



CALIFORNIA HIGH SPEED RAIL PROJECT

Los Angeles to Anaheim

Train Station Operational and Ridership Analyses Summaries November, 2010

Prepared by

Jerry R. Wood, Director of Transportation & Engineering
In Association with:
Malkoff & Associates
Kirrin Engineering Solutions, Inc.



16401 Paramount Boulevard, Paramount, California 90723
August, 2010

BACKGROUND

California High Speed Rail Map

California High-Speed Train Map, Statewide Overview



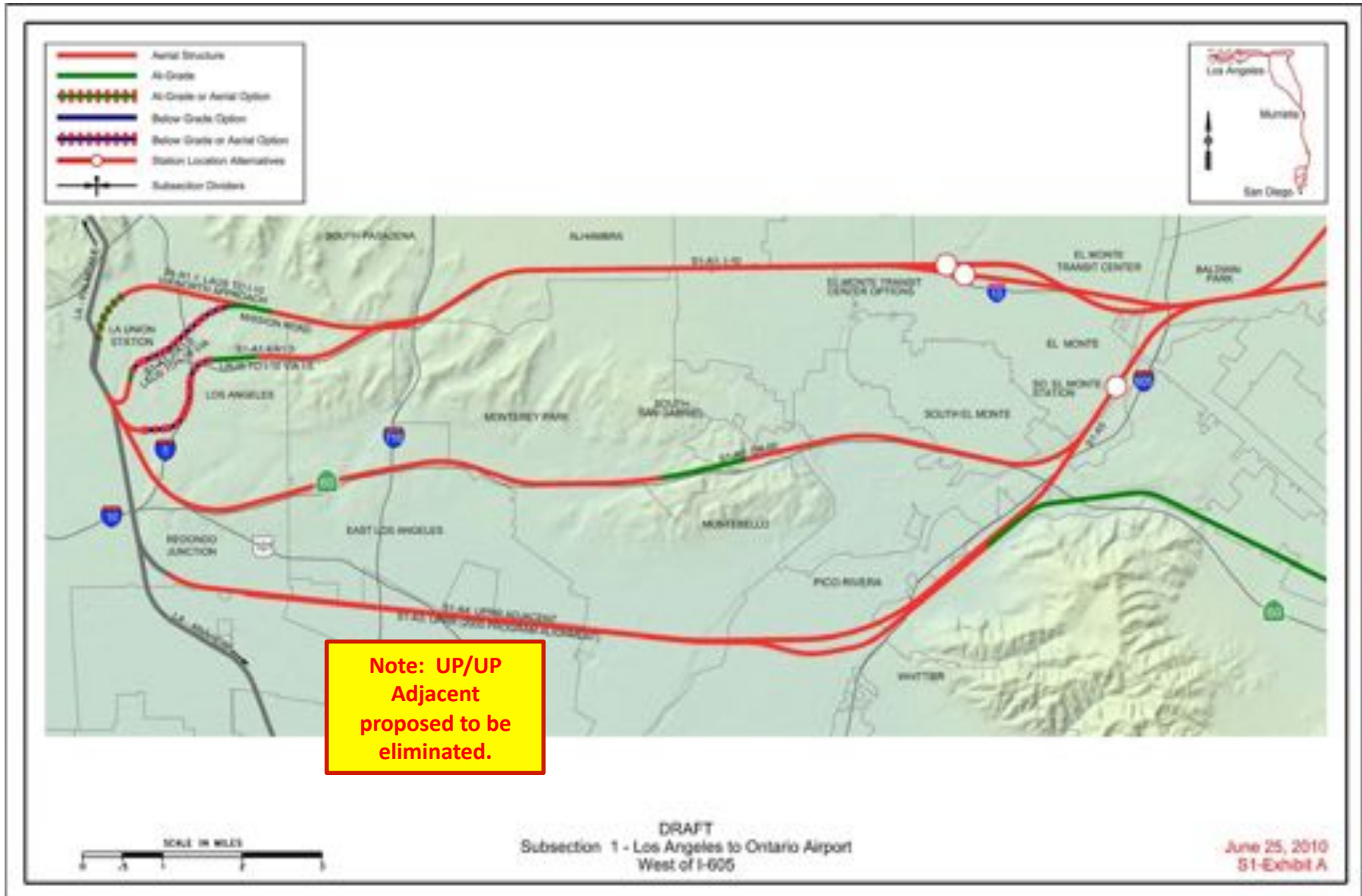
April 2010

Source: CHSRA Website

Detailed Map of LAUS to San Diego Section, via Inland Empire

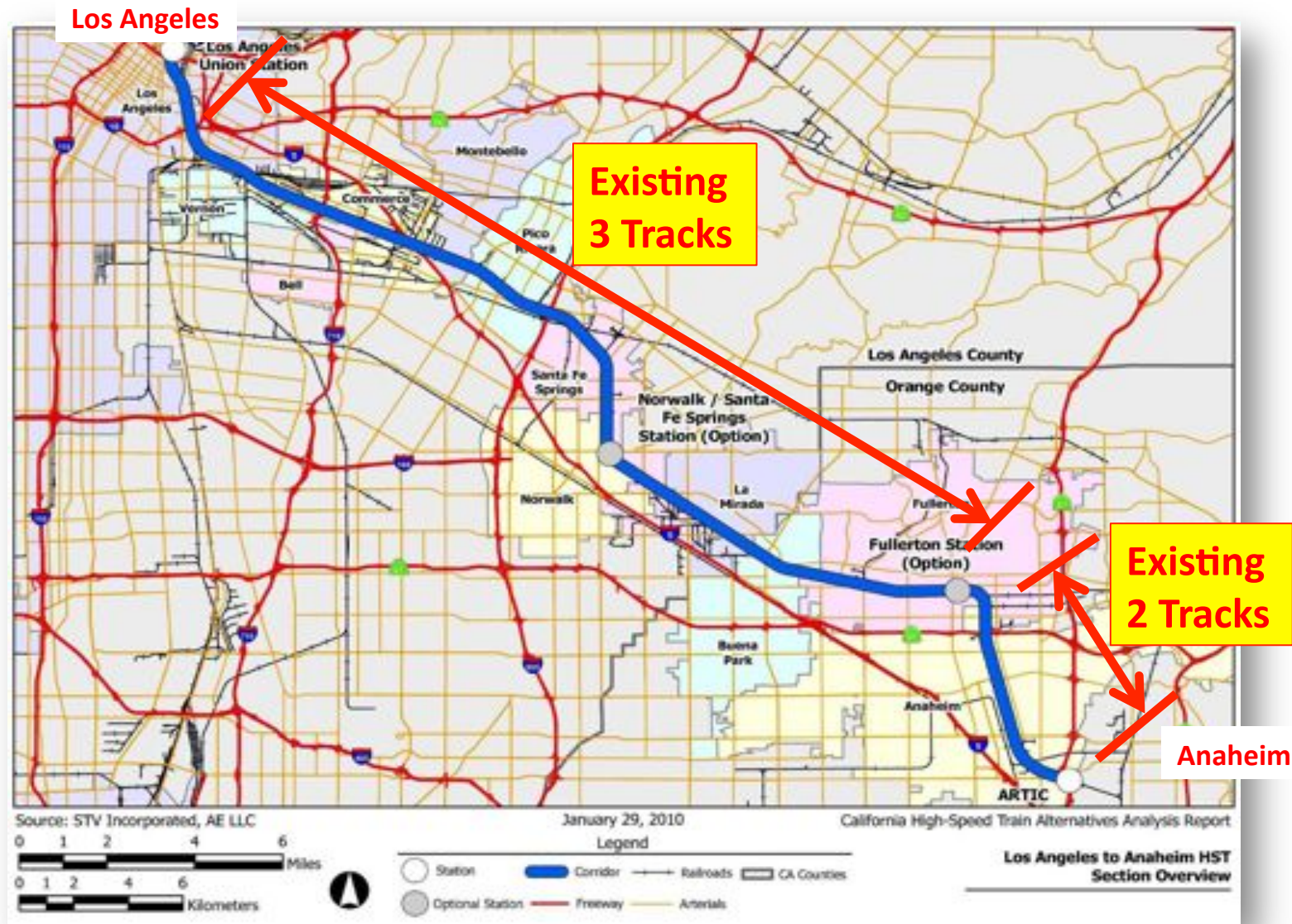


