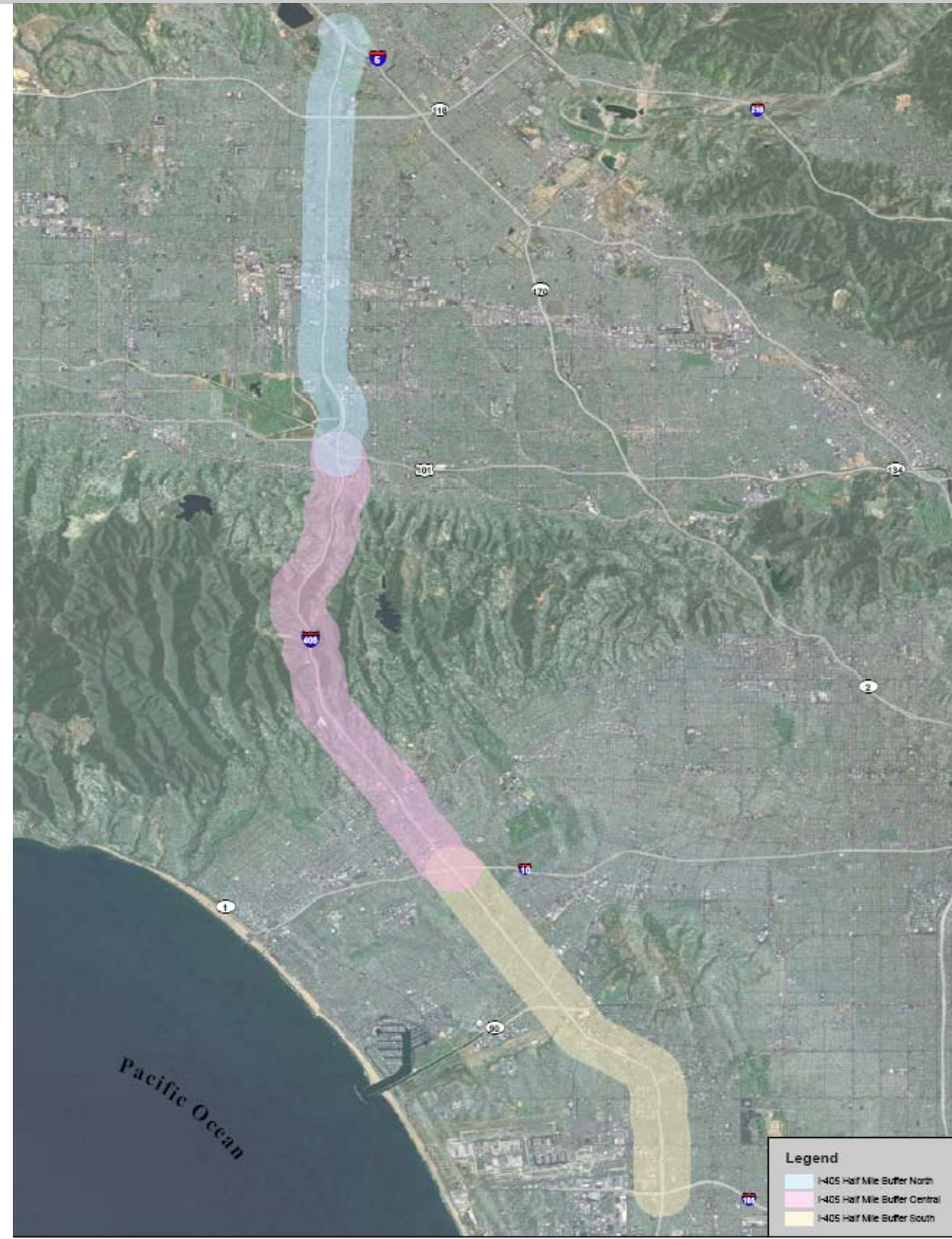


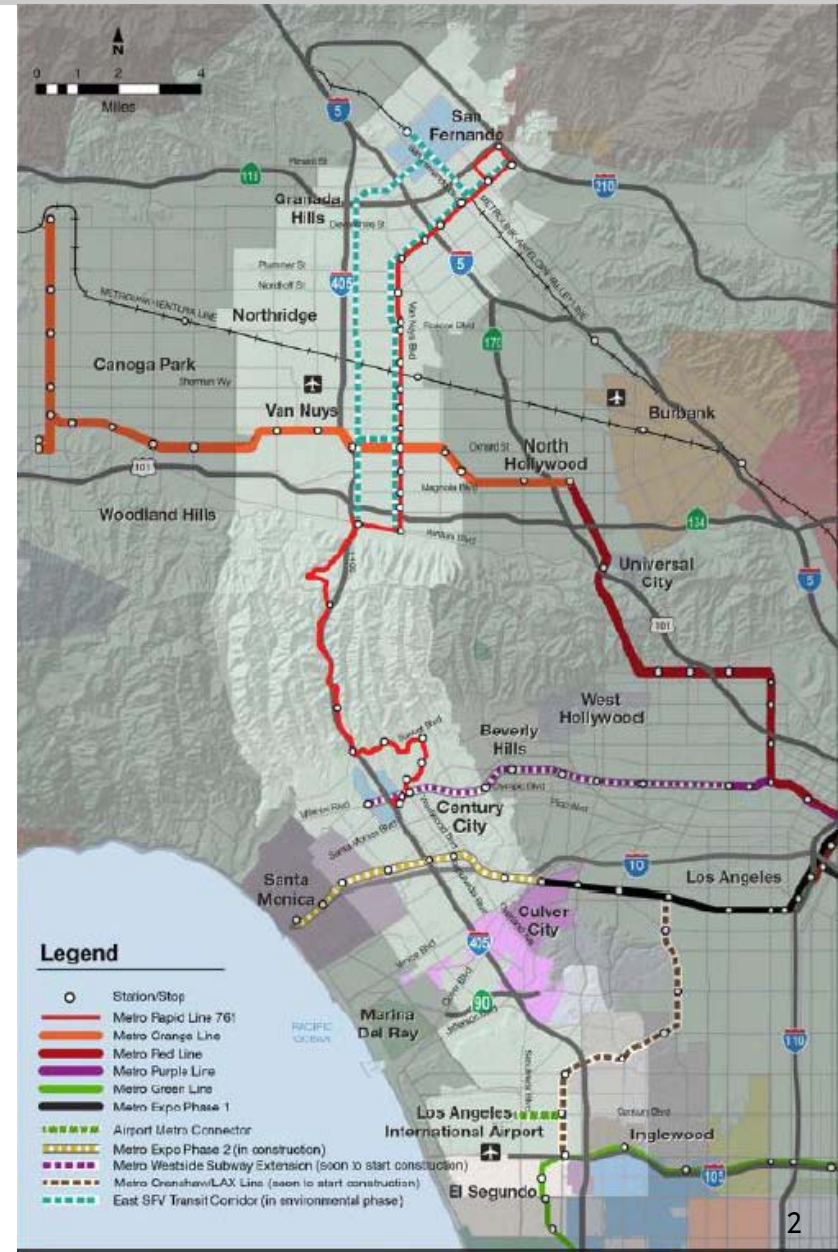
Sepulveda Pass Corridor Systems Planning Study

