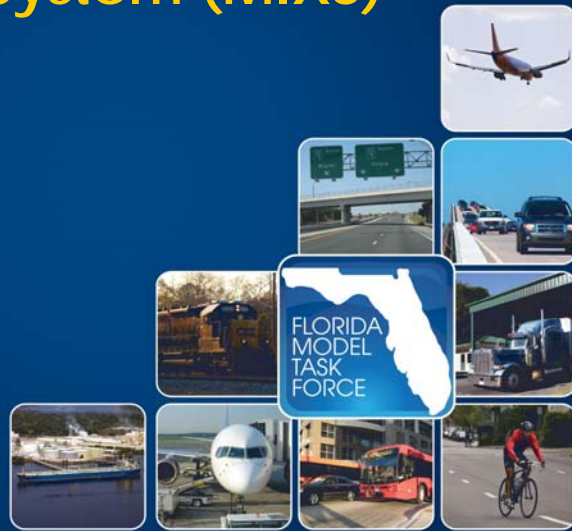


Model Information eXchange System (MIXS)

presented to
MTF GIS Committee

presented by
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December 6, 2012



Problem



- Different models in overlapping geographic areas 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

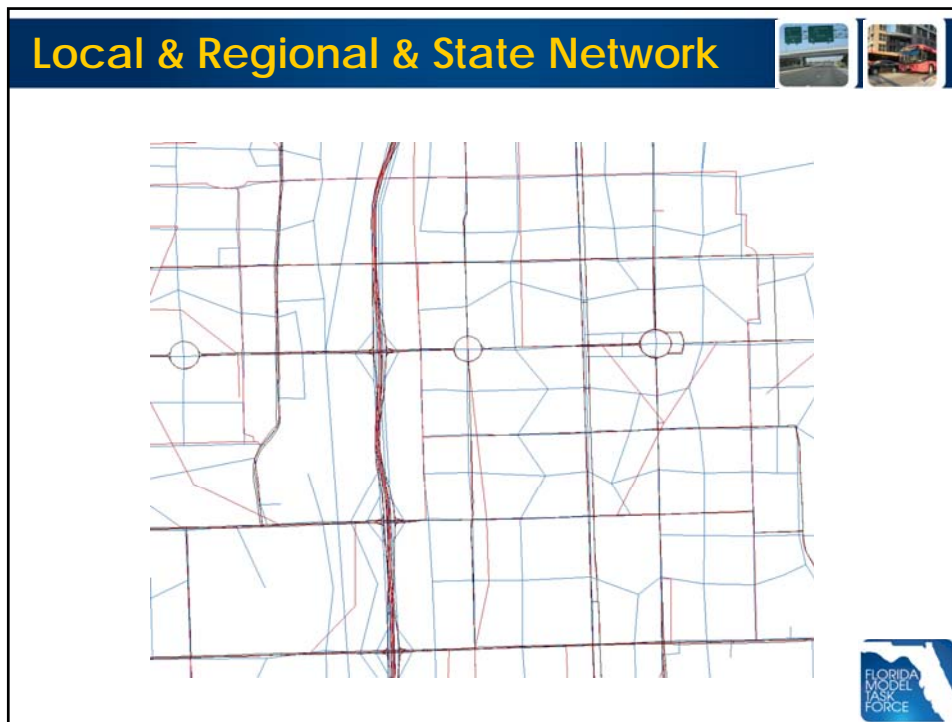


State Level Network



Regional & State Level Network





Why Exchange ?

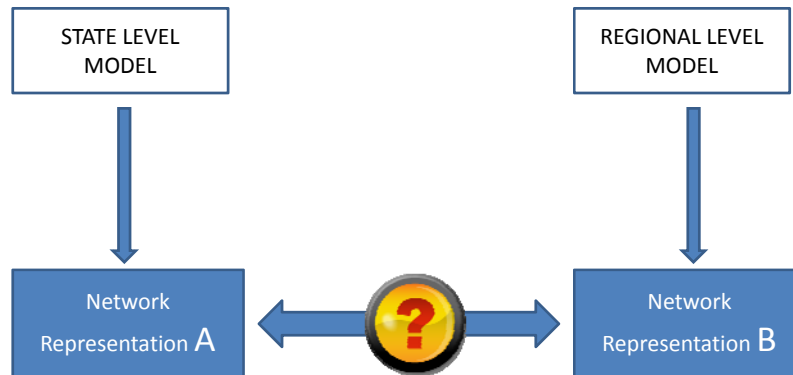
- Less need for data processing
- Reduction of duplicate efforts
- Ability to easily compare future demand projections from multiple models on the same GIS planning network
- Easier to find potential errors on shared links
- Facilitates coordination of agencies that rely on the same network - MPO, FDOT,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

FLORIDA MODEL TASK FORCE

Research Question



- How can we facilitate network information exchange among models?