Detailed Map of Alignment Options for HSR LA-SAN



Los Angeles to Anaheim

Detailed Map of Existing Track System between LAUS to ARTIC Section



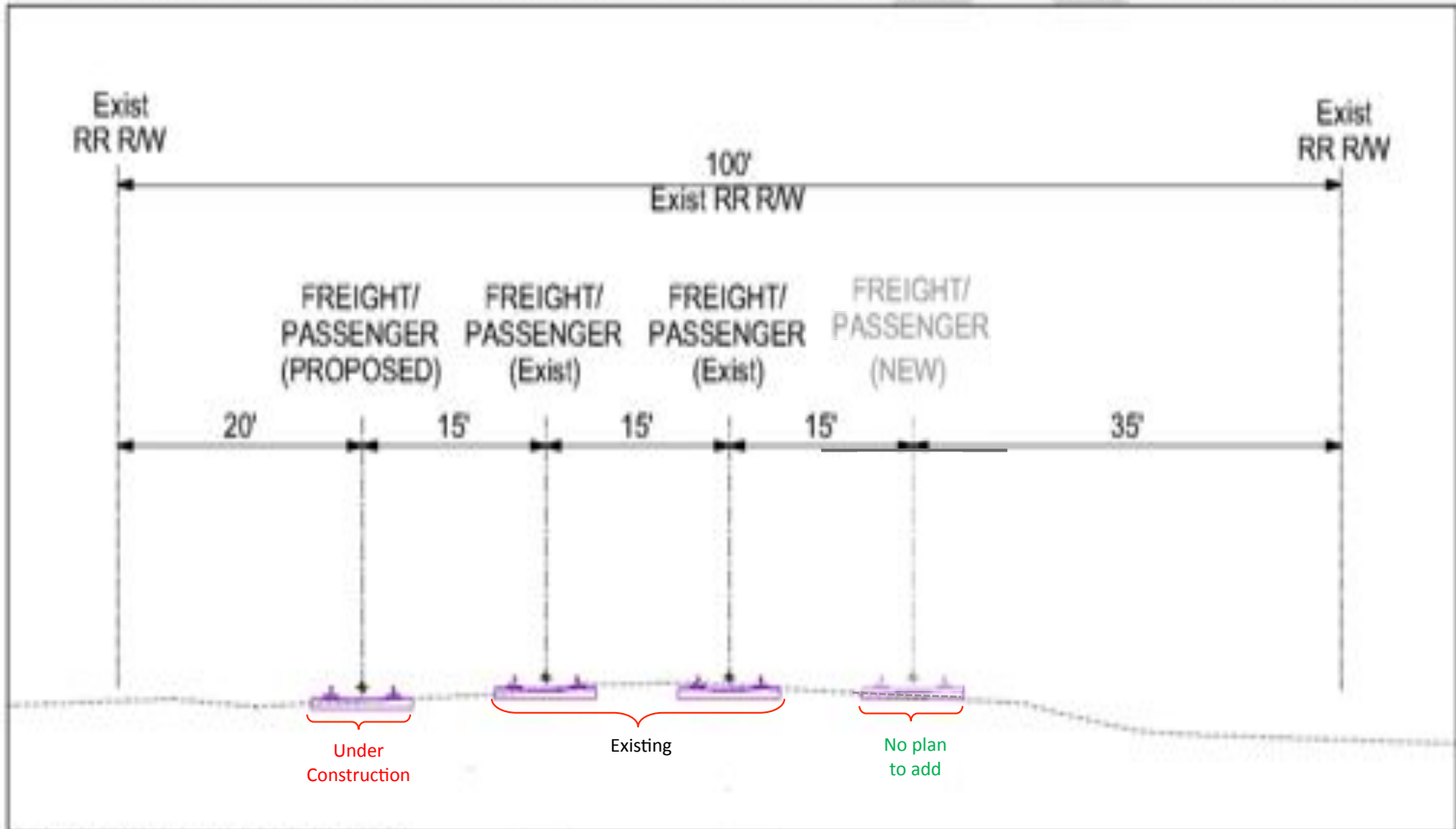
- Third track construction is not fully funded and may not be assured to be completed for this entire stretch for some time.

