Welcome

GIS Committee, Florida Model Task Force

MTF GIS Committee Update

presented by
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MTF GIS Chair

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Overview

• Introduction
• Update on MIXS Project
  – Dr. Ilir Bejleri, University of Florida
• MTF Strategic Plan – Draft Scope of Work
  – Vision
  – Needs
  – Objectives
• Discussion on MTF GIS Committee Mission – Resolution
• Questions
Model Information eXchange System (MIXS)

- Research effort for different models in overlapping geographic areas that use different network representation of the same physical network
- Difficult to share common input data elements
  - Speed, Number of Lanes, Volume, Direction etc.
- Difficult to view and compare future projections

Model Information eXchange System

Helps bring all the different data sources together into a common standard
Model information eXchange System...

FSUTMS Data Framework, MIXES & Models

- Conversion System
  - Combined Use – Ultimate Results!

Enterprise wide Database → Conversion Tool MIXs → Common Data Model → Application Mode (Cube)

Model Information eXchange System

MIXs

State, Turnpike, Regional Models

LRTP Update
State Level Network

Regional & State Level Network
Local & Regional & State Network

Why Exchange?

• Less need for data processing
• Reduction of duplicate efforts
• Ability to easily compare future demand projections from multiple models on the same GIS planning network
• Easier to find potential errors on shared links
• Facilitates coordination of agencies that rely on the same network - MPO, FDOT, Transit Agencies, Toll Operators
**Proposed Solution - Concept**

- All models use a common geographically accurate network
- **Pros:**
  - Shared network links can be easily established
  - Maintenance is easier than when networks are different
  - Eliminates data redundancies
  - Leverages state’s investment (Navteq basemap)
  - Serves as platform to add new data
- **Cons:**
  - Requires one-time network conflation to the common network
  - Some maintenance will still be needed

**Common Network**
Links in a Regional Level Model

Links in a State Level Model
**MIXS Framework**

- A master network database (DB)
- Tools to manage the master network DB
  - MIXS Explorer: a tool to visualize the master network data elements
  - MIXS Versioning: a tool to semi-automate maintenance of master network updates
- A data structure for individual models to support the exchange
- Tools to facilitate the exchange
  - Extract: extract a model network from master DB
  - Upload: post back modeling results to master DB
- Protocols to guide the exchange process

**MIXS-Compatible Cube Data Model**
MIXS Project Status

• Currently working to implement the database prototype
• Using Turnpike State Model
  – Currently under development using Navteq 2011
• In the future add more models:
  – Florida Statewide Model
  – SERPM, including transit files

MTF GIS Strategic Plan Development

• A Strategic Plan will help drive our plans for the entire State by articulating basic concepts of a vision, mission, goals, objectives and activities.
FGDC (Federal Geographic Data Committee) developed the Strategic and Business Plan Guidelines that include major section headings with key information and a series of questions that should be considered.

Our planning team will determine which questions are applicable for our own activities and use the answers to these questions to help draft an effective plan.

Using the FGDC Guidelines will help us navigate through the entire process of preparing high quality and effective strategic and business plans.
Strategic Plan Critical Steps

• Assess our needs and resources;
• Defines use and a set of goals and objectives;
• Plans and designs coordinated strategies with evidence of success;

These critical steps logically connect strategies to needs, assets, and desired outcomes; and measures and evaluates the process and outcomes.

MTF GIS Mission Statement

“To support the Florida Model Task Force in evaluating, coordinating, facilitating, and improving the use of GIS in transportation modeling.”
Resolution:

MTF GIS Committee Resolution – December 5, 2012

The majority of our data is location-based (geographic information systems GIS) and will enable the development of Transportation Modeling. The following resolution will provide the building blocks to help develop a road map that is critical for the development and management of current and future GIS related data for the modeling community.

The Model Task Force (MTF) GIS Committee’s Mission Statement continues to be: “To support the Florida’s Model Task Force in evaluating, implementing, establishing and improving the use of GIS in Transportation Modeling.” This resolution emphasizes the need for the GIS Committee to assume a more direct role in project participation for all GIS Projects within the MTF Committees & Subcommittees. Being afforded this opportunity will allow the GIS Committee to review and evaluate GIS project efforts from conception to completion. This involvement will help to ensure that any GIS component being developed will fully benefit the project, ensuring maximum effectiveness when implemented.

Resolution: The Model Task Force GIS Committee will be recognized, and serve as the official review and oversight group for all MTF Committee and Subcommittee GIS and Visualization projects provided and funded through FDOT’s Federal/State Funds.

Adopted of this resolution will solidify support of all GIS Committee objectives noted below:

1. To support and develop GIS data, software, and applications that facilitate or improve the modeling process.
2. To review GIS technological advancements to identify potential solutions for improving existing GIS tools within the modeling community.
3. To disseminate information on recent GIS developments to the modeling community.
4. To recommend improvements to existing or spawning GIS technologies to meet the modeling community's needs.
5. To collaborate in the sharing of GIS resources and evaluations among the modeling community.
6. To work with the Federal/State and local organizations to ensure the GIS technology is applied at its best within the modeling community.

Belle Z Ferrondo, MTF GIS Committee Chair

Proposed Resolution Purpose

- This resolution emphasizes the desire and need for the GIS Committee to assume a more direct role in project participation for all GIS Projects within the MTF Committees & Subcommittees.

- Being afforded this opportunity will allow the GIS Committee to review and evaluate MTF project efforts from conception to completion.

- This involvement will help to ensure that any GIS component being developed will fully benefit the project, assuring maximum effectiveness when implemented.

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Proposed Resolution...

- The Model Task Force GIS Committee shall be recognized and serve as the technical advisory group for all MTF Committee and Subcommittee GIS efforts to facilitate standardization and help foster innovation to integrate geospatial technologies in transportation modeling.

We are looking forward to your participation!

Questions & Comments