Time of Day Modeling

presented to
MTF Model Advancement Committee

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Agenda

- Study Background
- Proposed Modeling Approach
- Data Needs
- Schedule
Study Background

- MTF priorities survey
  - Eleven short term priorities
  - Surveyed MTF mailing list ~ 200 members
  - 45 completed responses

- Incorporating Time of Day (TOD) into FSUTMS found to be the highest priority

- MTF leadership tasked Florida DOT to develop scope of work to incorporate TOD into FSUTMS
Study Background

- Generation
  - Time of Day
- Distribution
  - Time of Day
- Mode Choice
  - Time of Day
- Assignment
Proposed Modeling Approach

- Florida DOT research report is basis for implementation

- Major objectives include
  - Develop procedures to implement TOD into the FSUTMS framework
  - Develop econometric models that account for passive and active peak spreading
  - Implement TOD into the FSUTMS framework

- Two phase process
Proposed Modeling Approach

- Phase 1, Task 1 – Implementation of Constant TOD Factors
  - Use 2008 NHTS data for peak period and peak hour factors
  - Guidance to calibrate TOD factors
  - Document issues and propose solutions with using constant TOD factors
  - Task outcome – TOD factors for the peak period and peak hour that MPOs can use for daily modeling needs
Proposed Modeling Approach

- Phase 1, Task 2 – Understand, develop and identify data elements for an econometric model-based approach
  - Develop methodology for incorporating an econometric model into FSUTMS
  - Identify data elements from the NHTS and other data sources for model development
  - Develop model specifications
  - Develop empirical methods to relate reported travel time to model derived peak and off-peak skims
  - Identify and propose solutions for model transferability
Proposed Modeling Approach

- **Phase 1, Task 3 – Development of empirical methods to compute travel time skims**
  - Synthesize travel time for large number of time periods
  - Feasibility of using STEWARD database

- **Phase 2, Task 1 – Estimate and Calibrate TOD econometric models**
  - Estimate and calibrate TOD econometric models
  - Methods to transfer parameters to meet local needs
Proposed Modeling Approach

- **Phase 2, Task 2 – Implementation of TOD econometric models into FSUTMS**
  - Implement econometric models into FSUTMS framework and test it with one test model
  - Test how well model transfers from one area to another and test model’s sensitivity

- **Phase 2, Task 3 – Final Report and Model Code**
  - Final report will be designed to serve as a self study reference guide
  - Florida DOT will have the final model code
Data Needs

- Travel Time data
  - From NHTS
  - From Models

- Socioeconomic data
  - From NHTS

- Historical Count Data
  - From Florida DOT Transportation Statistics Office
Schedule

- Phase 1 – Complete by December 2010
- Phase 2 – Starts July 2010 and completes June 2011