San Fernando Valley
Metro Service Council
January 2, 2013

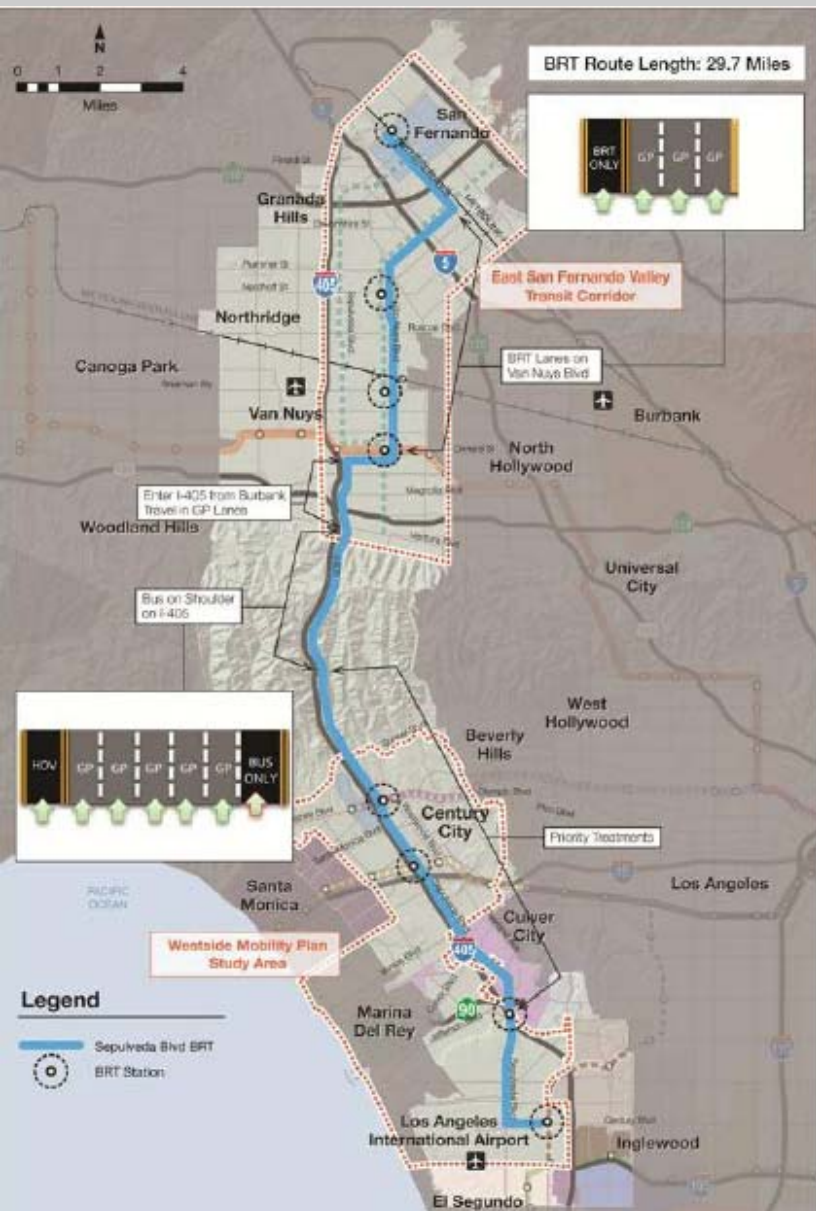


Sepulveda Pass Study Corridor

- Extends for 30 miles
 - San Fernando Valley - 11 miles
 - Sepulveda Pass – 9 miles
 - Westside to LAX – 10 miles
- Potential Transit Connections:
 - Metrolink Antelope Valley Line
 - Metrolink Ventura Line
 - East San Fernando Valley Transit Corridor
 - Metro Orange Line
 - Westside Subway Extension
 - Expo Line Phase 2
 - Crenshaw/LAX LRT Project
 - Airport Metro Connector
 - Metro Green Line
- Current I-405 Improvement Project
 - Adding NB HOV Lane
 - Existing SB HOV lane operates over capacity



Concept 1: Shoulder Running BRT



- Route length: 30 miles (partial exclusive lanes)
 - Sylmar/San Fernando Metrolink Station to LAX
- Bus use of freeway shoulders in Sepulveda Pass during peak periods (8.5 miles)
- Priority treatments on Van Nuys and/or Sepulveda Blvds in San Fernando Valley and Westside

Concept 2: At-Grade Express Lanes with BRT



- Express Lanes (3+ HOT) - length: 29 miles
 - 2 HOT lanes in each direction in Sepulveda Pass
 - Single 3+HOT lane north of US 101 and south of I-10
 - 3 BRT routes connect at Metro Orange Line/Sepulveda Station for transfer to I-405 Express Lanes through Sepulveda Pass
- Direct Access Ramps (4)
 - Metro Orange Line/Victory Boulevard
 - US 101 Direct connectors from eastbound US 101 to southbound I-405 and northbound I-405 to westbound US 101
 - South of Santa Monica Blvd
 - South of SR-90 (Sepulveda Blvd or Howard Hughes Pkwy)
- Candidate for P3

