

I-405 Freeway (OC Line to LAX) HOV to HOT Conversion Feasibility Study

Metro TAC Meeting

March 5, 2014



Study Background

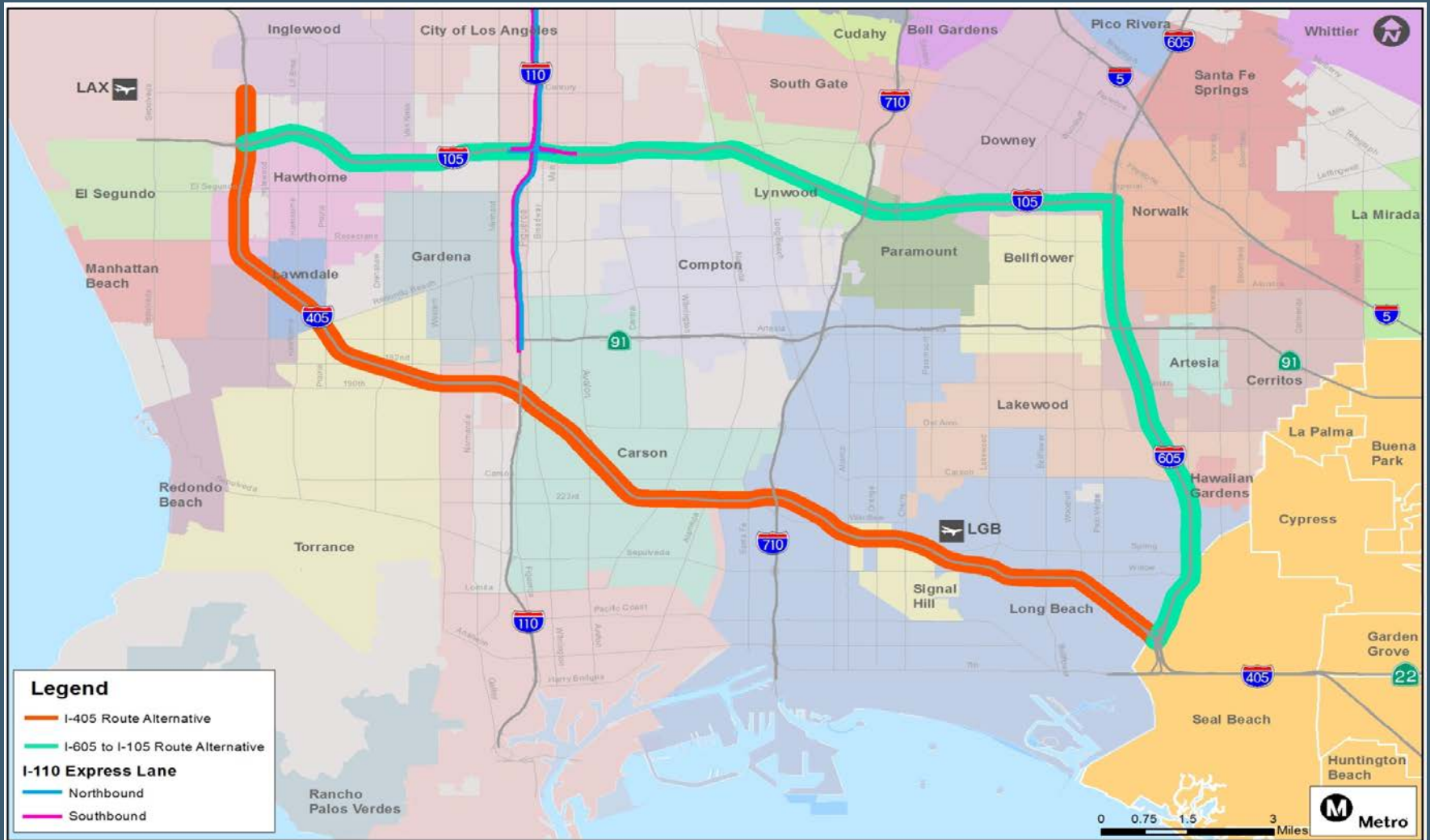
- Sept 2010 Motion by Directors Dubois, Knabe, & Villaraigosa:
 1. Evaluate LA County Traffic Impact of OCTA I-405 HOT Lane Project (completed)
 2. Review Environmental Impacts of OCTA I-405 HOT Lane Project (completed)
 3. Determine Feasibility of Extending OC I-405 HOT Lane from OC Line to LAX (Feasibility Study)

