

Transit Lanes and LRT Alternatives on SR 85

SR 85 Corridor Policy Advisory Board
April 25, 2016



SR 85 PAB Alternatives



1. No Action
2. One-Lane Express Lane on SR 85
3. Two-Lane Express Lanes on portion of SR 85
4. Transit Lane Alternatives
5. Light Rail Transit Alternatives

Summary



Transit Lanes Alternatives

- 4A – Add one new **Transit** lane (each direction) in median and retain **HOV** lanes
- 4B – Add one new **Transit** lane (each direction) in median and replace HOV lane with one **Express** lane (each direction)
- 4C – Add one new **Transit Lane with Stations and P&Rs** in (each direction) in median and retain **HOV** lanes

LRT Alternatives

- 5A – Add new **LRT** system in median and retain **HOV** lanes
- 5B – Add new **LRT** system in median and replace HOV lane with one **Express** lane (each direction)

Alternative	Transit Lanes	BRT	LRT	HOV Lanes	Express Lanes
4A Transit Lane & HOV	X			X	
4B Transit Lane & Express Lanes	X				X
4B Transit Lane with Stations		X		X	
5A LRT & HOV			X	X	
5B LRT & Express Lanes			X		X

Summary



- This is a concept level analysis to provide the PAB with information evaluating transit alternatives on SR 85
- A corridor alternatives analysis of 2-3 years is required to make “project decisions”
- A transportation investment study of this type would involve all levels of agencies – federal, state, and local cities – and require extensive technical work and community outreach
- Information presented is “illustrative” to inform the PAB of the potential and the challenges of the alternatives that will be discussed

Assumptions



- Caltrans Highway Design Manual and Advisory Design Standards
- VTA Design Criteria Manual for LRT Standards
- Alternatives designed to fit within available right of way
- Service levels constant for alternatives to allow comparison
- Horizon year of 2040 used for analysis
- Maintenance and storage costs assumed in alternatives
- VTA operating cost for bus and LRT

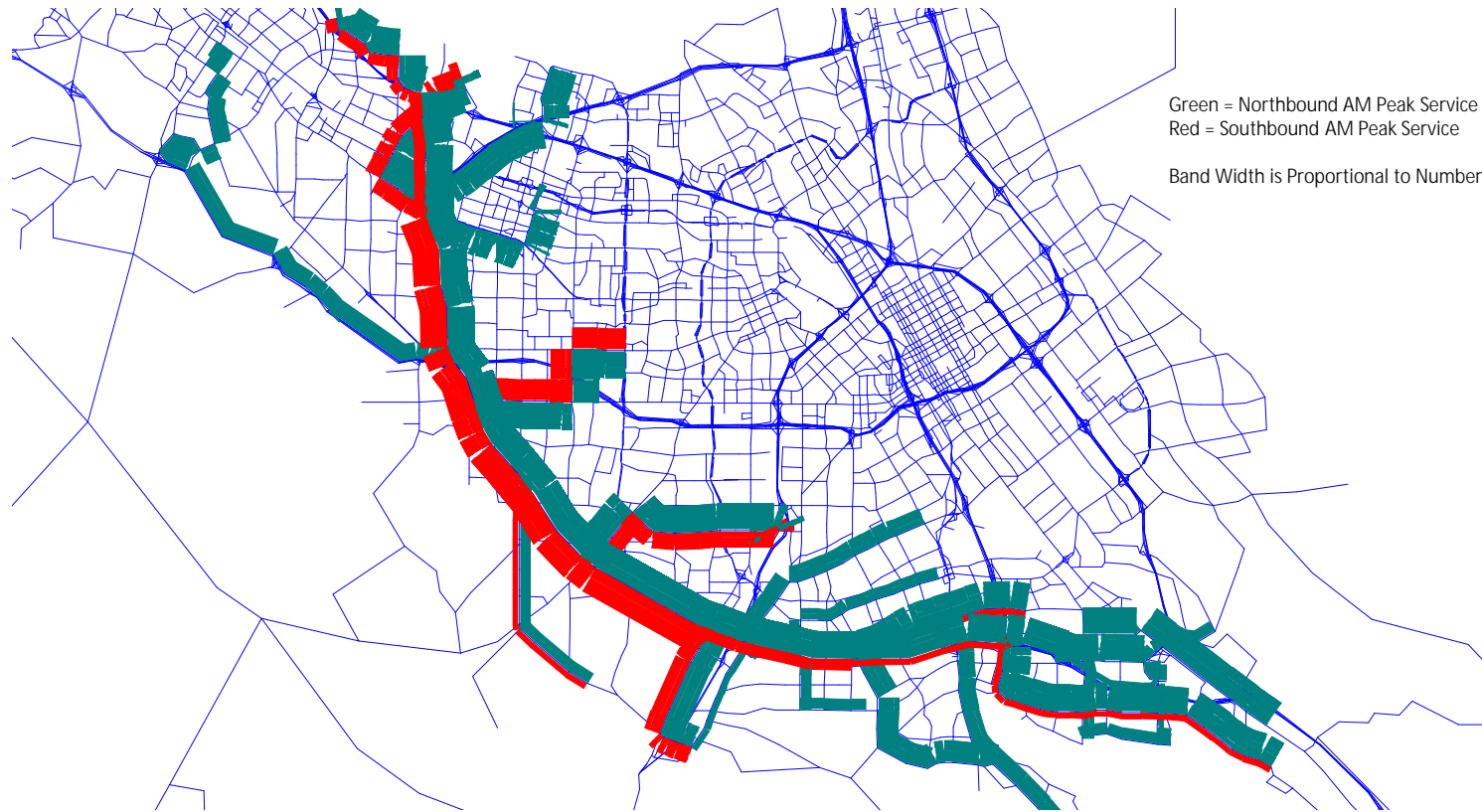
Evaluation Tools



- VTA Travel Demand Forecasting Model
- Engineering concept level reconnaissance from HMM
- Costs estimates based on most recent bus and LRT projects in California