Concept 3: Aerial Viaduct/Express Lanes with BRT



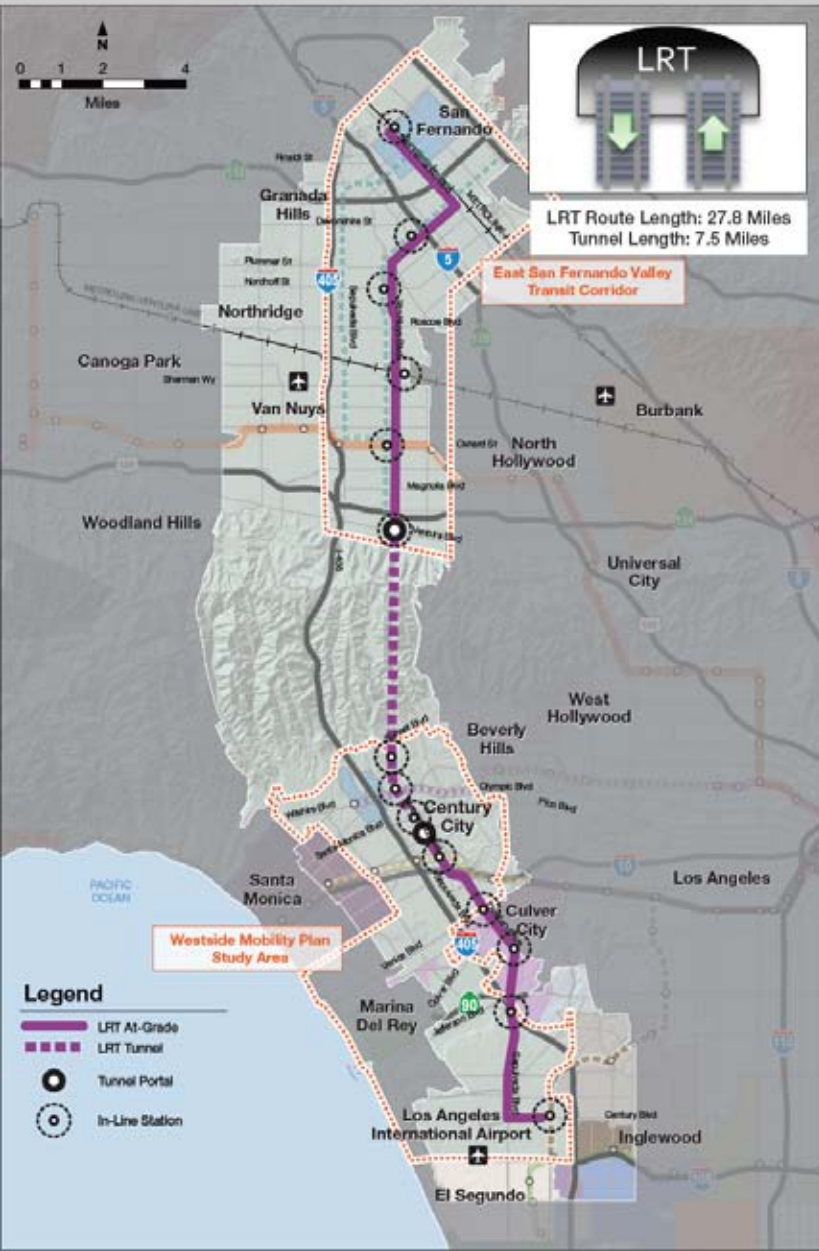
- Constructed above the median of the I-405 from US 101 to I-10 Freeways
- Viaduct length: 10 miles
- 4 HOT lanes on an aerial viaduct (2 in each direction); existing HOV lanes for dedicated busway beneath viaduct
- Considered, but not recommended in Caltrans/FHWA I-405 Widening EIR/EIS

Concept 4: Tolloed Highway Tunnel with BRT



- Four toll lanes (two per direction) through Sepulveda Pass between US-101 and I-10
- Tunnel length: 9 miles
- US 101 Direct connectors from eastbound US 101 to southbound I-405 and northbound I-405 to westbound US-101
- Candidate for P3

Concept 5: Rail Tunnel (LRT or HRT)