DESIGN CONCEPTS (LA-AN)

THREE ALTERNATIVES

1. NO PROJECT Alternative (3 tracks only)
2. DEDICATED (4+2)
3. CONSOLIDATED SHARED TRACK (3+2)
 - At-Grade Option
 - Aerial Option

No Project Alternative – Typical Cross-Section – Hobart Yard to Fullerton

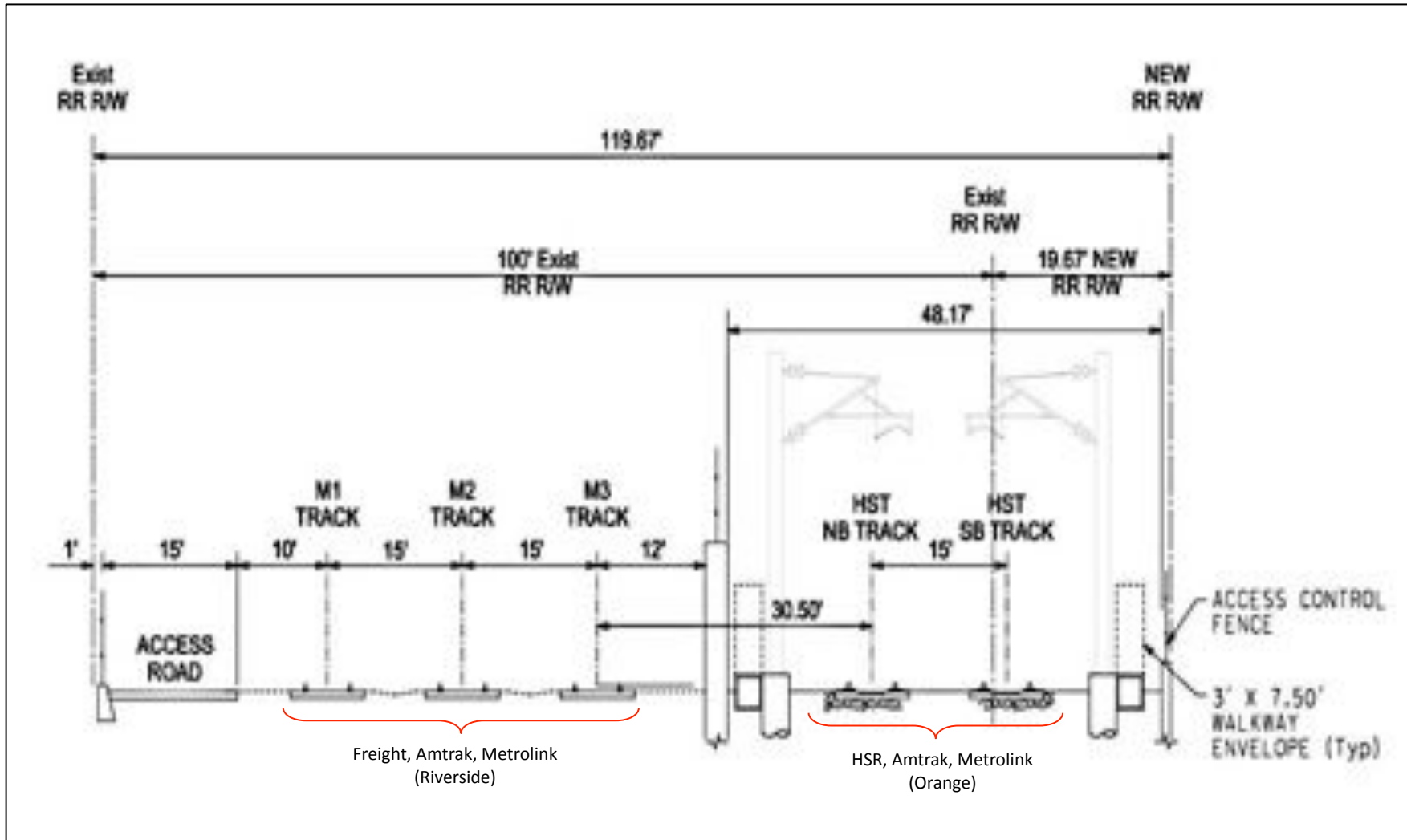


Source: STV Incorporated, 2010

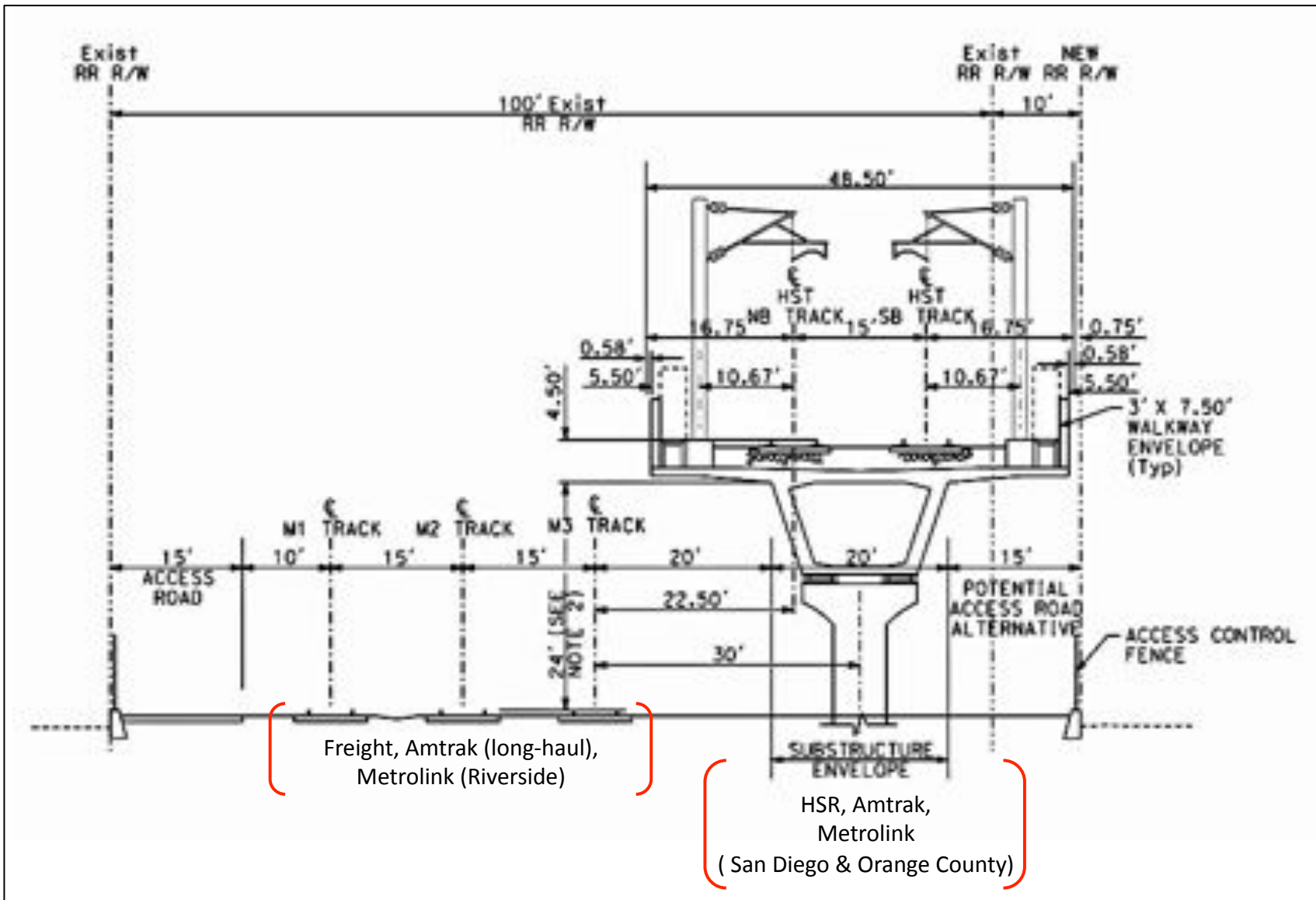
(Also, original design concept approved in HSR Program EIR/EIS)
(Note: Estimated cost to add 4th track is \$700 - \$800M)