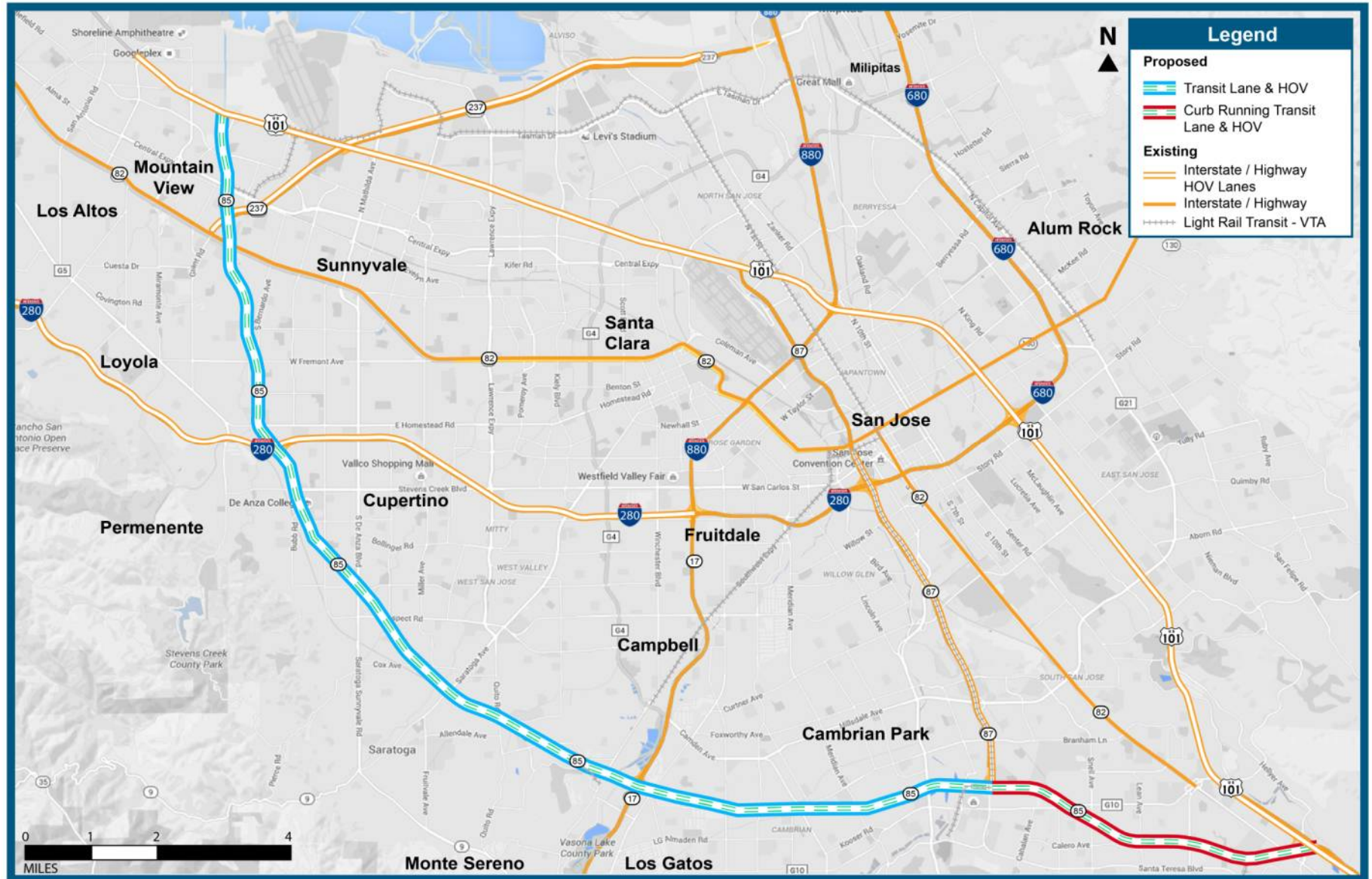
SR 85 Express Bus Alternative AM Peak Period Service Pattern



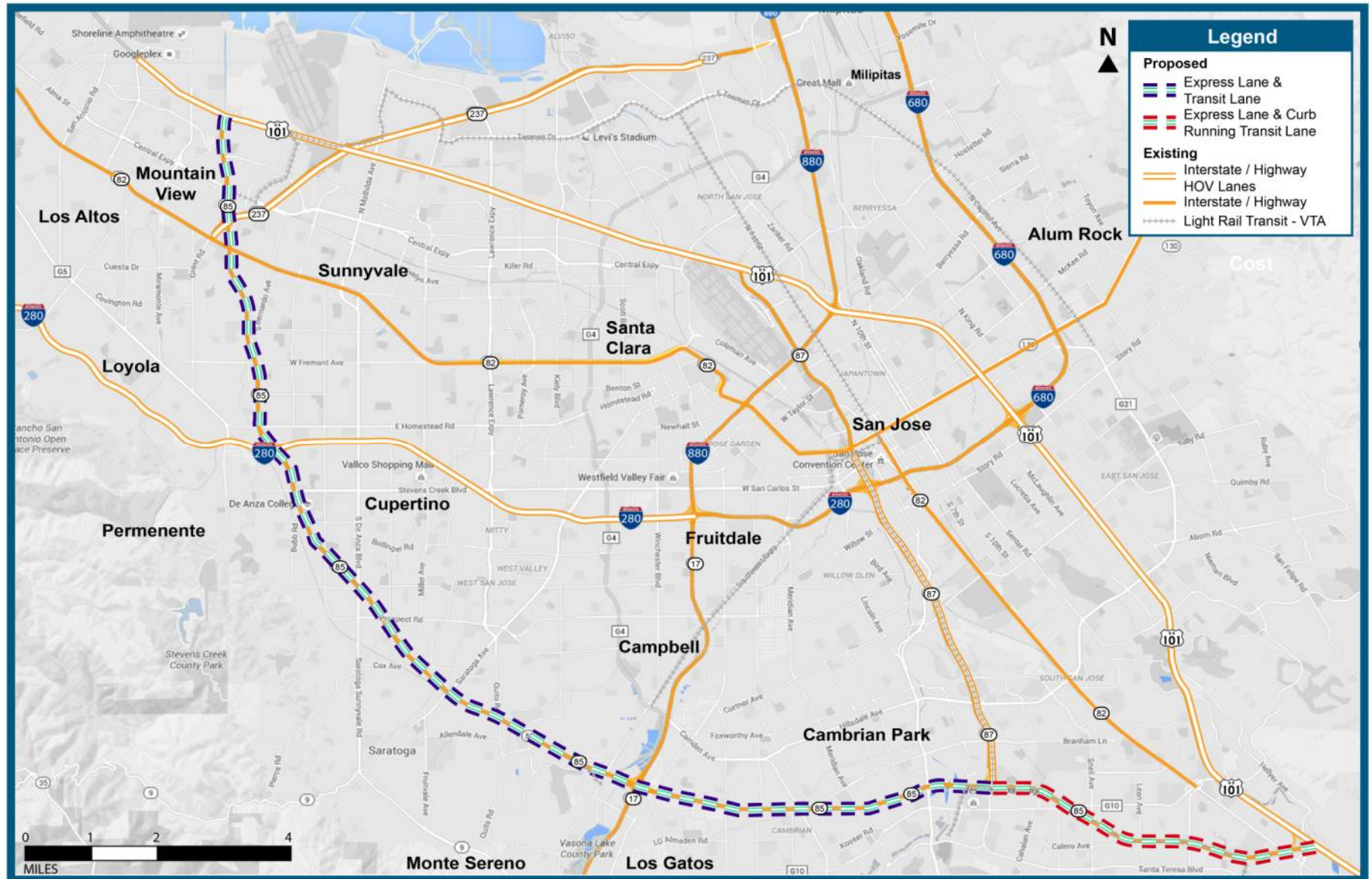
Green = Northbound AM Peak Service
Red = Southbound AM Peak Service