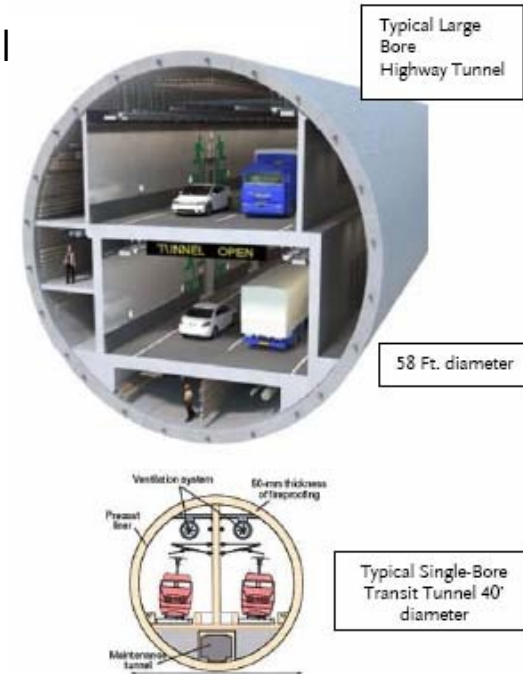
- Route Length:
 - 28 miles (full length) or 11 miles (Sepulveda Pass Segment)
- Concept 5A - LRT Tunnel + At-grade
 - Transit-only tunnel in the Sepulveda Pass
 - At-grade north and south of Sepulveda Pass with grade-separated crossings at major intersections
 - Northern portal near Ventura Blvd
 - Southern portal near Santa Monica Blvd.
- Concept 5B - HRT Tunnel
 - Fully grade-separated in tunnel configuration for full alignment

Concept 6: Combined Highway and Rail Tunnels with Demand Pricing



Highway Tunnel

- Large bore highway tunnel length: 21 miles
- 2 Highway Portals
 - Roscoe Blvd
 - LAX
- 3 highway connectors
 - US 101/I-405
 - Santa Monica Blvd.
 - Sepulveda/Howard Hughes Parkway



