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

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<th>Rank</th>
<th>Alternative</th>
<th>Cost ($ mil)</th>
<th>Overall Score</th>
<th>Mobility</th>
<th>Constructability</th>
<th>Connectivity</th>
<th>Transit Potential</th>
<th>Revenue Potential</th>
<th>Environmental Considerations</th>
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*Includes $350 million for cost of HOV connectors

**Legend:**
- Excellent
- Very Good
- Good
- Fair
- Poor
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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 connectors is minimal.
Next Steps

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