Band Width is Proportional to Number of Buses in Service

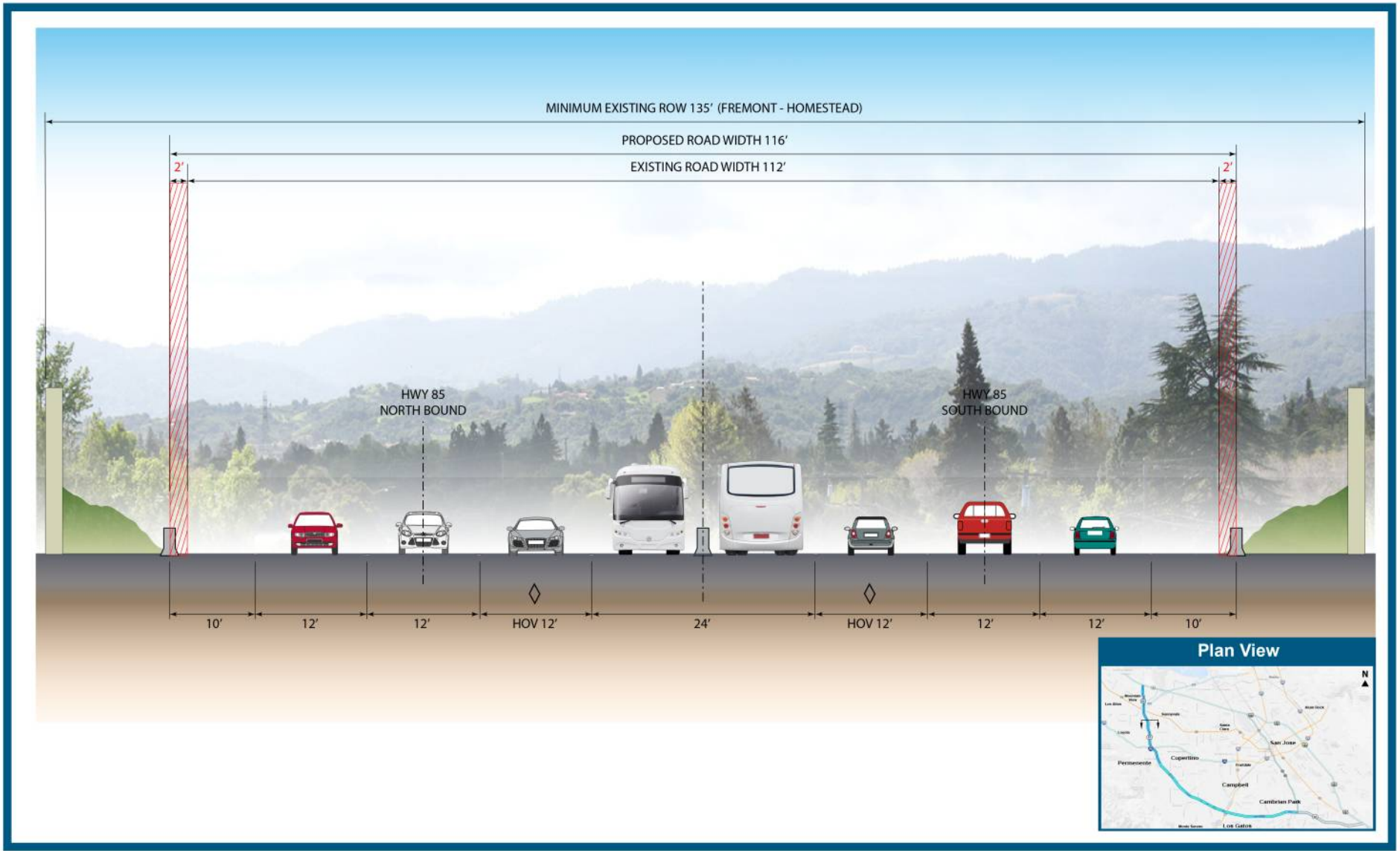
4A - One Transit Lane Each Direction and Retain HOV Lane



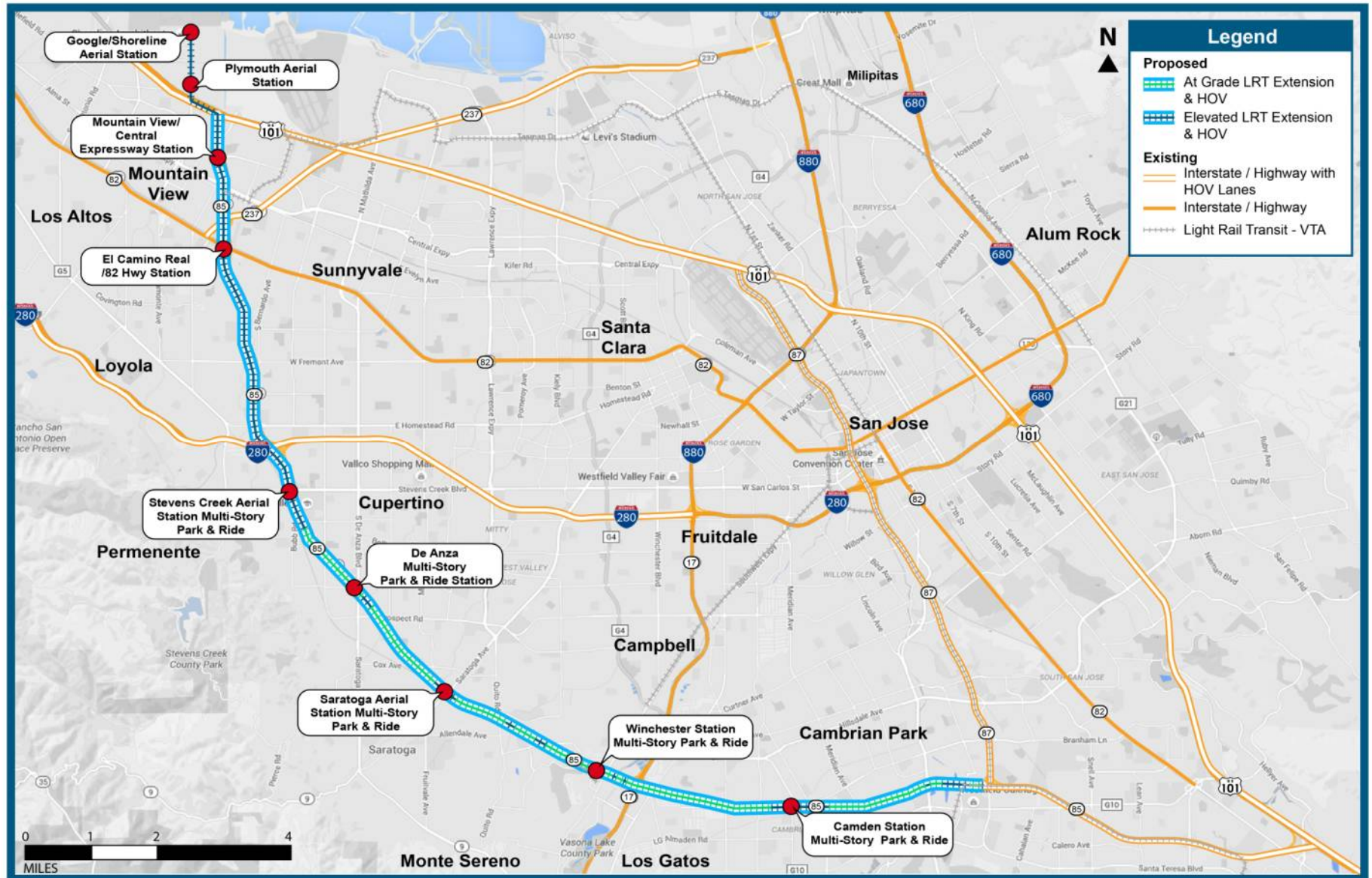
4B - One Transit Lane Each Direction and Convert HOV Lanes with Express Lanes