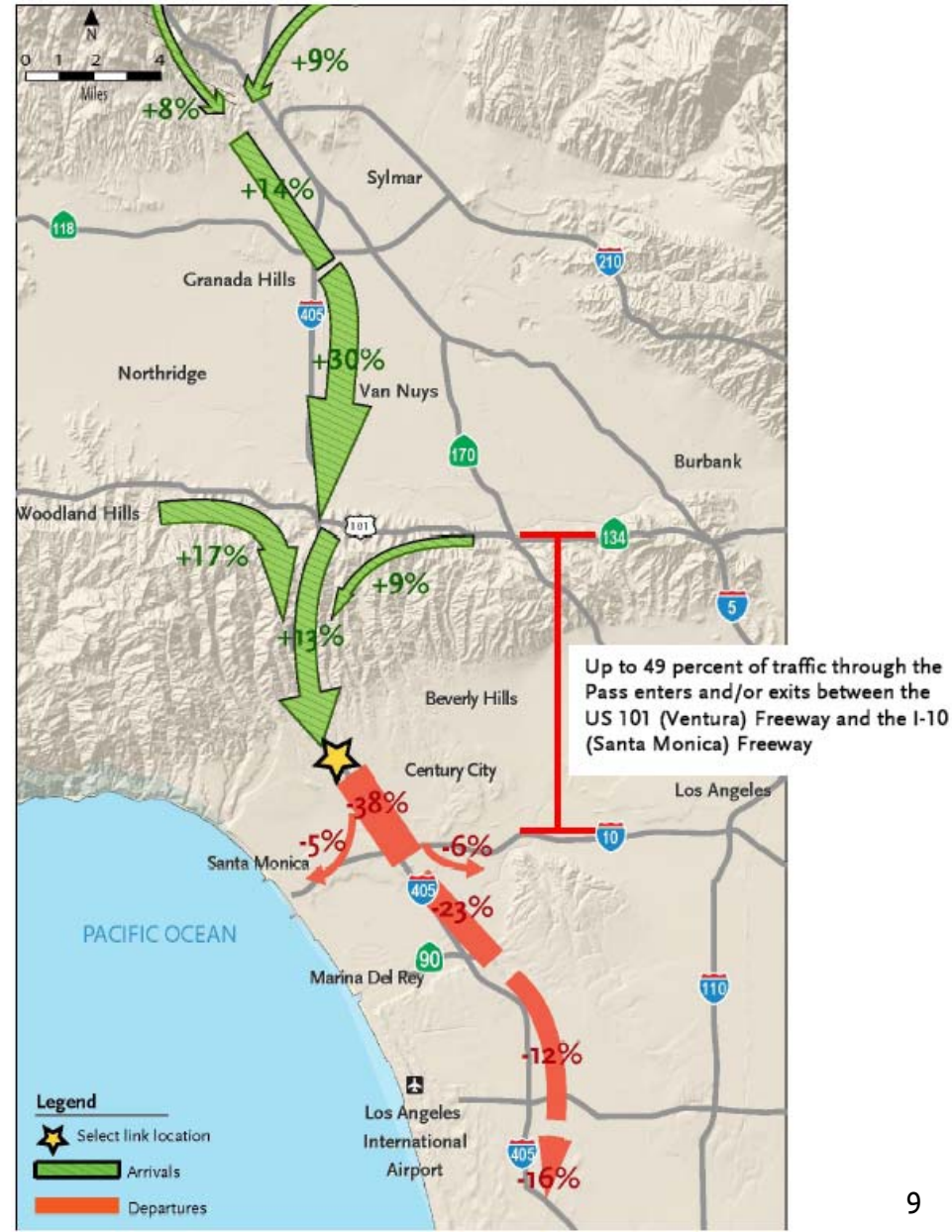
Private Rail Tunnel

- Tunnel length: 21 miles
- Van Nuys Metrolink Station to LAX (Century/Aviation)
- Candidate P3
- P3 would set transit fares at proportional cost to highway tolls

System Planning Study Findings

Highway Improvements

- Up to 49% of traffic through the Sepulveda Pass enters or exits between the US-101 and the I-10 Freeways
