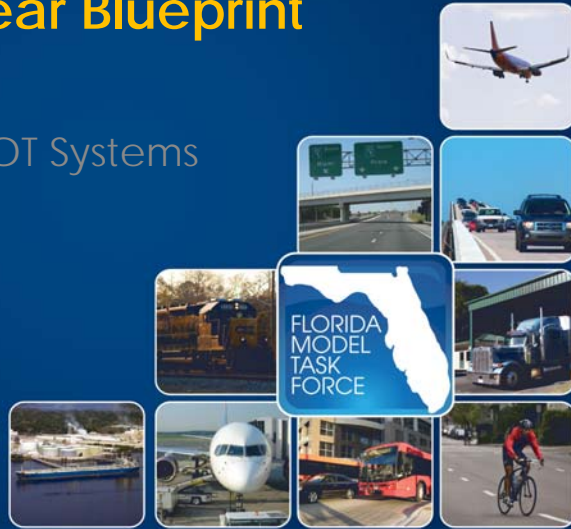


Florida Travel-Demand Forecasting: Five-year Blueprint

Terry Corkery, FDOT Systems Planning Office

June 18, 2013



History



- **Sept 2008:** New FDOT Modeling Manager Vidya Mysore and MTF tri-chairs direct all committees to develop short-term (3-yr) priority topics
- **Dec 2008:** Tri-chairs and committee chairs meet in Orlando to develop MTF priorities list
 - 50 focus areas
 - Consolidated down to 11 major topics



History (cont'd)

- May 2009: Survey of FL modeling community identifies 7 top 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 [glenn@fldot.com](#).

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

2) How are you employed by?

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

3) Please rank the following **11 model-related** 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)
- Advanced toll modeling addressing congestion pricing and HOT-lane issues
- Transportation networks (establish new standards based on new Cube GIS geodatabase framework, etc.)
- Develop standards for transit data collection (surveys and counts) to meet FTA New Starts requirements
- Incorporate time-of-day 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.)
- Research potential implementation of a activity-based modeling into the FSUTMS framework
- Research and potential integration of Dynamic Traffic Assignment (DTA) into the FSUTMS framework

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? _____

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May 2009 Survey Results



- Advanced toll modeling addressing congestion pricing and HOT-lane issues
- Transportation networks (establish new standards based on new Cube GIS geodatabase framework, etc.)
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- Research and potential integration of Dynamic Traffic Assignment (DTA) into the FSUTMS framework
- Review and post process National Household Travel Survey (NHTS) data for use in the next LRTP update cycle and Activity based models (ABMs)
- Land use and transportation model integration
- Incorporating freight and goods movement capabilities in urban/regional models and information exchange with the statewide freight model
- Development of model application and post-processing tools for Air Quality and ITS evaluation in the FSUTMS framework

Priority	Private Sector Median Rank	Public Sector Median Rank
Advanced toll modeling addressing congestion pricing and HOT-lane issues	4	5
Transportation networks (establish new standards based on new Cube GIS geodatabase framework, etc.)	5	7
Develop standards for transit data collection (surveys and counts) to meet FTA New Starts requirements	6	6
Incorporate time-of-day modeling into the FSUTMS framework	2.5	5
Speed data collection beyond the traditional data collection done by the statistics office (e.g., incorporating cell phone tower data, etc.)	6.5	7
Research potential implementation of a activity-based modeling into the FSUTMS framework	7.5	8
Research and potential integration of Dynamic Traffic Assignment (DTA) into the FSUTMS framework	7	7
Review and post process National Household Travel Survey (NHTS) data for use in the next LRTP update cycle and Activity based models (ABMs)	5	6
Land use and transportation model integration	3	5
Incorporating freight and goods movement capabilities in urban/regional models and information exchange with the statewide freight model	6.5	5
Development of model application and post-processing tools for Air Quality and ITS evaluation in the FSUTMS framework	7	6

