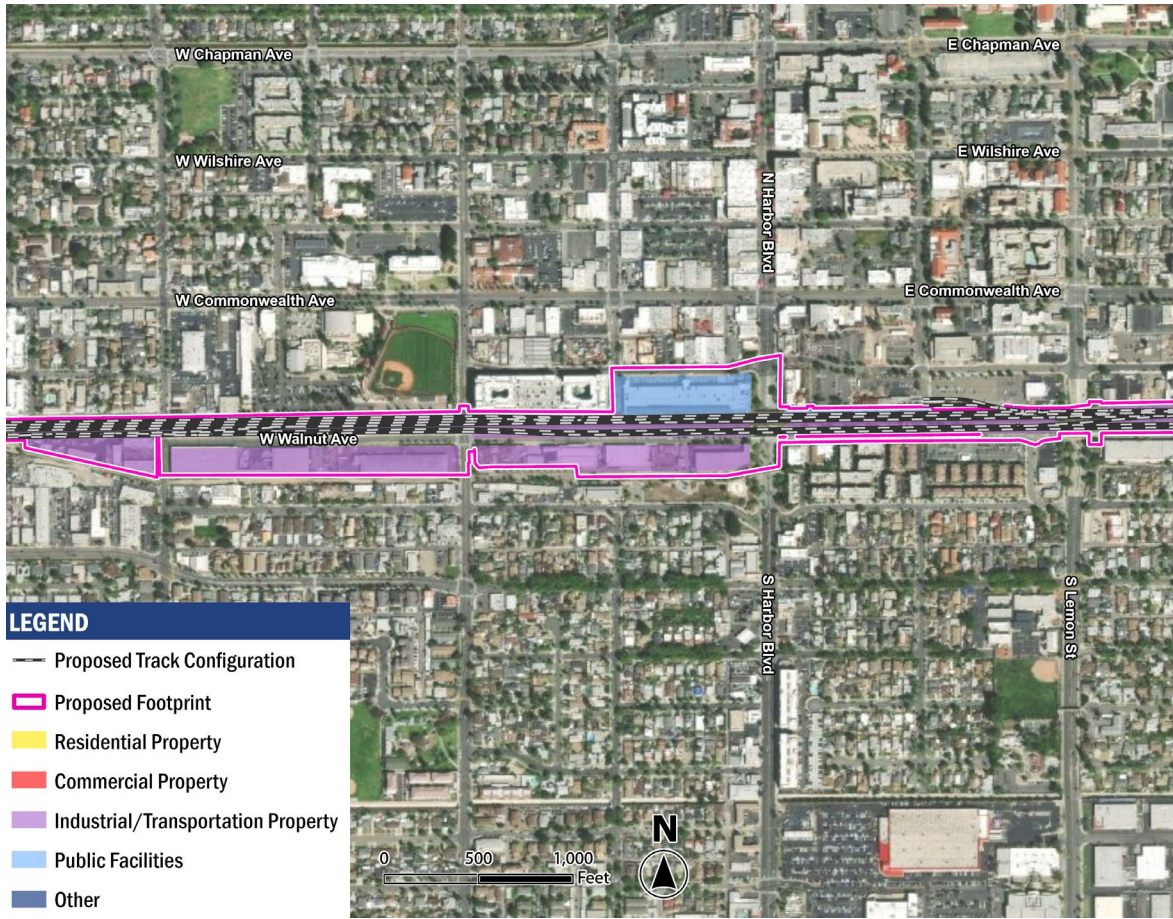


**Staff Recommends No Intermediate Station Option*

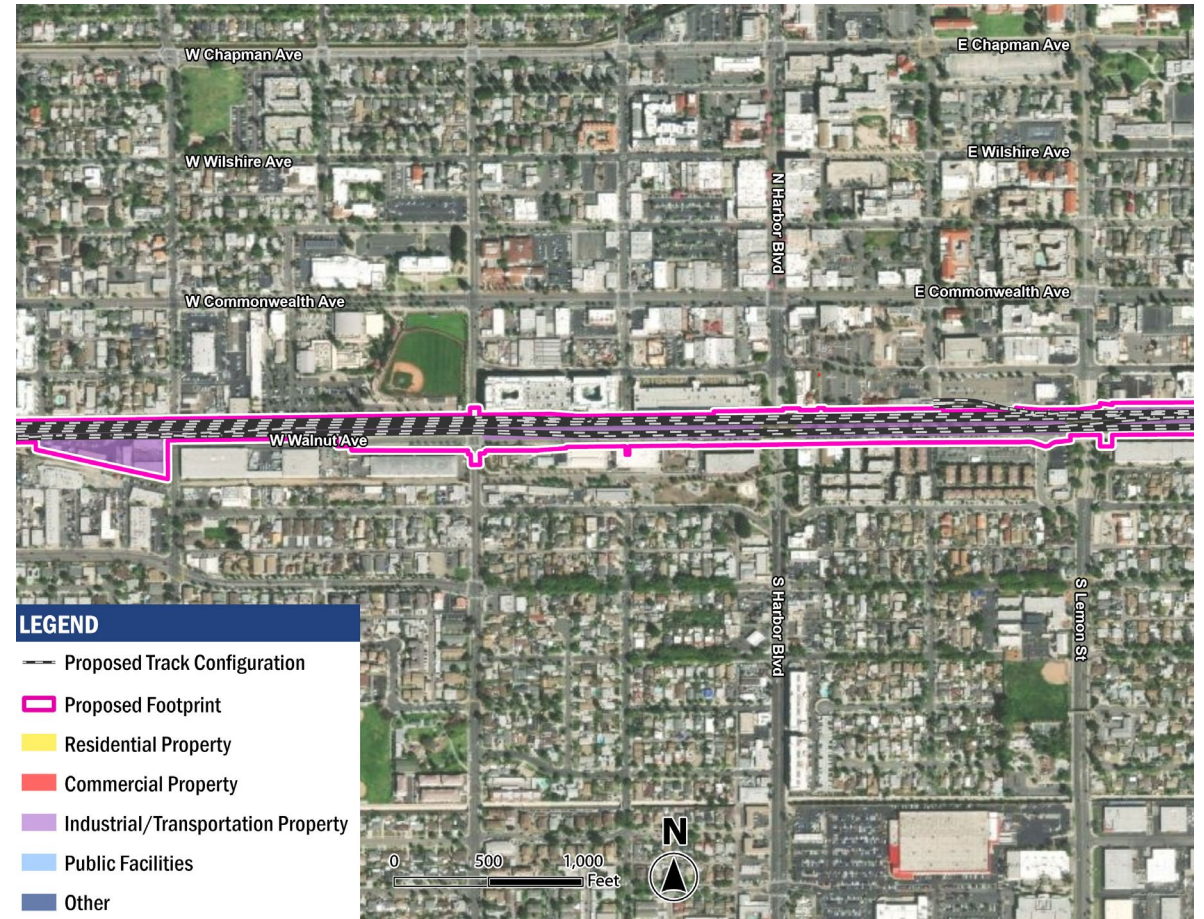
Station Options

Fullerton Station

With Station



Without Station*



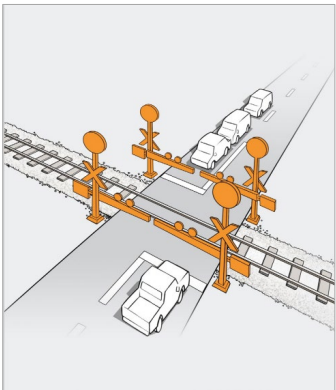
**Staff Recommends No Intermediate Station Option*

Grade Crossings Considerations

Grade Crossing – Intersection where a roadway crosses railroad tracks at-grade.

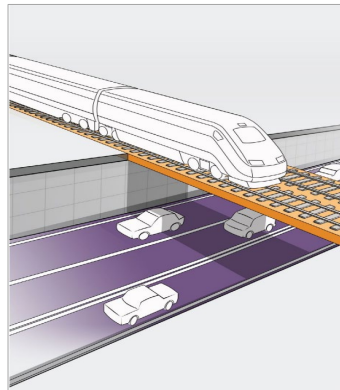
Grade Separation – A roadway that is re-aligned over or under a railway to eliminate hazard.

» Any crossing with four or more rail tracks or operational speeds over 125 mph are assumed by the Authority to require grade separation.