- Capacity upgrades would best serve this 9-10 mile segment



System Planning Study Findings

Highway Improvements

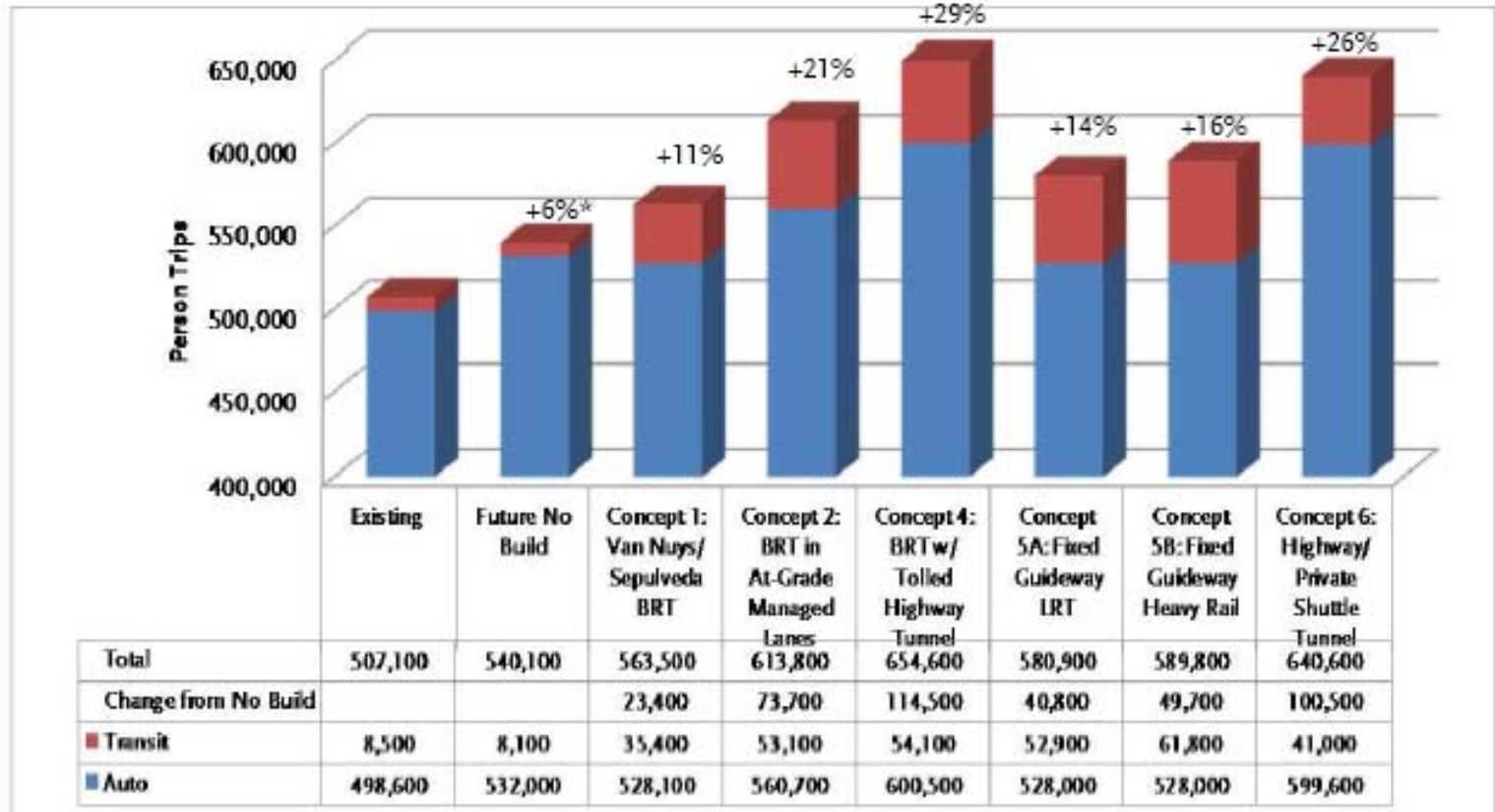
- Up to 49% of traffic through the Sepulveda Pass enters or exits between the US-101 and the I-10 Freeways
- Capacity upgrades would best serve this 9-10 mile segment
- 20% of trips through the Sepulveda Pass originate in Santa Clarita and the North County



