Developing Validation Standards for San Francisco’s DTA Model

Presented by:
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Background

- SFCTA – Base network, guidance & review
- Consultant (Fehr & Peers) – improvements & simulation
- No DTA validation standards
Past validation thresholds

<table>
<thead>
<tr>
<th>BETTER MARKET STREET DTA VALIDATION THRESHOLDS</th>
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<tbody>
<tr>
<td>Validation Measure</td>
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<td>Model Volume-to-Demand Ratio (Sum of all Locations)</td>
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<td>Percent of Links within Caltrans Deviation Allowance</td>
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<td>Percent Root Mean Square Error</td>
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<td>Correlation Coefficient</td>
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Source: Fehr & Peers, 2015

- Additional measures
  - Model convergence
  - Sim v. observed by time step
  - Sim v. observed by facility type
  - Sim v. observed by geography
  - “Interoptical” test
  - Sensitivity testing
Considerations

- **Modeling Objectives**
  - Stable assignments
  - Simulated conditions match observed
  - Temporal progression appropriate
  - Sensitivity tests intuitive
  - Meet regulations and requirements

- **Complicating factors**
  - Varying network size
  - Levels of congestion
  - Project purpose and needs

- **Demonstrate DTA value**
Growing data availability
Game plan

• Try everything
  • Leverage new data sources

• Works backwards
  • Start with reasonable model
  • Make it unreasonable
  • What changed?

• Standardize areas of interest
  • Where does traffic divert w/out links?
  • What are alternate paths for key ODs?

• Test alternate statistics
  • How does fit change over time?
Thank You!

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