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May 2009 Survey Results



RANK	PUBLIC SECTOR	PRIVATE SECTOR
1	Land use and transportation model integration	Incorporate time-of-day modeling into the FSUTMS framework
2	Incorporate time-of-day modeling into the FSUTMS framework	Advanced toll modeling addressing congestion pricing and HOT-lane issues
3	Develop standards for transit data collection (surveys and counts) to meet FTA New Starts requirements	Review and post process National Household Travel Survey (NHTS) data for use in the next LRTP update cycle and Activity based models (ABMs)
4	Development of model application and post-processing tools for Air Quality and ITS evaluation in the FSUTMS framework	Land use and transportation model integration
5	Review and post process National Household Travel Survey (NHTS) data for use in the next LRTP update cycle and Activity based models (ABMs)	Transportation networks (establish new standards based on new Cube GIS geodatabase framework, etc.)

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Overall Top Seven Priorities

	Top 5 Public	Top 5 Private
• Time-of-day Modeling	★	★
• Land Use/Transportation Model Integration	★	★
• Advanced Toll Modeling		★
• NHTS Data Processing and Analysis	★	★
• Transit Data & Analysis (New Starts Funding)	★	
• Transportation Network Standards (GIS)		★
• Post-processing Tools (Air Quality and ITS)	★	






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Current Status




- **2010-2013** activity period
 - Research completed
 - Products developed
 - Work in progress
 - New focus areas in response to Florida’s needs

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Progress Report



- ✓• Time-of-Day Modeling
- ✓• Land Use and Transportation Model Integration
- ✓• Advanced Toll Modeling
- ✓• National Household Travel Survey
- ✓• Transit Model Upgrade
- ✓• Transportation Networks/GIS Standards
- ✓• Post-processing Tools


REMAINDER OF TOP 11 PRIORITIES

- ✓• Freight and Goods Movement
- ✓• Activity-based Modeling
- ✓• Speed Data and Analysis
- ✓• Dynamic Traffic Assignment





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Progress Report



- Time-of-Day Modeling
 - Time-of-Day Choice Model ✓
 - AB Model Development
- Land Use and Transportation Model Integration
 - Research (Cellular Automata, FSUTMS Land Use Model Framework) ✓
 - SWM implementation July 2013
- Advanced Toll Modeling
 - Multi-Server Queuing, Ramp-to-Ramp Tolling ✓
 - Open-road Tolling
- 2009 National Household Travel Survey
 - Results Distributed 2011 ✓
 - Data Analysis Research, Lessons Learned ✓
 - 9 – Florida Travel Survey Program




Progress Report (cont'd)




- Transit Model Upgrade
 - Developed with FTA assistance ✓
 - Guidance on conducting transit surveys ✓
- Transportation Networks/GIS Standards
 - MIXS database ✓
- Post-processing Tools
 - FITSEval ✓
 - Air Quality ✓
- Freight and Goods Movement

REMAINDER OF TOP 11

 - Supply-chain Statewide Freight Model
 - Transearch Commodity Flows
 - 10 – ATRI Truck Flows




Progress Report (cont'd)




- Activity-based models
 - SHRP 2 C10A (Jacksonville)
 - Integrated Advanced Travel Demand Model and Fine-Grained, Time-Sensitive Network
 - Regional AB model implementation

• Northeast	District 2
• Tampa Bay	District 7
• Southeast	District 4&6
• Treasure Coast (AB Lite)	District 4
- Speed Data and Analysis
 - Volume-Delay Function Research
- Dynamic Traffic Assignment
 - DTA Tool for Current Models Research



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Major Emerging Topics




Over the next several years FDOT expects to focus on:

- **Managed/Express Lanes** – Improving mobility and capacity
- **Future Corridors (tolled)** – Long distance travel for business & tourists/visitors
- **Freight & Urban Goods Movement** – Improving mobility, connectedness and reliability

Other Needs:

- Bicycle/Pedestrian Trips (AB models expected to help)



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Next Steps



- Continue 2010-2012 work in progress
 - Land Use Models
 - Florida Travel Surveys Program
 - Advanced Model Development
- Begin New Blueprint Cycle: 2014-2018
 - Major Emerging Topics
 - Managed Lanes, Future Corridors, Freight
 - Committees to develop topics based on regional and state needs
 - MTF Leaders consolidate list to manageable size
 - Priorities Survey

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