System Planning Study Findings

- Study Concepts could accommodate increases in travel through the Sepulveda Pass of between 11 percent and 29 percent.

Average Weekday Person Throughput "Over the Pass"

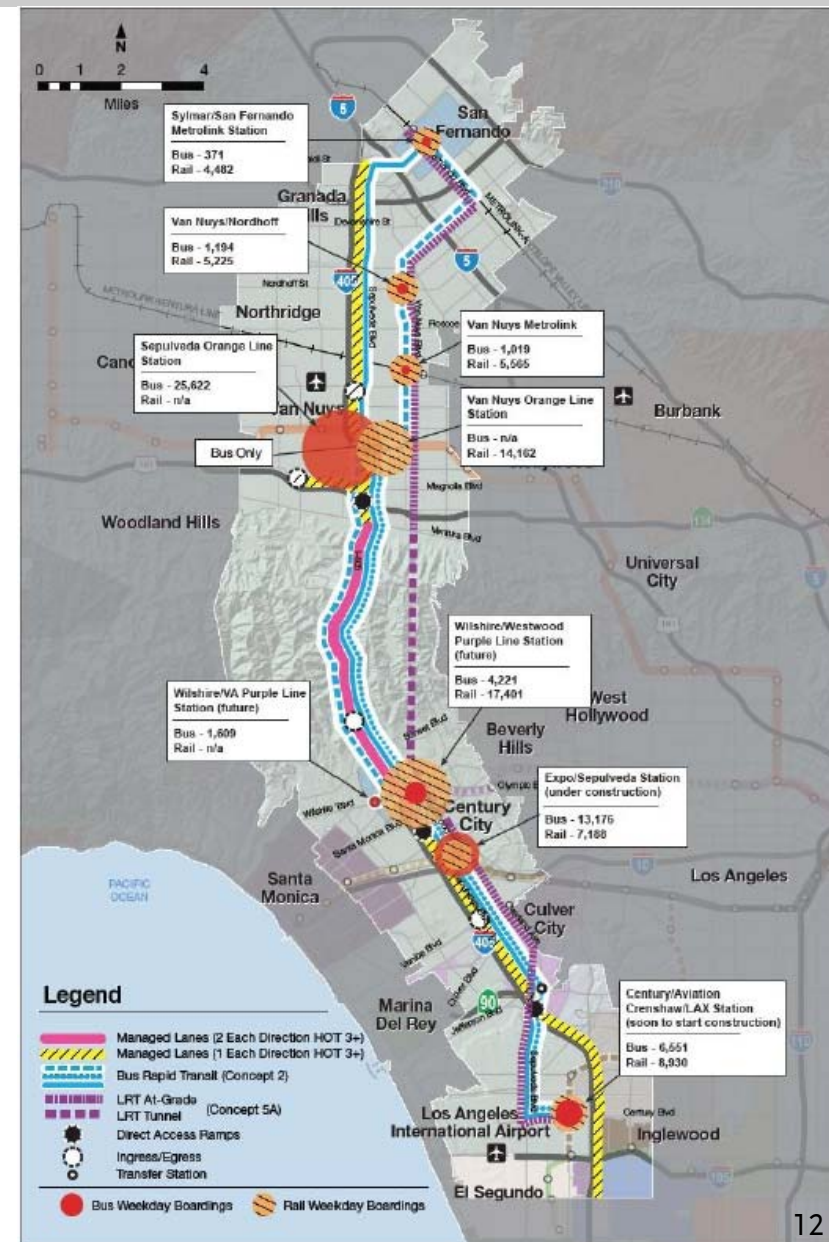


* Future No Build Assumes completion of current I-405 HOV/Widening Project (2035)