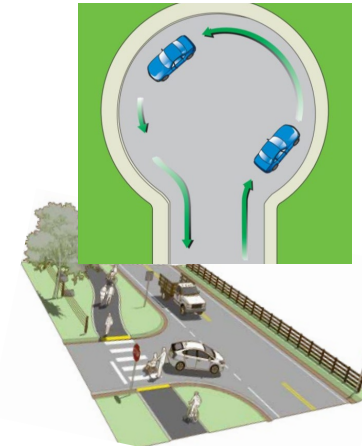
At-Grade

- Low capital cost
- Higher traffic delays
- Smaller footprint
- Minimal Construction Impacts
- May have safety implication for emergency response equipment



Grade Separation

- High capital cost
- Reduced traffic delays
- Larger footprint
- High construction impacts, e.g., traffic and air quality



Street Closure

- Moderate capital cost
- May have safety implication for emergency response equipment
- May disrupt community cohesion

Additional Considerations

Staff Recommended Approach to Anaheim Grade Crossings

2018 Design → 2024 Design	Grade Crossing
Grade Separation → At-Grade	<ul style="list-style-type: none"> • Orangethorpe Ave • La Palma Ave • Broadway St • Vermont Ave • Ball Rd
Road Closure → At-Grade	<ul style="list-style-type: none"> • Sycamore St • South St
Modified Grade Separation → Modified Grade Separation	<ul style="list-style-type: none"> • Lincoln Ave • Lewis St • Katella Ave • Douglass Rd
Grade Separation → Grade Separation	<ul style="list-style-type: none"> • Cerritos Ave • State College Blvd
At-Grade → At-Grade	<ul style="list-style-type: none"> • Santa Ana St



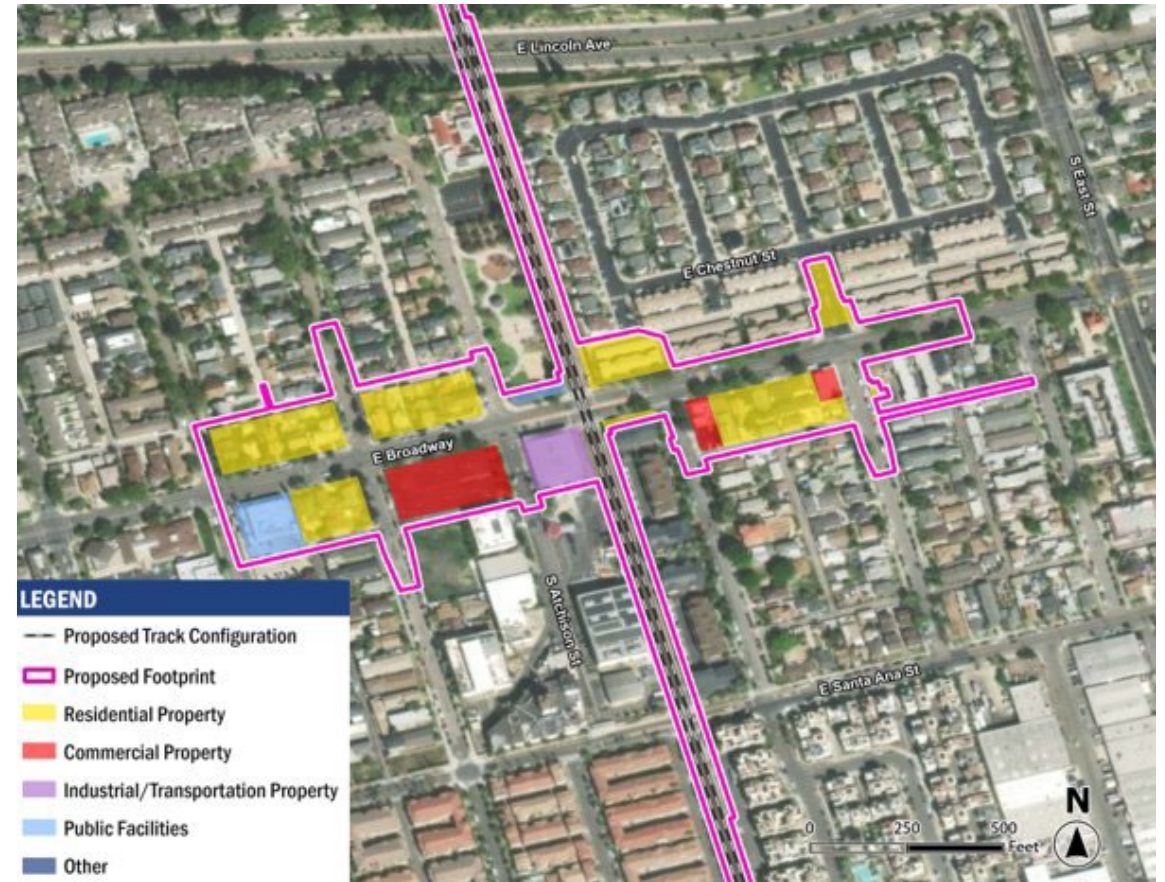
Additional Considerations

Anaheim Grade Crossing Approach Example: East Broadway

Existing Crossing to Remain At-Grade
(Staff Recommended 2024 Design)