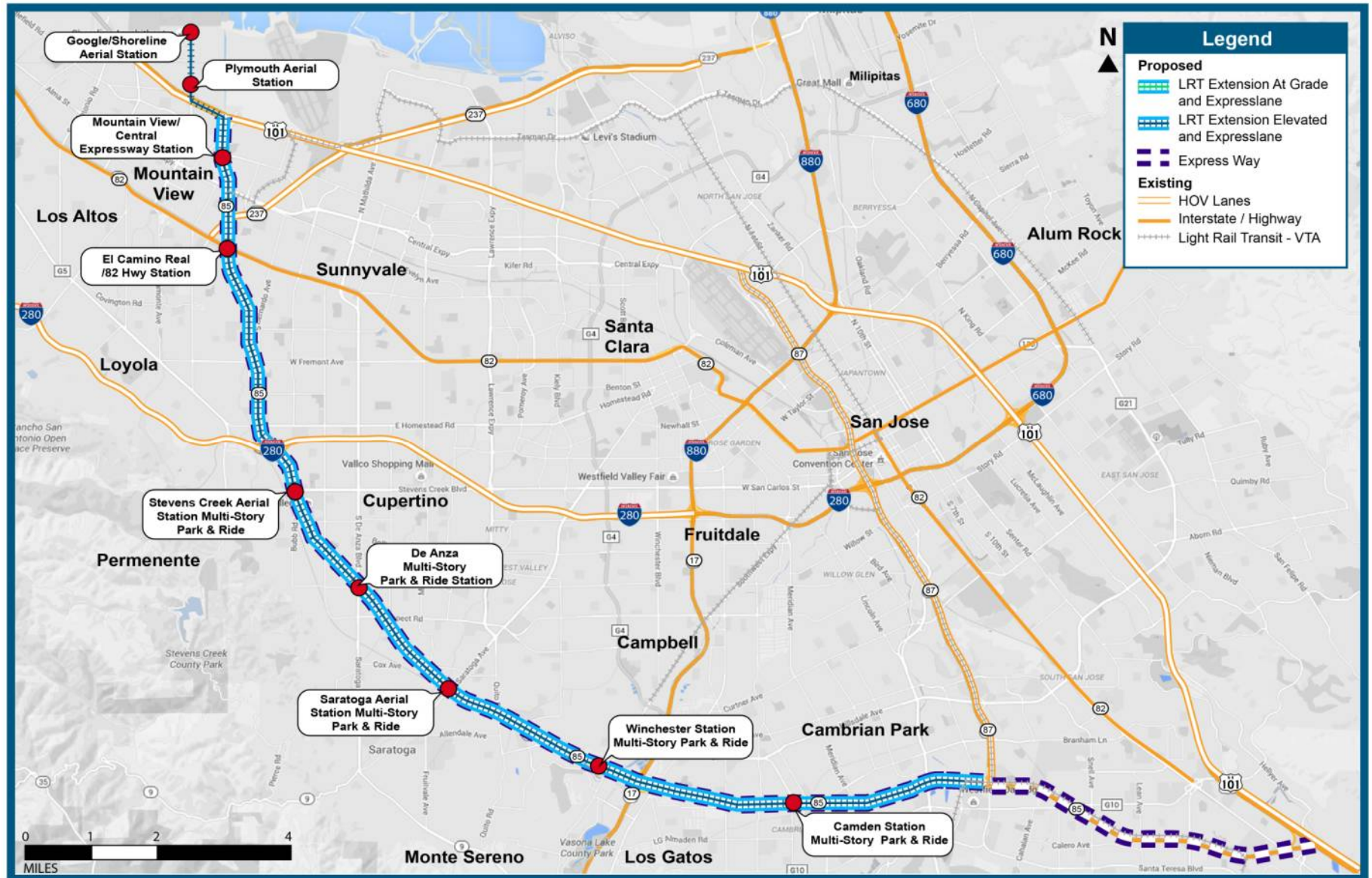
4A & 4B Cross-Section (North of I-280)



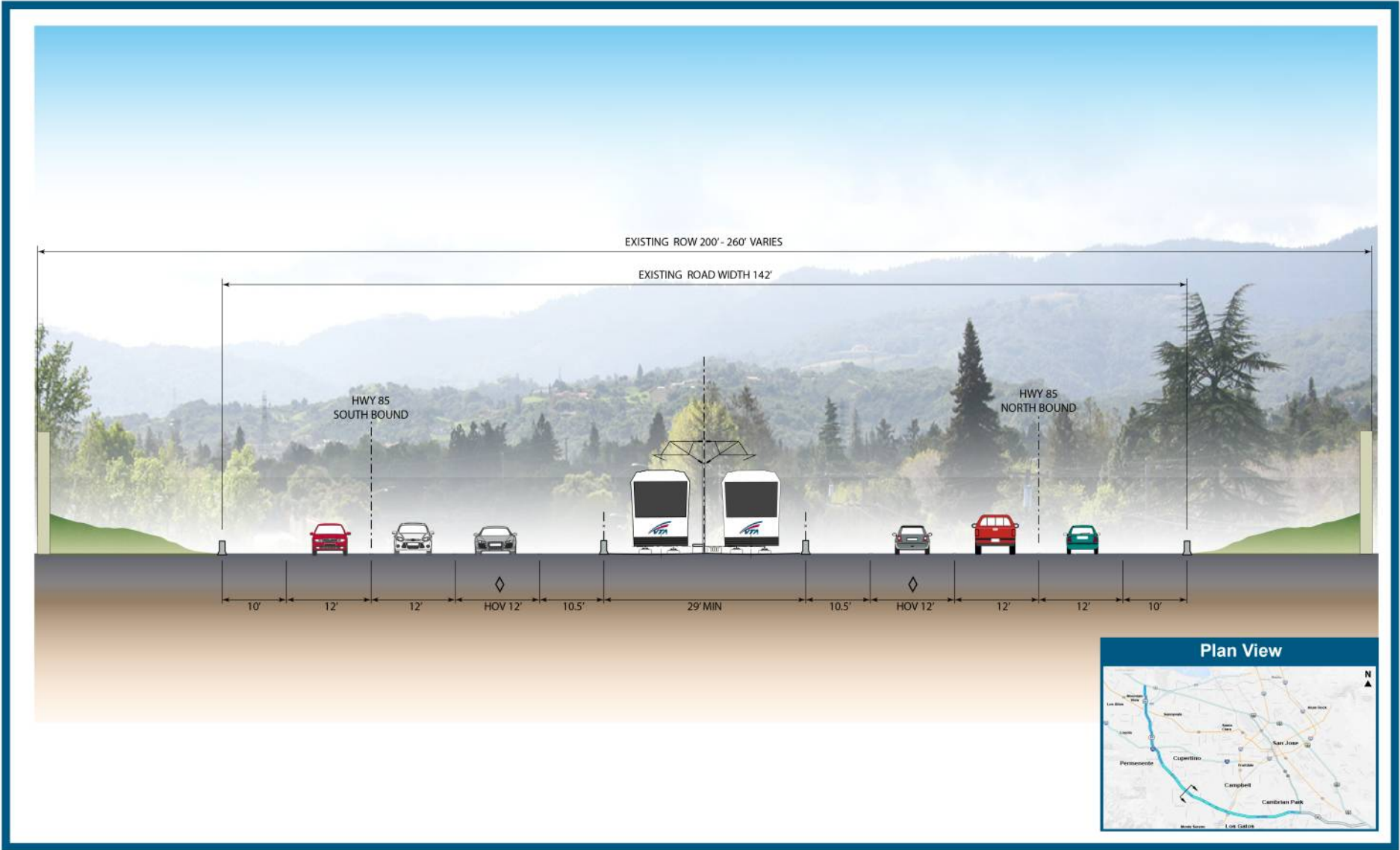
5A – Median Running LRT and Retain HOV Lane