Study Observations and Findings

- Strong potential for transit improvements, particularly in the 11-mile segment between the Metro Orange and Expo Lines.
- 80% of forecasted boardings for the full 30-mile corridor would occur in this segment, making this the most cost-effective initial transit project

Concept	Total Daily Boardings
1 - Shoulder Running BRT	39,468
2 - BRT in At-Grade Freeway Managed Lanes	55,499
3 - Aerial/Viaduct Managed Lanes with BRT	Similar to 2 and 4
4 - Tolked Highway Tunnel with BRT	56,977
5A - Light Rail Tunnel	90,234
5B - Heavy Rail Tunnel	106,625
6 - Combined Highway and Rail Tunnels with Demand Pricing	58,465



Study Observations and Findings

- Fully Loaded Agency Costs were Surveyed for Similar Projects in North America
 - The Study used these per mile costs for initial rough order of magnitude comparisons. More detailed study is required to determine economies of scale and potential savings from alternative project delivery methods.

Highway/Rail Project	Length (Miles)	Number of Transit Stations	Technology	Construction Completion	Budget (Millions)	Adjusted for Inflation (Millions) 2012	Cost Per Mile (Millions) 2012
Metro ExpressLanes I-110 and I-10	25.0	9	At-Grade Managed Lanes	2012/2013	\$290	\$290	\$18-\$30
Selmon Expressway Florida	14.1	0	Managed Lanes	2007	\$420	\$475	\$33
Alaska Highway Viaduct Replacement Tunnel	1.8	0	58' Single Bore Highway Tunnel	2013	\$2,034	\$2,034	\$1,044
Metro Purple Line Extension Twin Bore Tunnels	9.0	7	20' Heavy Rail Twin Bore Tunnels	2022-2036	\$4,536	\$4,536	\$504
Metro Blue Line	22	22	LRT At-Grade	1990	\$877	\$1,870	\$85

Study Observations and Findings

- Grade Separated Rail Concepts 4, 5 and 6 improve both vehicle and person throughput between US 101 and I-405, but costs will be high due to the length of the corridor.
- Initial segments of between 9 and 12 miles could be completed for less cost while still maintaining the primary benefit of bottleneck relief in the Sepulveda Pass

Concept	Initial Segment Cost (9.2 to 12.5 miles) (\$2008)	Full Length Cost (21 to 30 miles) (\$2008)
1 - Shoulder Running BRT	\$145,577,500	\$162,542,500
2 - BRT in At-Grade Freeway Managed Lanes	\$1,184,852,500	\$1,680,422,500
3 - Aerial/Viaduct Managed Lanes with BRT	\$2,133,635,000	\$2,328,635,000
4 - Tolloed Highway Tunnel with BRT	\$10,457,392,000	\$10,457,392,000 *
5A - Light Rail Tunnel	\$5,487,430,000	\$7,399,730,000
5B - Heavy Rail Tunnel	\$5,086,432,000	\$13,617,552,000
6 - Combined Highway and Rail Tunnels with Demand Pricing	\$16,095,160,000	\$30,754,672,000

* Since the concept's major capital improvement includes the construction of a 9-mile tunnel between US 101 and I-10, the initial and full length costs are the same.

Metro Board Action

- December 13, 2012
 - Sepulveda Pass Transit Corridor approved as a candidate for further consideration as P3 delivery project (no change to LRTP priorities)
 - Metro authorized to:
 - Evaluate the suitability of a transit and/or highway facility through the Sepulveda Pass as a P3 using Board-approved P3 criteria
 - Convene industry outreach program to expand interest, information and feedback on Sepulveda Pass project
 - Proceed with preparation of Pre-Development Agreement with private entity
 - Study findings received and filed