Consolidated Shared-Track (3+2) – At-Grade Option

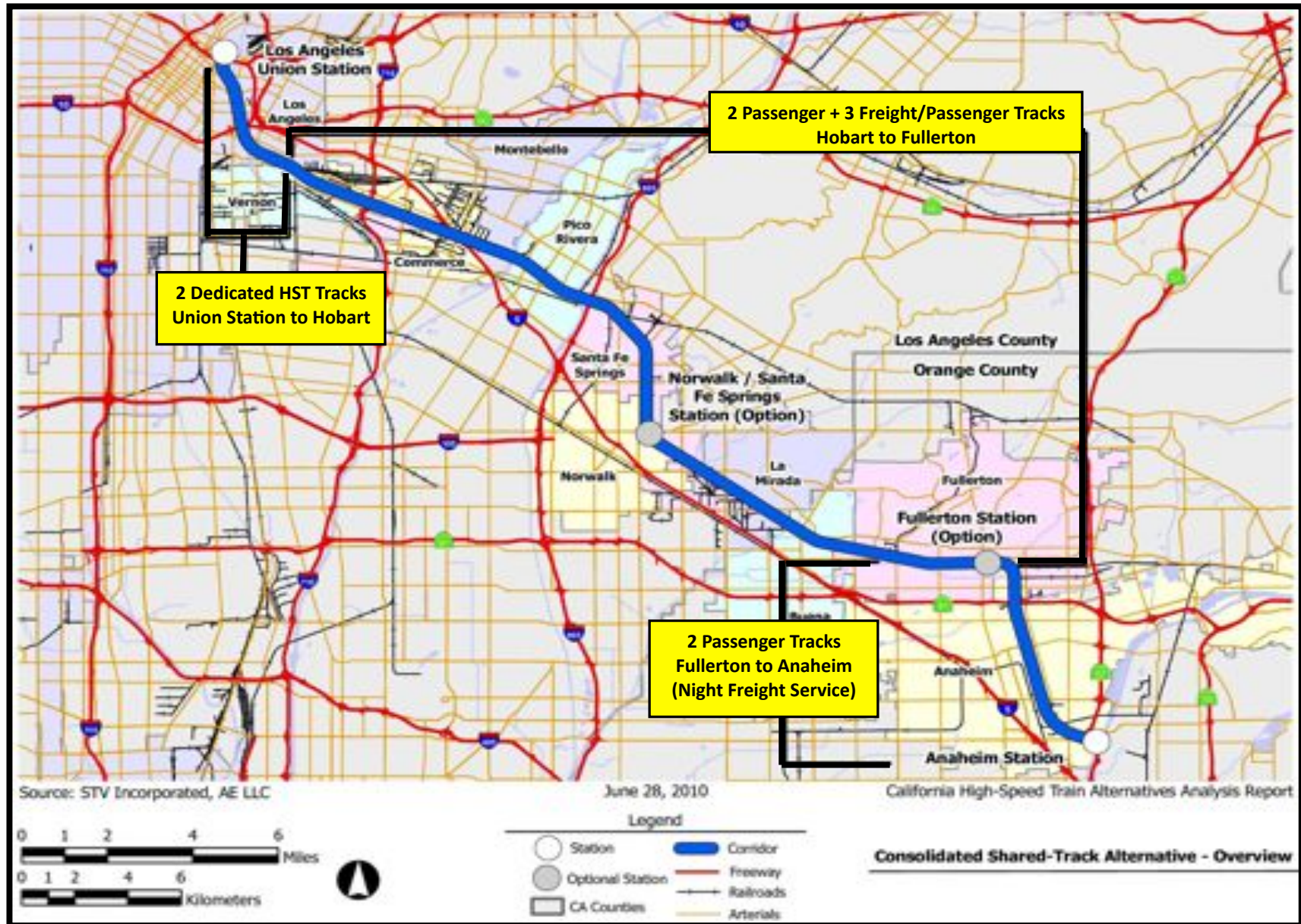
(120' to 135' in total width)



Consolidated Shared-Track (3+2) – Aerial Option (100' to 110' in width)



Consolidated Shared-Track (3+2) Alternative – Overview



BUSINESS PLAN REVIEW

- Reviewed 3 Business Plans & Enabling Legislation
- All had different ridership and fare assumptions
- Conclusions – Unsure of economic viability of project
- Recommendation:

***Before the Cities make any recommendations for an LPA
request a presentation by HSRA to demonstrate
economic viability of HSR,
so cities are better informed in context of the significant impacts
of the HSR project to their cities.***

OPERATIONAL
RIDERSHIP
&
TRAIN STATION
SERVICE
ANALYSIS
For LA-AN

〔CONSOLIDATED SHARED TRACK
ALTERNATIVE〕



Metrolink and Amtrak Routes

LA-AN (LOSAN CORRIDOR) Train Sets Analyses Summary

<u>Year</u>	<u>Train Sets</u>	<u>Track Requirements</u>
2008	90 trains/day (38 freight, 28 Metrolink, 24 Amtrak)	2
2025/2035 (w/o HSR & no commuter/ passenger rail increase)	142 trains/day (90 freight, 28 Metrolink, 24 Amtrak)	3 (1)(4)
2025/2035 (w/o HSR but commuter/ passenger rail growth)	182-186 trains/day (90 freight, 58-64 Metrolink, 34 Amtrak)	4 (2)(5)
2025/2035 (w/HSR & commuter/ passenger rail growth)	312-318 trains/day (130 HST, 90 freight, 58-64 Metrolink, 34 Amtrak)	6 or (3)(6) 5 SHARED

- NOTES:**
- (1.) Third track needed for freight train growth
 - (2.) Fourth track needed for commuter/passenger rail growth
 - (3.) Fifth or Sixth tracks needed for HST addition
 - (4.) Third track funding not completely assured for many years
 - (5.) No funding available to build a 4th track
 - (6.) Funding tentatively available to build 5 tracks for Consolidated Shared Track system
 - (7.) Number of trains on system plus freight trains south of Orange County make Amtrak Express Service from San Diego difficult to implement

ASSUMPTION: 50 trains/day/track

What Is The Impact of Proposed Consolidated Shared Track (3+2) HST Design?

