Transit Model Update

presented to
MTF Rail & Transit Committee

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Project Objectives

• Improve the preparation of transit demand forecasts in Florida to a point consistent with State and federal expectations
• Incorporate state of the practice techniques and tools in FSUTMS through a prototype model application
**Project Scope**

- Recommend model specification updates
  - model structure, parameters, market segmentation
- Demonstrate recommendations through development of a prototype model
- Document best practice guidelines for:
  - on-board rider survey synthesis of practice
  - model calibration and validation
  - user benefit analysis
  - quality control
- Develop and deliver ‘Case for the Project’ workshops

**Products**

- Model update recommendations:
  - Technical memo for each proposed enhancement
  - Presentations (including workshop at the last MTF)
- Case for the Project Workshops
- Best practice guideline documents
  - on-board rider survey synthesis of practice
  - model calibration and validation
  - user benefit analysis
  - quality control
Products

- Software and Applications
  - USERBENC
  - PT functions/options
  - CRTPA and Olympus prototype model application
- Training
  - Transit Model Update Webinar
  - Comprehensive Model Course
  - Transit Modeling Course
  - Model Calibration Course (forthcoming)
- Reports available online at FSUTMS website
  [http://www.fsutmsonline.net/index.php?/transit_modeling/comments/transit_model_update_project](http://www.fsutmsonline.net/index.php?/transit_modeling/comments/transit_model_update_project)

Moving into Implementation

- Why a transit model update?
- What to update, when to update?
  - Integration into current model applications
  - Phasing
  - Timing within schedule of regular MPO activities
- Implications for non-transit applications
- Support and training
  - Available scripts, best practice guidelines
  - Staff training
  - On-call support
Model Update Recommendations

- Improved Voyager PT functionality
- Additional trip market segmentation
- Implement auto availability choice model
- Implement destination choice models for trip distribution
- Updated mode choice parameters
- Implement travel time feedback

Better Identify Transit Markets

Model Update Recommendations

- Improvements are modular
- Implementation can be selective or phased: choose only the modules that are most applicable to a region or particular study
- Phased implementation may simplify integration with current models, particularly if done in-house
- Schedule of implementation can be timed with on-going MPO planning activities
  - to support specific studies
  - to support long range planning
Example 1

Travel time feedback and time of day segmentation

- Better identification of peak period (commute) and off-peak markets
- Consistency between supply and demand assumptions / outcomes

Example 2

Auto availability and mode choice segmentation

- Better identification of captive and choice riders
Example 3

Detailed trip purpose segmentation

- Better identification of important transit markets:
  - commute
  - college/university
  - midday

Overall Model Implications

- All the proposed transit model improvements will have some impact on highway forecasts
- Greater impact due to:
  - destination choice
  - travel time feedback
  - market stratification
- Anticipate the need to re-validate the highway assignments
Available Resources

- Scripts, tested as part of CRTPA and Olympus models
- Central office embedded staff support
- Best practices documentation
- Training webinars and courses
  - Transit Model Update Webinar
  - Comprehensive Model Course
  - Transit Modeling Course
  - Model Calibration Course (forthcoming)