

# Model Task Force Priorities Survey

*presented to*

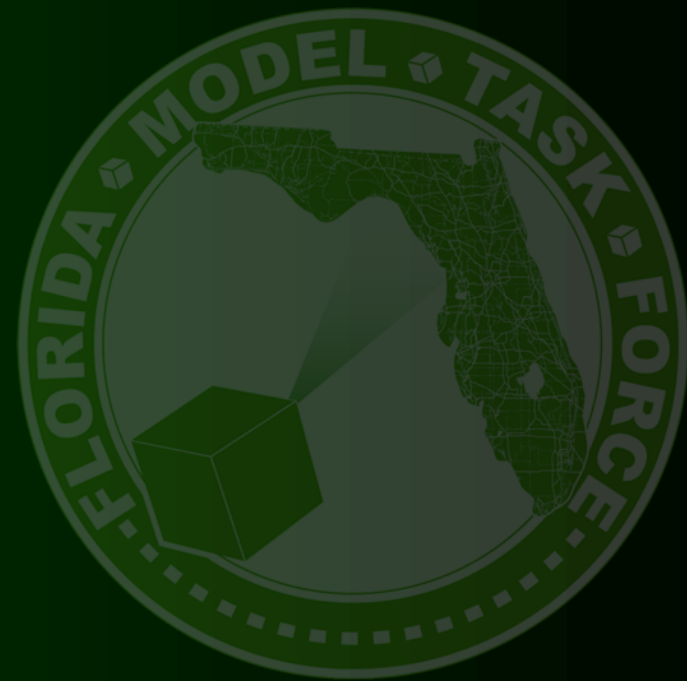
**Model Task Force Meeting**

*presented by*

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# MTF Priorities Survey

- Background
- Background Outcomes
- Purpose of the survey
- Implementation
- Questionnaire Design
- Respondent Characteristics
- Results
- 1 ● Survey Summary



## Background

- **MTF Tri-Chairs met in September 2008**
- **Tri-chairs' consensus: MTF efforts to improve modeling practices should focus on:**
  - Transit New Starts projects
  - LRTP updates
  - Growth management issues
- **MTF leadership met again in December 2008 to prioritize MTF needs**
  - Each of the committees summarized the meetings they held in October and November of 2008 to discuss their priorities





# Background

## Ongoing Efforts

- **On-going efforts were discussed at the December 2008 meeting**
  - **Activity Based Modeling (ABM)**
    - ABM in development in Tampa
    - FDOT reviewed AB models from around the country
    - FDOT ongoing research on population synthesizers available around the country
  - **NHTS**
    - Data expected in October 2009
    - MPOs and FDOT districts to decide on transferability of NHTS data depending on age of surveys, sample size and area size
  - **Transportation Networks**
    - Models are transitioning to GIS networks for more accurate representation





# Background

## Model Advancement Committee Priorities

- AB model review
- Tampa Bay ABM as large sized model test case for FL
- Maintain valid 4-step model in parallel to development of an ABM





# Background Transit Committee Priorities

- Transit surveys to meet FTA standards
- Time of day models necessary for improving transit modeling
- Geocoding, survey methodology, and minimizing expansion error are key issues
- Include Time of day component to standard FSUTMS package



# Background Data Committee Priorities

- Update TAZs based on 2010 census in 2011
- Quarterly Census of Employment and Wages (QCEW) data for employment
- How to use NHTS data for LRTP updates



## Background GIS Committee Priorities

- Standardize geodatabase
- Model visualization tools
- LOS Calculator and network comparison tools
- GIS One Map concept



## Background

### MPO, State and Federal Activities

- Since 2002, projected shortfall between needs and revenues almost doubled
- MPOAC method to handle year-of-expenditure dollars in five year increments
- MPOAC revisiting climate change and air quality modeling as a result of new ozone nonattainment designation





## Background

# Travel Models : Emerging Issues and Future Directions

- Need quantifiable tools to get ITS reliability
- ABM requires dynamic data
- Value demonstration of new technologies such as ABM and Dynamic Traffic Assignment (DTA) need to take place
- Dynamic network models to better represent congestion
- DTA Deployment issues



# Background

## Future Research Efforts

- **Freight and Goods Movement modeling**
  - Lack of true understanding of freight and commercial vehicles
- **Sensitivity to Land Use**
  - Impacts of changing land use on the modeling process
  - Need to integrate land use and transportation to account for the impacts of one on the other
- **Integration of traffic simulation modeling with travel demand modeling**
  - Modelers get asked about operational impacts of geometry changes



# Background

## Future Research Efforts

- **Assessment of alternative traffic assignment techniques**
- **Model run time issues and how to address them**
  - Who are model users
- **Improvements to PCWalk Tool**
- **Support MPOAC and develop quantifiable performance measures for project selection in LRTP**



## Background Outcomes

- **Developed list of 50 priorities and identified short-term and long-term priorities**
- **Selected 11 short-term priorities**
- **Conducted MTF membership (voting and non-voting) survey to determine highest short-term priorities for resource allocation**



## Survey Purpose

- **Increased mandates from stakeholders**
- **Need to meet increasing demands with limited resources**
- **Take advantage of theoretical and practical advances in travel demand modeling**
  - **How to fit these advances into FSUTMS framework in the short and long term**
- **Gauge public opinion on resource allocation among the 11 short term priorities developed by the MTF leadership**

