

Time of Day Modeling

presented to

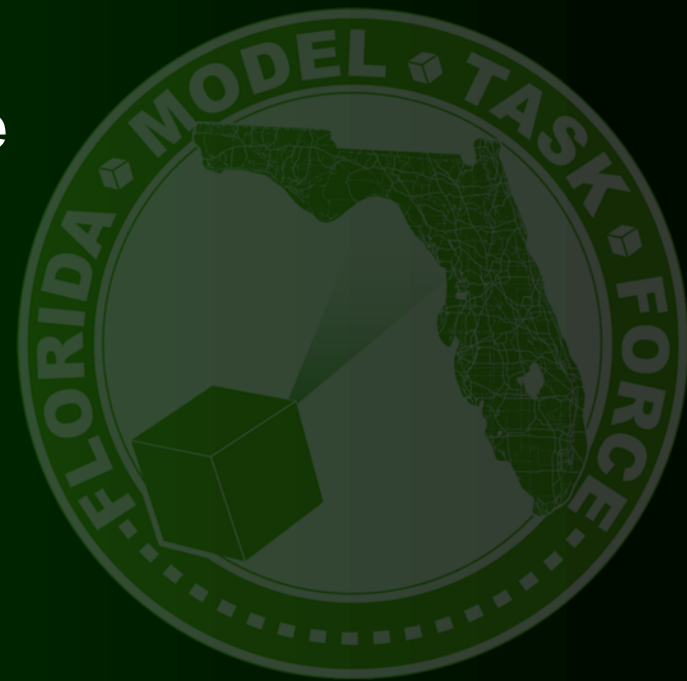
MTF Model Advancement Committee

presented by

Krishnan Viswanathan

Thomas Rossi

November 9, 2009





Agenda

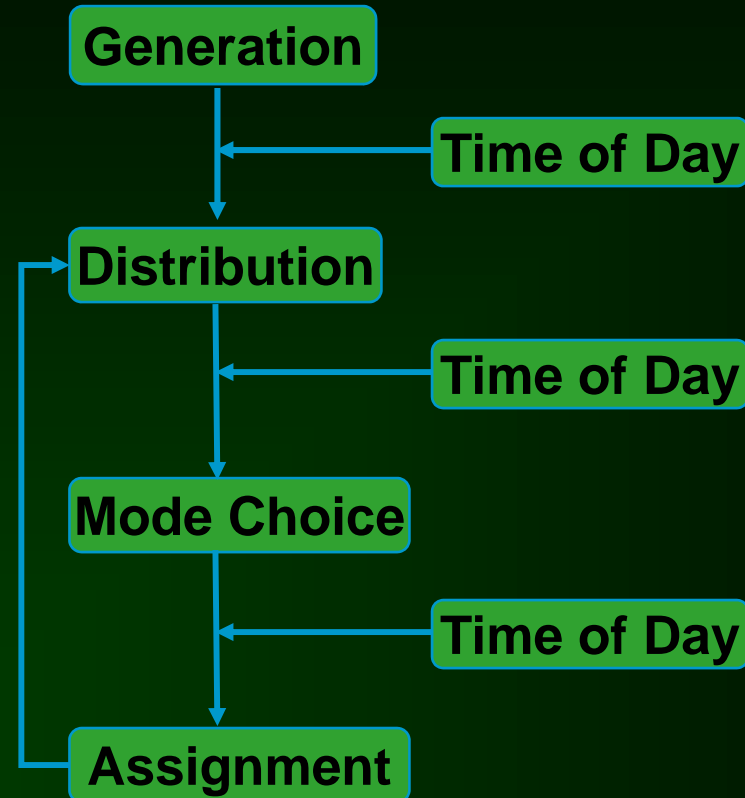
- Study Background
- Proposed Modeling Approach
- Data Needs
- Schedule



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





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