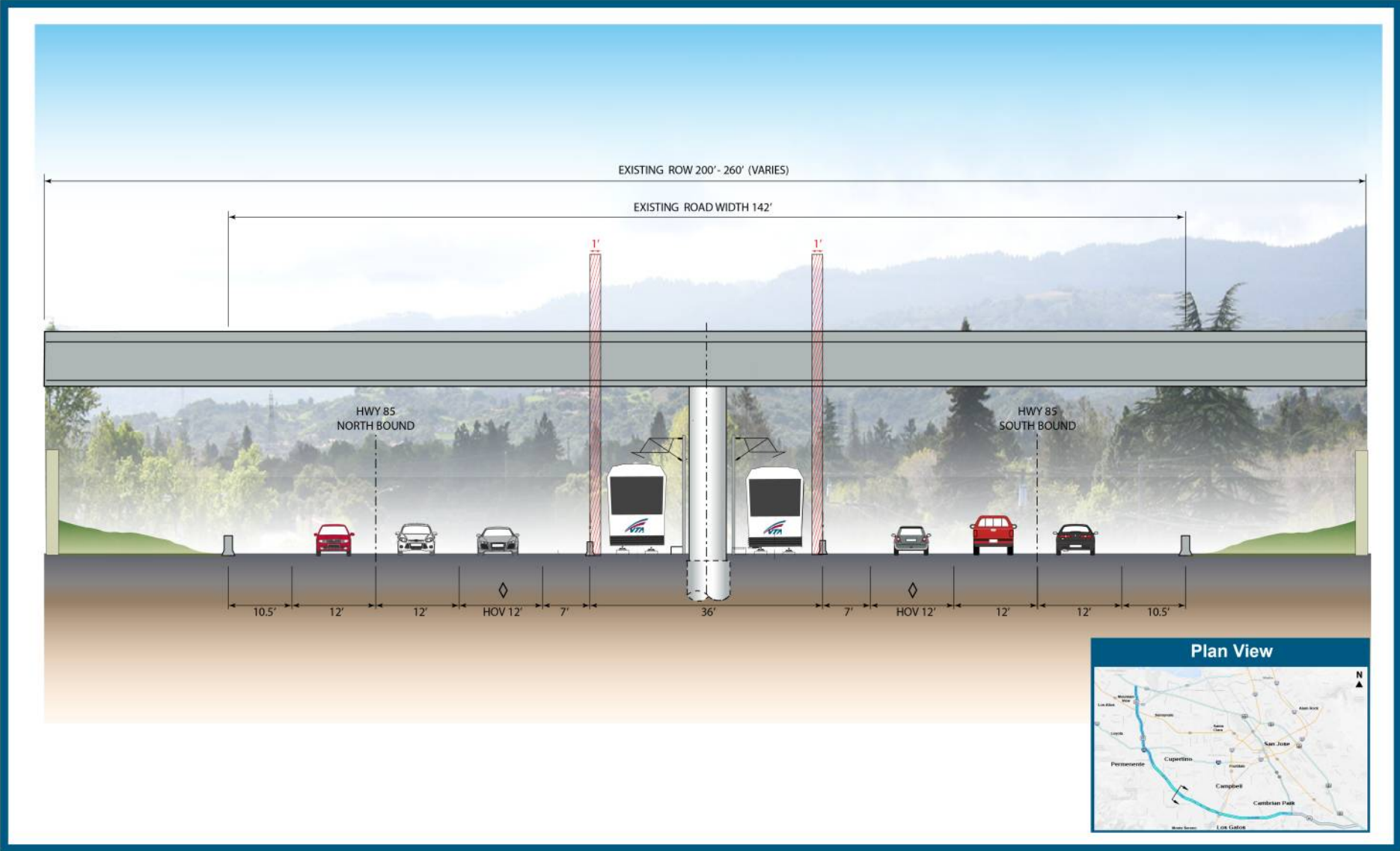
5B – Median Running LRT and Convert HOV Lanes with Express Lanes



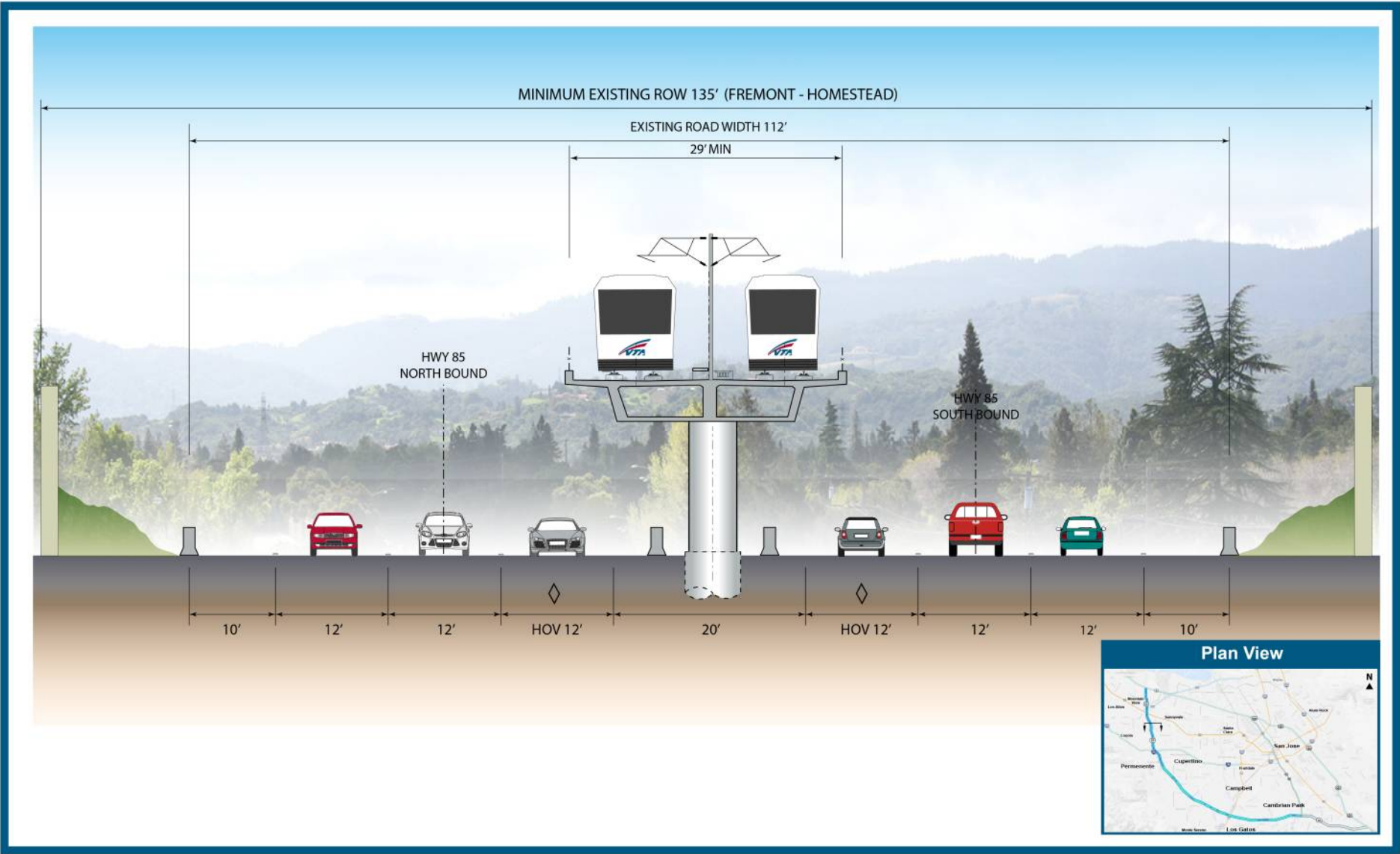
5A & 5B Cross-Section (South of I-280) At-Grade



5A & 5B Cross-Section (South of I-280) At-Grade Under Structures



5A & 5B Cross-Section (North of I-280) Aerial



Cost Detail

Transit Lane Alternatives (4A & 4B)



Category	Retain HOV	Replace HOV with Express Lane
1. Infrastructure	\$ 335 million	\$ 395 million
2. Vehicles	\$ 90 million	\$ 90 million
3. Professional Services	\$ 80 million	\$ 100 million
4. Contingency (40%*)	\$ 170 million	\$ 175 million
Total	\$675 million	\$760 million