Train Operations Summary

Consolidated Shared Track Design

<u>At-Grade Lines (3)</u>	<u>HSR Lines (2)</u>
Freight	High Speed
Metrolink (91 Line)	Metrolink (OC Line)
Amtrak (S/W)	Amtrak (Surfliner)

The resulting numbers of future trains on each sets of these “separated” tracks would be as follows:

Trains Per Set of Tracks (2035)

Consolidated Shared Track Design

<u>At-Grade Lines (3)</u>		<u>HSR Lines (2)</u>	
Freight	90	High Speed	130
Metrolink (91 Line)	24-30	Metrolink (OC Line)	34
Amtrak (S/W)	2	Amtrak (Surfliner)	32
TOTALS	116-122	TOTALS	196

The proposed train station stops for each set of these “separated” tracks would be as follows:

Proposed Station Stops

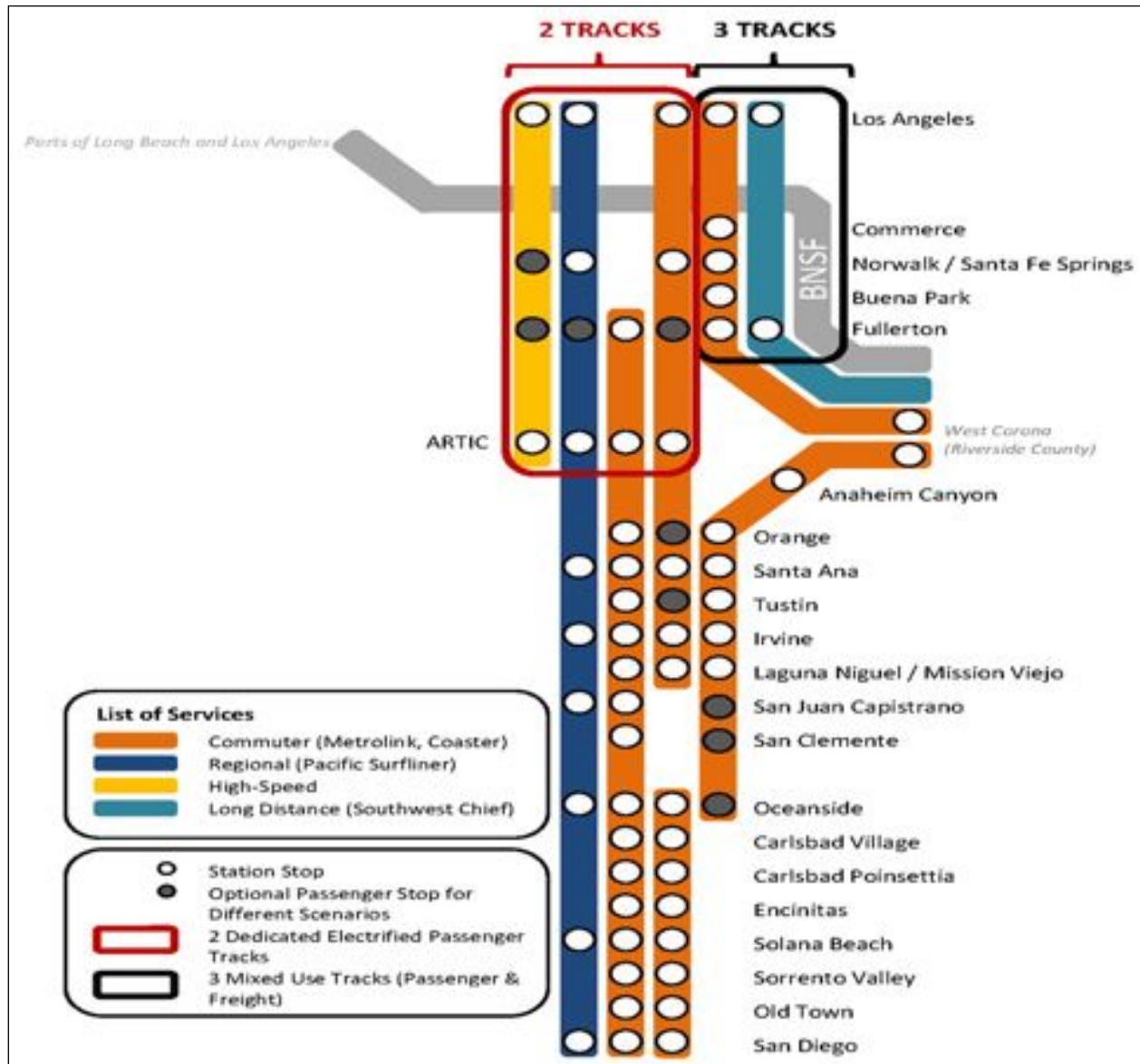
Consolidated Shared Track Design

<u>At-Grade Lines (3)</u>	<u>HSR Lines (2)</u>
Fullerton	Anaheim (HSR,M/A)
*Buena Park	Fullerton (M/A)
*Norwalk/SFS	Fullerton (HSR option)
*Commerce	SFS/Norwalk (M)
Union Station	SFS/Norwalk (HSR option)
	Union Station (HSR,M/A)

Consolidated Shared Track Train Set and Station Summary

* Note – Potential for some Metrolink (OC line) trains to stop at existing train stations

Operations Plan as for Consolidated Shared Track Design



Future Operational Summary for Consolidated Shared Track Design Option

1. Will reduce travel time between Anaheim to LAUS from 45 minutes to 25 minutes – at a cost of \$ 4 billion to \$ 6 billion.

2. Metrolink stops information (N/B & S/B):

	<u>Existing</u>	<u>Proposed (2020)</u>	<u>Proposed (2035)</u>
Fullerton	28	41	58-64
Buena Park	28	20 (Riverside)	24-30 (Riverside)
SFS/Norwalk	28	41 (22, Riverside -19, OC)	58-64 (24-30, Riverside – 34, OC)
Commerce	4	7 (Riverside)	11-15 (Riverside)
Union Station	28	41	58-64

3. Will provide capacity for growth of all rail services in the corridor.

CONCLUSIONS

1. **No Build** project – addition of third track – will only mostly provide capacity for increasing freight train traffic. Completion of third track is not assured for many years.