Existing Crossing to be Grade-Separated
(2018 HSR Project Alternative)



Additional Considerations

Anaheim Grade Crossing Approach

- Existing Fullerton to ARTIC corridor consists of one track per direction (2 tracks total)
 - » OCTA-owned ROW
 - » 14 grade crossings, 10 of which are currently at-grade
 - » OCTA recently updated all Anaheim crossings with safety improvements
- Federal (FRA), State (CPUC), and Local regulations do not require grade separation within corridor at proposed speeds
- Authority will only electrify existing track from Fullerton to ARTIC (no new track)
- Authority staff proposes mostly at-grade crossing approach in Anaheim which:
 - » Reflects reduced HSR service within corridor
 - » Maintains consistency with other HSR sections
 - » Reduces property acquisitions and construction impacts
 - Residents, city officials, and stakeholders have expressed concerns over street closures and potential impacts/displacements associated with grade separations
 - Communities would be subjected to an additional 18-36 months of construction for each grade crossing
 - » Reduces project cost by ~ \$376 million

2024 Staff Recommendation & Next Steps



2023-2024 Outreach Summary

Outreach Activity	Date and Time	Location
SAA Open House*	Wed., November 29, 2023, 6-7:30 p.m.	Virtual Via Zoom
SoCal LMF-26th Street Information Session*	Tues., December 5, 2023, 1-2:30 p.m.	Virtual Via Zoom
SoCal LMF-15th Street Information Session*	Wed., December 6, 2023, 1-2:30 p.m.	Virtual Via Zoom
Anaheim Grade Crossings Information Session*	Thurs., December 7, 2023, 6-7:30 p.m.	Landmark Event Center, Anaheim
Norwalk/Santa Fe Springs Grade Crossings/Station Information Session*	Mon., December 11, 2023, 6-7:30 p.m.	City of Norwalk Rich Rehearsal Hall (MPR)
Fullerton Station Information Session*	Thurs., December 14, 2023, 6-7:30 p.m.	Fullerton Community Center
Joint Caltrans/HSR High Desert Staging Tracks Information Session	Wed., April 3, 2024, 6-7:30 p.m.	Virtual Via Zoom
Additional Outreach	<ul style="list-style-type: none"> • Legislative Briefings • Stakeholder Working Groups • Agency/Stakeholder Briefings • Pop-Up Events • Office Hours 	

* Translation and interpreter services offered in Spanish, Korean, and Tagalog.

2024 Staff Recommendation – DEIR/EIS Build Alternatives

Draft EIR/EIS will consider two build alternatives:

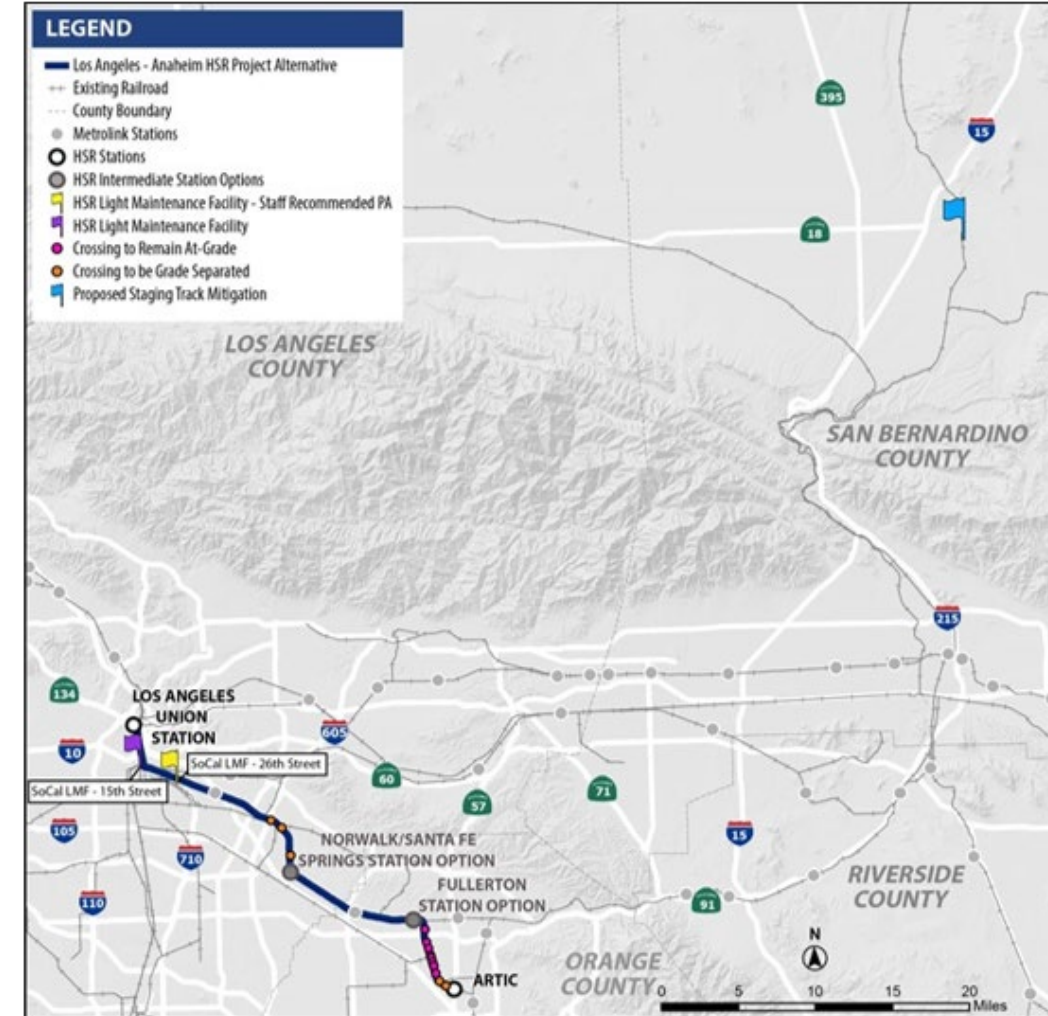
Shared Passenger Track Alternative A*

- SoCal LMF at **26th Street** (Vernon)
- No Intermediate Station
 - Fullerton and Norwalk/Santa Fe Springs HSR Stations will be evaluated as design options
- Mostly at-grade crossings within City of Anaheim

Shared Passenger Track Alternative B

- SoCal LMF at **15th Street** (Los Angeles)
- No Intermediate Station
 - Fullerton and Norwalk/Santa Fe Springs HSR Stations will be evaluated as design options
- Mostly at-grade crossings within City of Anaheim

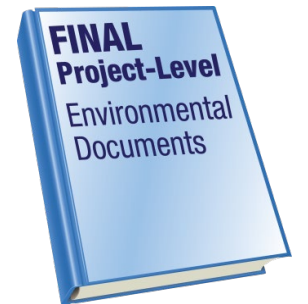
***Staff recommends adoption of Shared Passenger Track Alternative A as the Preferred Alternative for consideration within the DEIR/EIS**



Environmental Next Steps

Environmental Documents Analyze These Topics

- Aesthetics & Visual Quality
- Air Quality & Global Climate Change
- Biological Resources & Wetlands
- Capital & Operating Costs
- Cultural Resources
- Cumulative Impacts
- Electromagnetic Interference/Fields (EMI/EMF)
- Environmental Justice
- Geology, Soils, Seismicity & Paleontology
- Hazardous Materials & Wastes
- Hydrology & Water Resources
- Noise & Vibration
- Parks, Recreation & Open Space
- Public Utilities & Energy
- Regional Growth
- Safety & Security
- Station Planning, Land Use & Development
- Section 4(f) & Section 6(f) Evaluations
- Socioeconomics & Communities
- Train Operations
- Transportation



LA-A Milestones



Board Action Items

This is an action item and Staff proposes the Board adopt the following Resolution:

- 1. The Authority Board concurs with the staff recommendation that the Shared Passenger Track Alternative A shall be identified as the Preferred Alternative in the forthcoming Los Angeles to Anaheim Draft EIR/EIS.**
- 2. The Authority Board further directs staff to engage local stakeholders to address comments about high-speed rail within their communities.**

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