* 40% contingency is not added to all categories/subcategories

Cost Detail

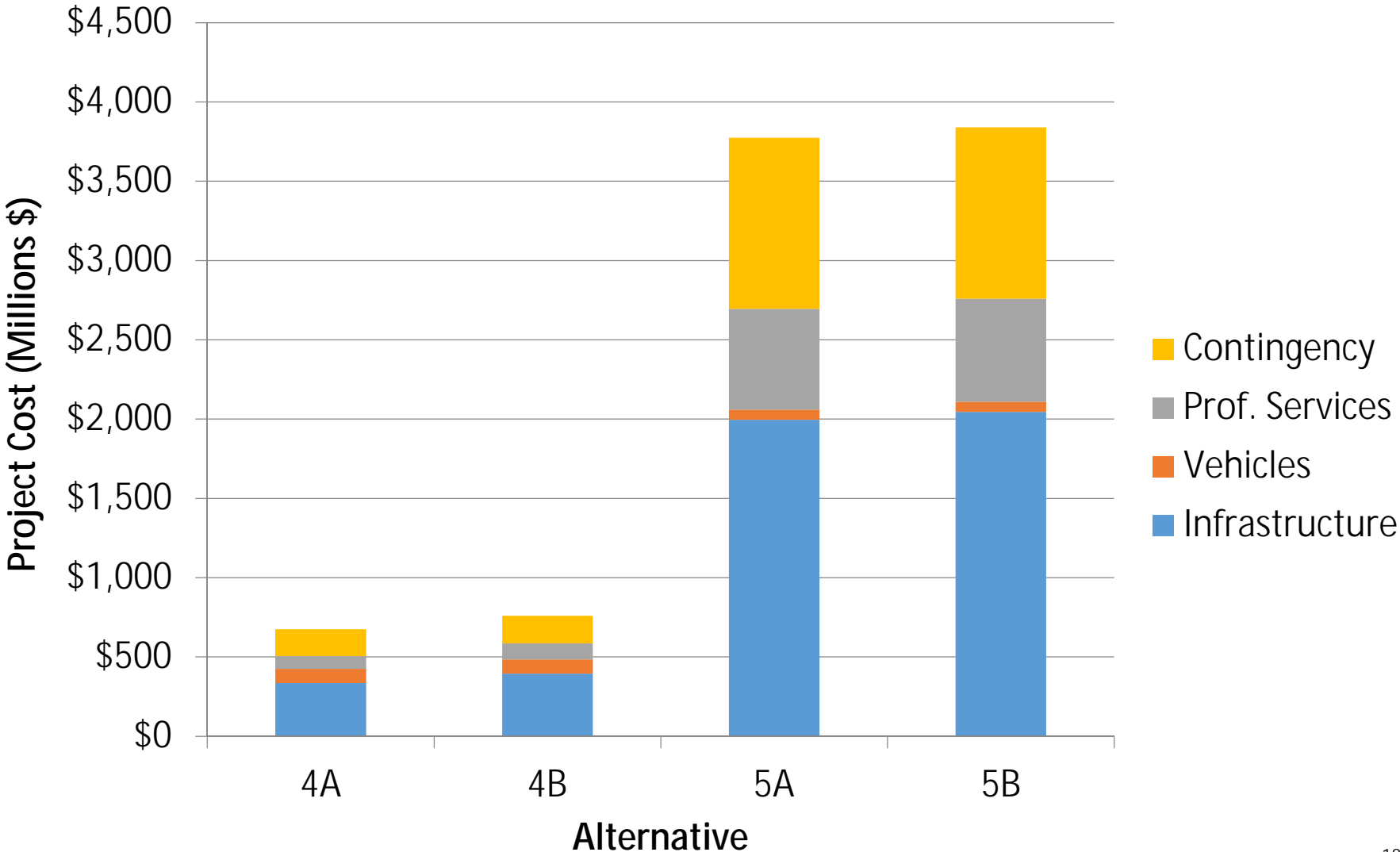
LRT Alternatives (5A & 5B)



Category	Retain HOV	Replace HOV with Express Lane
1. Infrastructure	\$ 1,995 million	\$ 2,045 million
2. Vehicles	\$ 65 million	\$ 65 million
3. Professional Services	\$ 635 million	\$ 650 million
4. Contingency (40%*)	\$ 1,080 million	\$ 1,080 million
Total	\$3,775 million	\$3,840 million