Study Objectives

- Provide Continuity with the OCTA/Caltrans I-405 Improvement Project;
- Address MAP-21 HOV Lane Degradation;
- Explore Feasibility of HOT/Express Lane Link Between OC Line to LAX;
- Improve Mobility and Choices for Carpoolers, Bus Riders and Motorists Willing to Pay Who Travel Between OC and LAX;
- Screen Up to Four Conceptual HOT Lane Alternatives;
- Estimate Traffic and Toll Revenues from HOV Lane Conversions and/or HOT Lane Additions; and
- Prepare Preliminary ConOps for Selected Alternative



Study Corridors



Conceptual Alternatives

- (Baseline) Alternative: SCAG 2012 RTP Baseline (Committed Improvements)
- Alternative 1 – I-405 Corridor Single HOT/Express Lane
- Alternative 2 – I-405 Corridor Dual HOT/Express Lanes
- Alternative 3 – I-605 (single) and I-105 (dual)HOT Lanes *without* Direct Connectors at NB I-605/WB I-105
- Alternative 4 – I-605 (single) and I-105 (dual)HOT Lanes *with* Direct Connectors at NB I-605/WB I-105

Screening and Evaluation

- Screen and evaluate four HOV to HOT conversion alternatives based on traffic and revenue performance, constructability and feasibility to meet Metro's LRTP goal of improved mobility
 - Qualitative assessment to validate corridors are candidates for HOT conversion and confirm there are no fatal flaws
 - Quantitative assessment of traffic and revenue modeling
 - Ranking and selection of build alternative to move forward into preparation of the Preliminary Concept of Operations based on Evaluation



Initial Screening and Evaluation

A. Screening Criteria

A. Degradation

B. HOV Utilization

B. Evaluation Criteria

A. Mobility

B. Constructability

C. Connectivity

D. Transit Potential

E. Revenue Potential

F. Minimize Environmental Affects

G. Construction Cost

Overall Ratings (HOV2+ Toll Free under Cost Minimization Scenario) – Consistent with Current HOV Occupancy Policies

Rank	Alternative	Cost (\$ mil)	Overall Score	Rating										
				Mobility	Constructability	Connectivity	Transit Potential	Revenue Potential	Environmental Considerations	Cost				
				1.0	2.0	3.0	4.0	5.0						
3	Alternative 1	\$88	3.4	Fair	Very Good	Good	Fair	Good	Fair	Very Good	Good			
4	Alternative 2	\$2,935-\$3,522	2.6	Very Good	Poor	Good	Fair	Very Good	Fair	Poor				
1	Alternative 3	\$134	3.9	Very Good	Very Good	Very Good	Excellent	Good	Good	Very Good				
2	Alternative 4	\$495*	3.8	Very Good	Very Good	Excellent	Excellent	Good	Good	Good				

*Includes \$350 million for cost of HOV connectors

-  Excellent
-  Very Good
-  Good
-  Fair
-  Poor



Overall Ratings (HOV3+ Toll Free under Cost Minimization Scenarios) – For Information Only, HOV3 Require Legislative Change

Rank	Alternative	Cost (\$ mil)	Overall Score	Rating						
				Mobility	Constructability	Connectivity	Transit Potential	Revenue Potential	Environmental Considerations	Cost
2	Alternative 1	\$88	3.3	●	●	○	◐	○	◑	●
4	Alternative 2	\$2,935-\$3,522	2.3	○	●	○	◐	◑	◐	●
1	Alternative 3	\$134	3.4	◐	◑	◑	●	●	○	◑
3	Alternative 4	\$495*	3.2	◐	◑	●	●	●	○	○

*Includes \$350 million for cost of HOV connectors

- Excellent
- Very Good
- Good
- Fair
- Poor



Overall Findings

- Alternative 1 is the least expensive and most constructible, but results in fair to moderate improvement in mobility, connectivity, transit potential and revenue.
- Alternative 2 has the highest revenue potential and strong mobility benefits, but requires significant widening at a cost of between \$2.9-\$3.5 Billion.
- Alternatives 3 and 4 provide very good mobility benefits, connectivity, and transit potential, but revenue potential is moderate; however, Alternative 3 can be easily implemented and at a reasonable cost.
- Alternative 4 primary benefit is the elimination of weaving and merging and enhanced system connectivity, but the total cost including connectors is high. Incremental cost to toll the



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Next Steps

- Prepare Preliminary ConOps Report
 - Refine Schematic Design
 - Operational Policies
 - Vehicle Eligibility
 - Tolling/Pricing
 - Business Rules