2. With **No Build**, fourth track would ultimately have to be constructed – at a cost of \$700-\$800 million. No funding available.
3. **Dedicated (4+2)** HST system only provides capacity for HST and has same capacity constraints for other train serves as the No Build.
4. **Consolidated Shared Track** design option will provide capacity to grow all train services in the corridor – at a cost of \$4 - \$6 billion – but will avoid cost of building 4th track (\$700-\$800 million.)
5. **Consolidated Shared Track** design option will maintain and allow for growth of Metrolink service to Buena Park, existing SFS/Norwalk and Commerce train station.
6. **Consolidated Shared Track** design will reduce travel time between Anaheim and LAUS from 45 minutes to 25 minutes.

RIDERSHIP ANALYSIS

(From Business Plan)

LA-AN:

- 26,000 Inter-Regional Boardings/Alightings (2035)
- 17,300 Local Boardings/Alightings (2035) (2010 – 7,000 to 8,000 Boardings/Alightings)
- 35% of Total System ridership (state-wide)
- HSR System will be **equivalent** of about **1 lane of traffic in each direction off of I-5**

LA-SAN: (Via Inland Empire)

- Provide HSR service availability for about 8 million residents
- Fewer potential ridership south of Anaheim
- Represents about 25-30% of Total System ridership (state-wide)
- Potential for Daily Ridership of 90,000 to 95,000
- Provides intra-regional movements and may address housing/employment imbalance within the Inland Empire
- **Does not serve Gateway Cities – should not go through Gateway Cities**

General Issues to be Resolved for all Cities

- Noise
- Visual
- Vibration
- Wind Turbulence and Dust
- Minimize property impacts
- Economic Impacts
- Cumulative impacts with other transportation projects
- Traffic
 - Construction
 - Train Stations
- Construction impacts
- Presume LA-SAN UP & UP adjacent alignments are eliminated from further consideration
- Review of Administrative Draft EIR/EIS
- Coordination with BNSF

Individual Issues also need to be addressed for each city