* 40% contingency is not added to all categories/subcategories

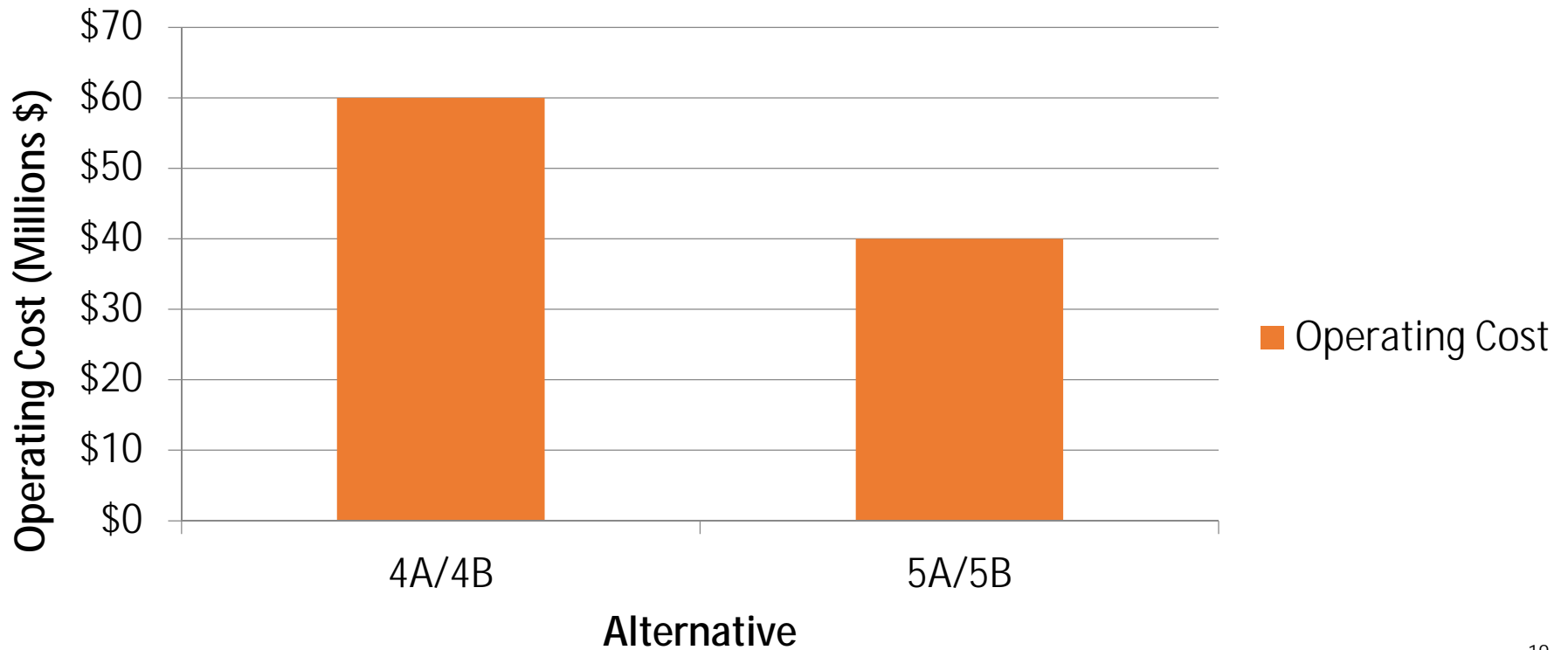
Alternative Capital Cost Summary



Operating Cost



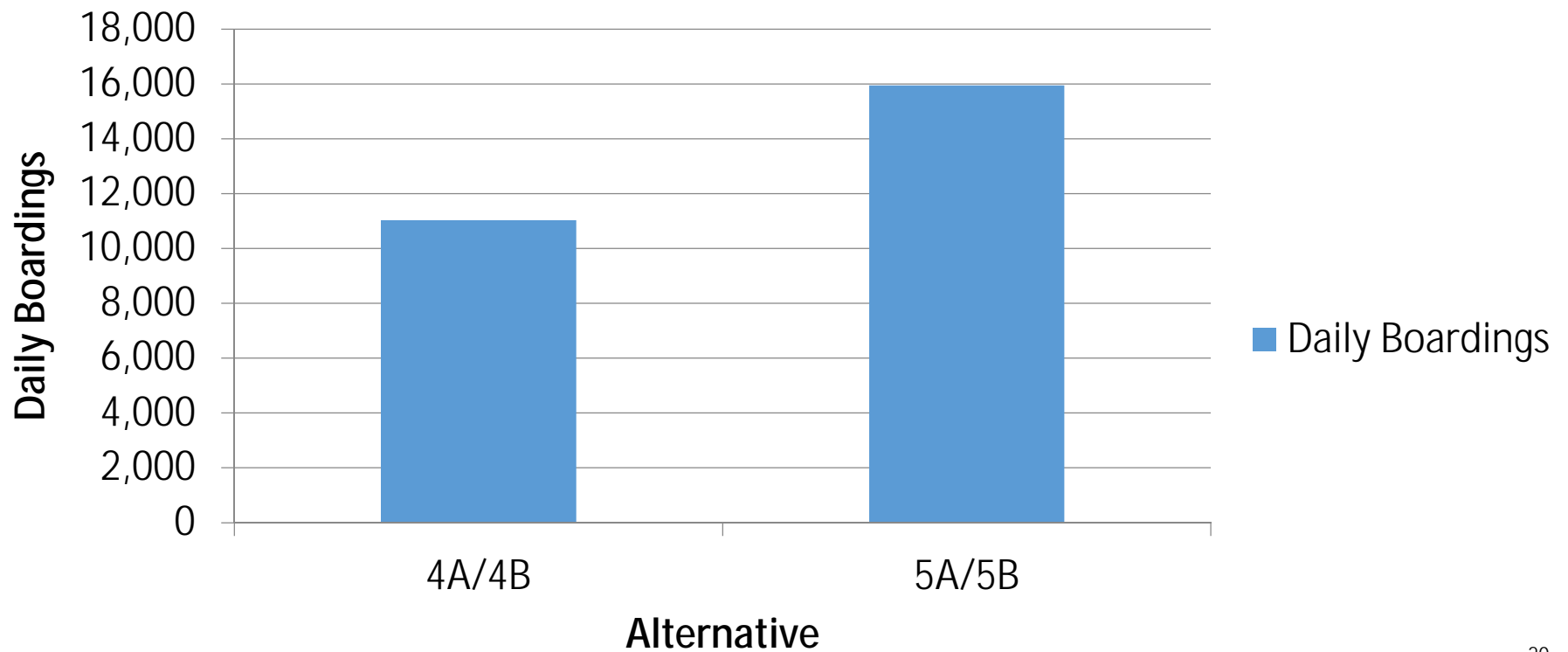
Alternative	4A	4B	5A	5B
Operating Cost	\$60 Million		\$40 Million	



Daily Ridership



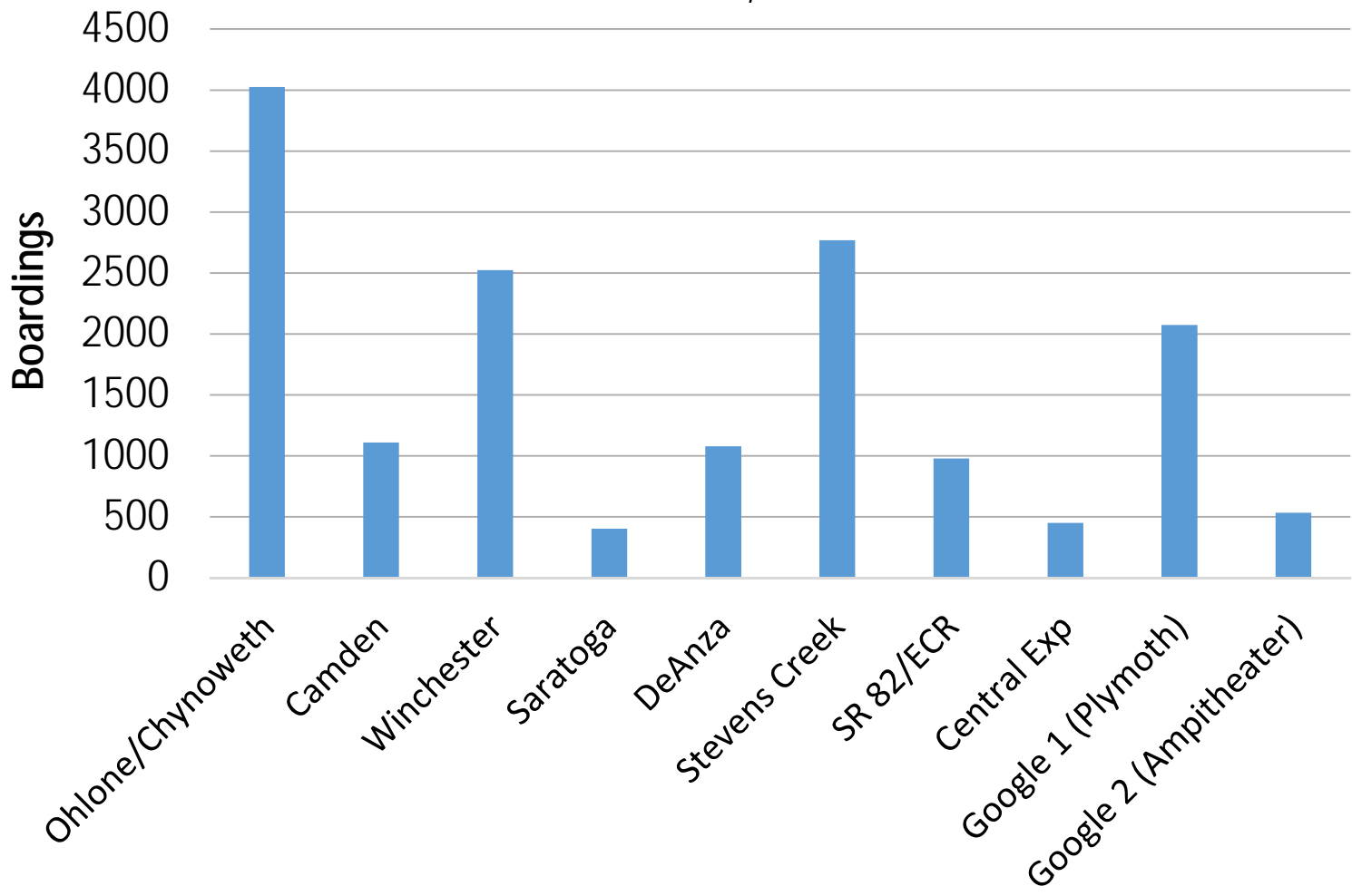
Alternative	4A	4B	5A	5B
Daily Boardings	11,000		16,000	