# Short Term Priorities

1. Development of model application and post-processing tools for **Air Quality and ITS** evaluation in the FSUTMS framework
2. Incorporating **freight and goods movement** capabilities in urban/regional models and information exchange with the statewide freight model
3. **Land use** and transportation model integration
4. Review and post process **National Household Travel Survey (NHTS)** data for use in the next LRTP update cycle and Activity based models (ABMs)
5. Research and potential integration of **Dynamic Traffic Assignment (DTA)** into the FSUTMS framework

# Short Term Priorities

6. Research potential implementation of **activity-based modeling** into the FSUTMS framework
7. **Speed data collection** beyond the traditional data collection done by the statistics office (e.g., incorporating cell phone tower data, etc.)
8. Incorporate **time-of-day modeling** into the FSUTMS framework
9. Develop standards for **transit data collection** (surveys and counts) to meet FTA **New Starts** requirements
10. **Transportation networks** (establish new standards based on new Cube **GIS** geodatabase framework, etc.)
11. **Advanced toll modeling** addressing congestion pricing and HOT-lane issues





# Survey Implementation

- **Purpose – To identify the highest priority items**
- **Survey of Florida modeling community**
- **Online implementation**
  - **Inexpensive and widespread**
  - **No post processing**

# Questionnaire Design

- Guiding principle- Keep it simple
- Type of Employer
- Respondents rate each priority with only one rank
- Respondents also asked to expand on top three priorities

### MTF Priorities Survey of Florida Modelers

The purpose of this survey is to help identify priorities for the Florida Model Task Force over the next few years. Results from this survey will be considered in resource allocation decisions. Thank you for your assistance. For questions or more information, please e-mail [Diana Fields](mailto:Diana.Fields@fdot.com).

**1) What is your job title?**

**2) Who are you employed by?**

- Metropolitan Planning Organization (MPO)
- Florida Department of Transportation (FDOT)
- Other Government
- University/Research Institution
- Consulting Firm
- Other (please specify)

If you selected other, please specify:

**3) Please rank the following 11 Model Task Force priorities for the next three years. Rank them from 1 to 11 with 1 having the highest priority and 11 the lowest priority. Please do not give the same rank to different priorities.**

- Development of model application and post-processing tools for Air Quality and ITS evaluation in the FSUTMS framework
- Incorporating freight and goods movement capabilities in urban/regional models and information exchange with the statewide freight model
- Land use and transportation model integration
- Review and post process National Household Travel Survey (NHTS) data for use in the next LRTP update cycle and Activity based models (ABMs)

Research and potential integration of Dynamic Traffic Assignment (DTA) into the FSUTMS framework   
Research potential implementation of activity-based modeling into the FSUTMS framework   
Speed data collection beyond the traditional data collection done by the statistics office (e.g., incorporating cell phone tower data, etc.)   
Incorporate time-of-day modeling into the FSUTMS framework   
Develop standards for transit data collection (surveys and counts) to meet FTA New Starts requirements   
Transportation networks (establish new standards based on new Cube GIS geodatabase framework, etc.)   
Advanced toll modeling addressing congestion pricing and HOT-lane issues

**4) Of your top 3 priorities, please specify exactly what you are looking to see accomplished, why, and when:**

Priority #1:

Priority #2:

Priority #3:

**5) Other comments?**





## Respondent Characteristics

- **Online Survey conducted – May 2009**
- **45 complete responses**
- **17 respondents from Public sector**
  - **Five are Florida DOT employees**
  - **10 were MPO employees**
  - **2 were transit agency employees**
- **27 respondents from private sector**
- **One respondent from academia**

# Survey Summary

Priority	N	Mean	Median
Incorporate time-of-day modeling into the FSUTMS framework	45	4.13	3
Land use and transportation model integration	45	4.93	4
Advanced toll modeling addressing congestion pricing and HOT-lane issues	45	5.13	4
Review and post process National Household Travel Survey (NHTS) data for use in the next LRTP update cycle and Activity based models (ABMs)	45	5.33	5
Develop standards for transit data collection (surveys and counts) to meet FTA New Starts requirements	45	5.91	6
Transportation networks (establish new standards based on new Cube GIS geodatabase framework, etc.)	45	5.91	6
Development of model application and post-processing tools for Air Quality and ITS evaluation in the FSUTMS framework	45	6.02	6
Incorporate freight and goods movement capabilities in urban/regional models and information exchange with the statewide freight model	45	6.22	6
Research potential integration of Dynamic Traffic Assignment (DTA) into the FSUTMS framework	45	6.84	7
Research potential implementation of activity-based modeling into the FSUTMS framework	45	6.91	8
Speed data collection beyond the traditional data collection done by the statistics office (e.g., incorporating cell phone tower data, etc.)	45	7.13	7





# Top Seven Priorities

- **Time-of-day Modeling**
- **Land Use Integration with Transportation Models**
- **Advanced Toll Modeling**
- **NHTS Data Processing and Analysis**
- **Transit Data Collection (Federal New Starts funding)**
- **Transportation Network Standards (GIS)**
- **Post-processing Tools such as Air Quality and ITS**



## Florida DOT Plans

- **FDOT Central Office will develop new scopes of work for the following three tasks:**
  - Land use and transportation model integration
  - Time-of-day modeling
  - Advanced toll modeling procedures
- **Work in progress**
  - NHTS data processing
  - Air Quality Post Processor
  - FSUTMS GIS Network standards
- **Help establish statewide guidance for local regions on how to develop and implement on-board transit surveys**