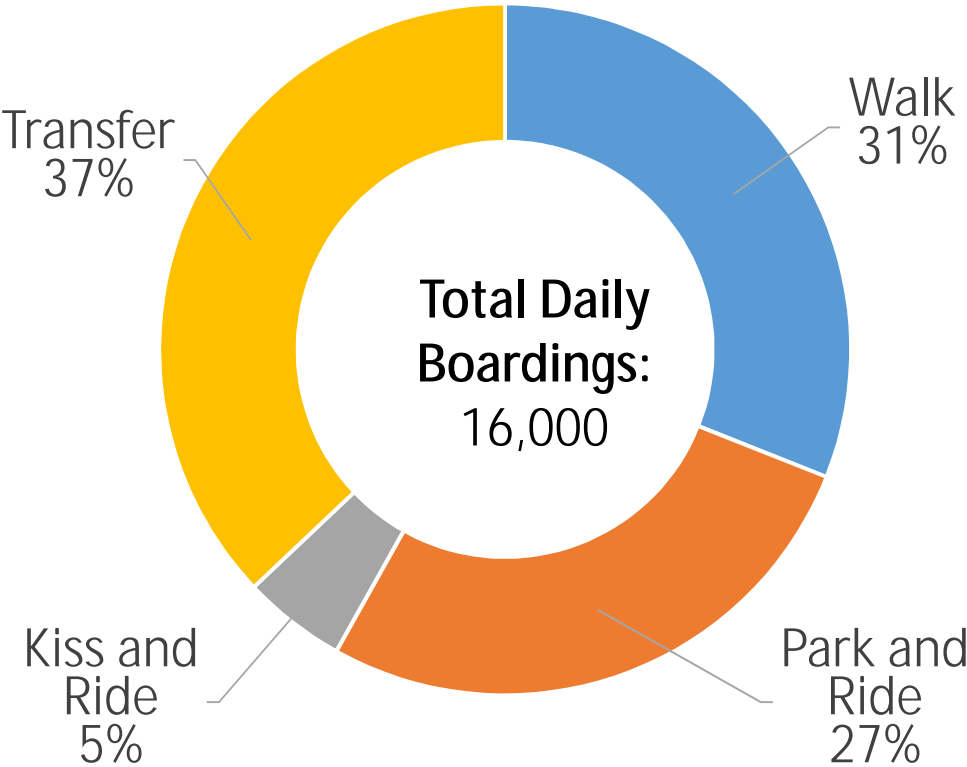
LRT Daily Boardings by Station – 2040



Total Daily Boardings:
16,000



Systemwide Mode of Access - 2040



Parking Assumptions

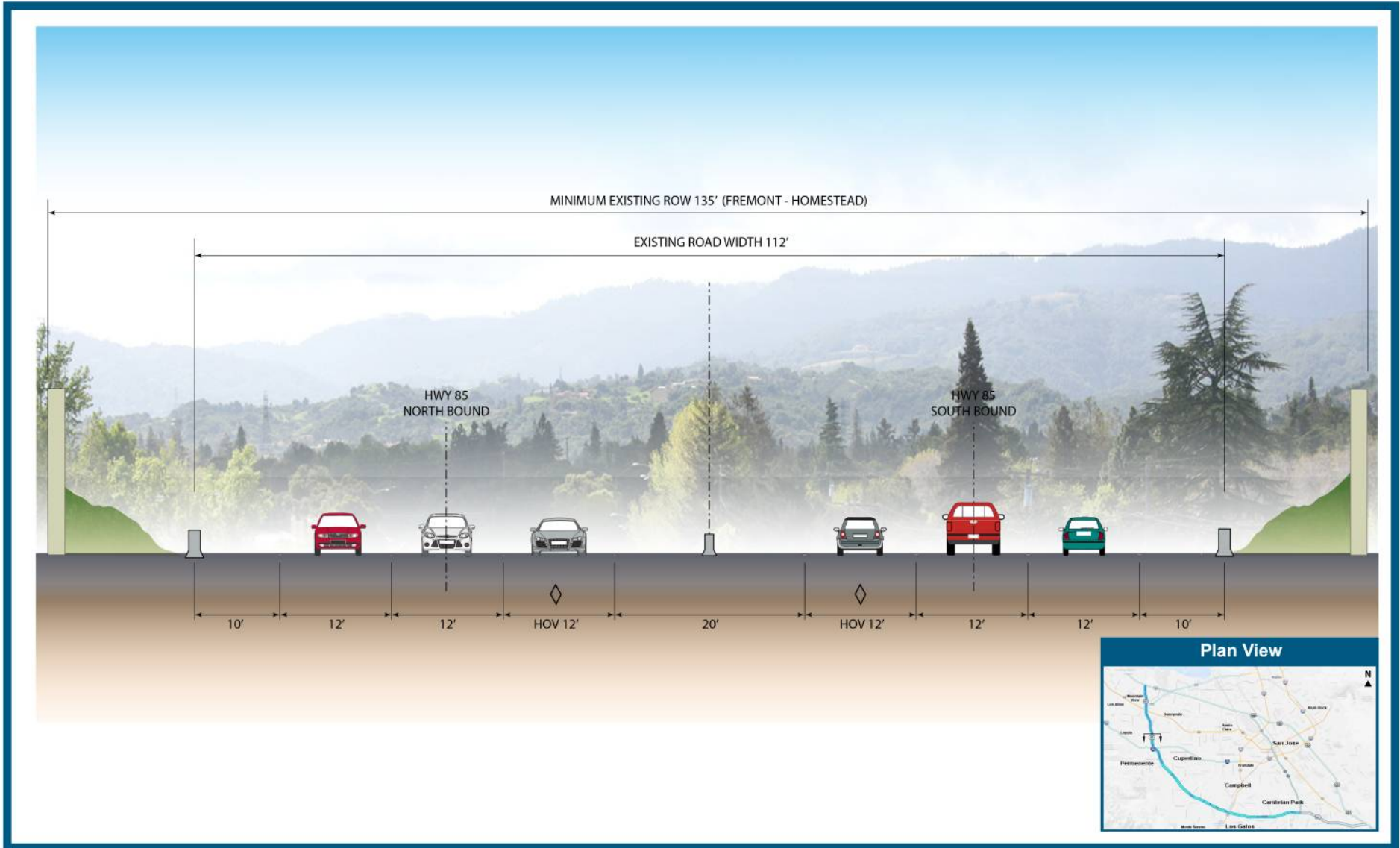


Station	Park & Ride Spaces	
	4A/4B	5A/5B
Ohlone/Chynoweth	N/A	360
Camden		430
Winchester		220
Saratoga		240
DeAnza		290
Stevens Creek		260
SR82/ECR		N/A
Central Expressway		
Google 1 (Plymouth)		
Google 2 (Amphitheater)		
Total	0	1,800



Thank You

Existing Cross-Section (North of I-280)



Cost Assumptions



Transit & LRT Alternatives

Local

- VTA SR 85 Express lane project
- VTA Build Alternative Two single Express Lane Alternatives
- Measure B Highway Expansion Programs (County of Santa Clara)
- Historical Data from local applicable projects

National

- RSMMeans Online Construction Data (various)

Transit Alternatives

National

- LADOT Short Range Transit Plan
- Minnesota DOT

LRT Alternatives

Southern California

- Metro Crenshaw/LAX Transit corridor Preliminary Engineering Costs
- Metro Regional Connector Transit Corridor Project
- Perris Valley Line (PVL) Metrolink extension for Riverside County

California

- California High Speed Train (CHST) 15% cost estimate



Date: April 19, 2016
 Current Meeting: April 25, 2016
 Board Meeting: N/A

BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
 State Route 85 Corridor Policy Advisory Board

THROUGH: General Manager, Nuria I. Fernandez

FROM: Director of Planning and Program Development, John Ristow

SUBJECT: Progress Report on SR 85 PAB Work Program

FOR INFORMATION ONLY

BACKGROUND:

The State Route 85 Corridor Policy Advisory Board (PAB) is conducting a Phase 1 Transportation Options Study to evaluate existing conditions, identify transportation options, evaluate them, and develop policy recommendations for the VTA Board of Directors. The work program for the Phase 1 study is structured to allow sufficient time to further develop transportation options that could be presented to the VTA Board of Directors in time for possible inclusion in the November 2016 Envision Silicon Valley ballot measure. Due to the extensive level of effort required to conduct the work program and the extremely short timeframe within which to do it, VTA staff will present a work program progress update at each PAB meeting.

DISCUSSION:

April 25, 2016 Meeting - Receive reports on 1) Transit Lane Alternatives, 2) Light Rail Transit Alternatives.

May 23 2016 Meeting - 1) Opportunity for staff to answer questions on the transit alternatives and perhaps present data on variations of those alternatives, 2) PAB Discussion/Action on advancing one or more alternatives to the VTA Board of Directors for inclusion in the *Envision Silicon Valley* ballot measure.

June 20, 2016 Meeting - 1) Status Report on VTA Board actions on Envision Silicon Valley projects, 2) Continuation of discussion regarding PAB recommendations to the VTA Board, if necessary, 3) Discussion of PAB work program for the remainder of 2016. For reference, a diagram of the original work program, with revisions, is shown as Attachment A.

Prepared By: Steven Fisher

Memo No. 5539