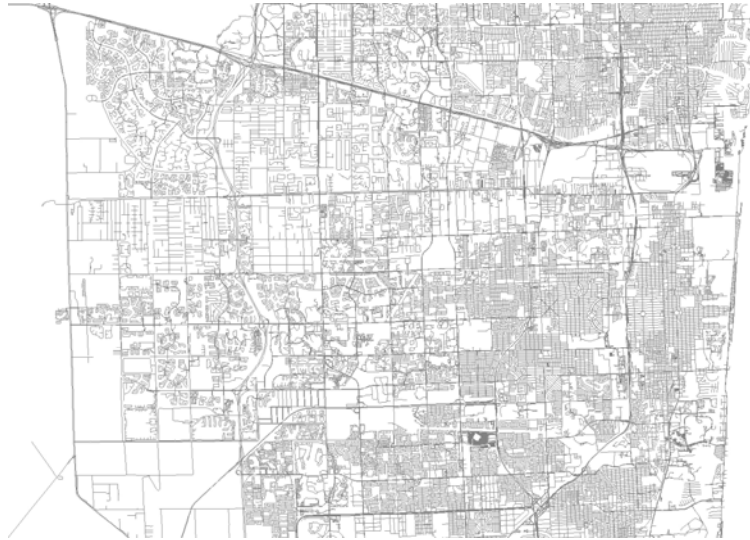
Proposed Solution - Concept



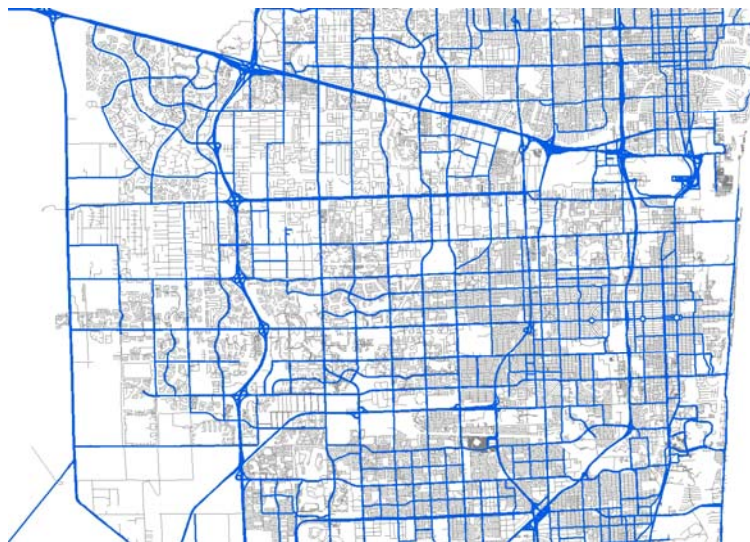
- All models use a common geographically accurate network
- **Pros:**
 - Shared network links can be easily established
 - Maintenance is easier than when networks are different
 - Eliminates data redundancies
 - Leverages state's investment (Navteq basemap)
 - Serves as platform to add new data
- **Cons:**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

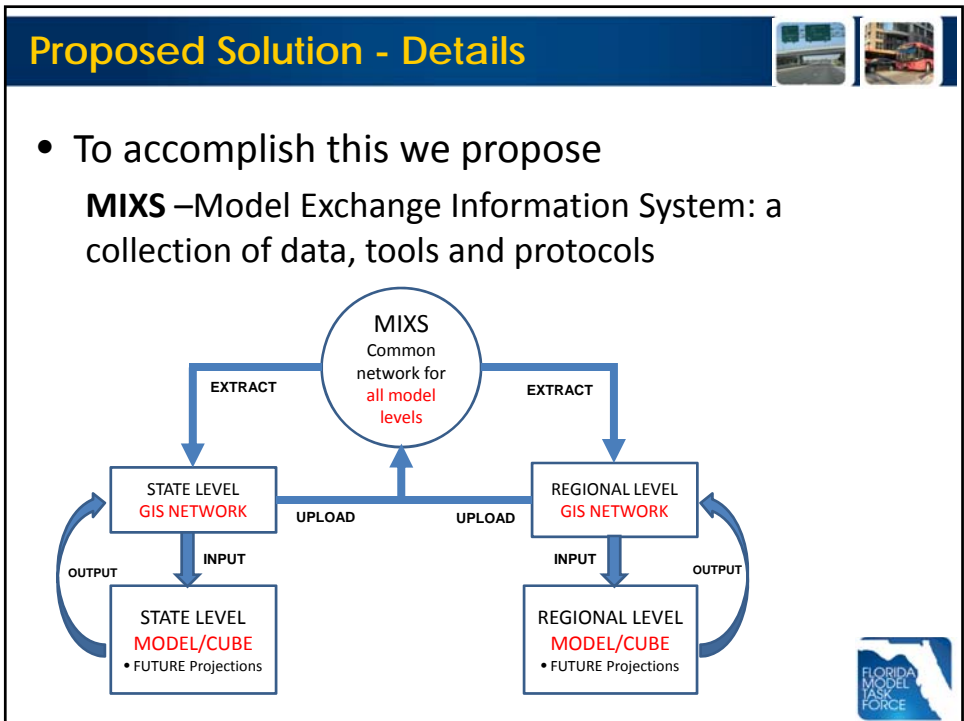
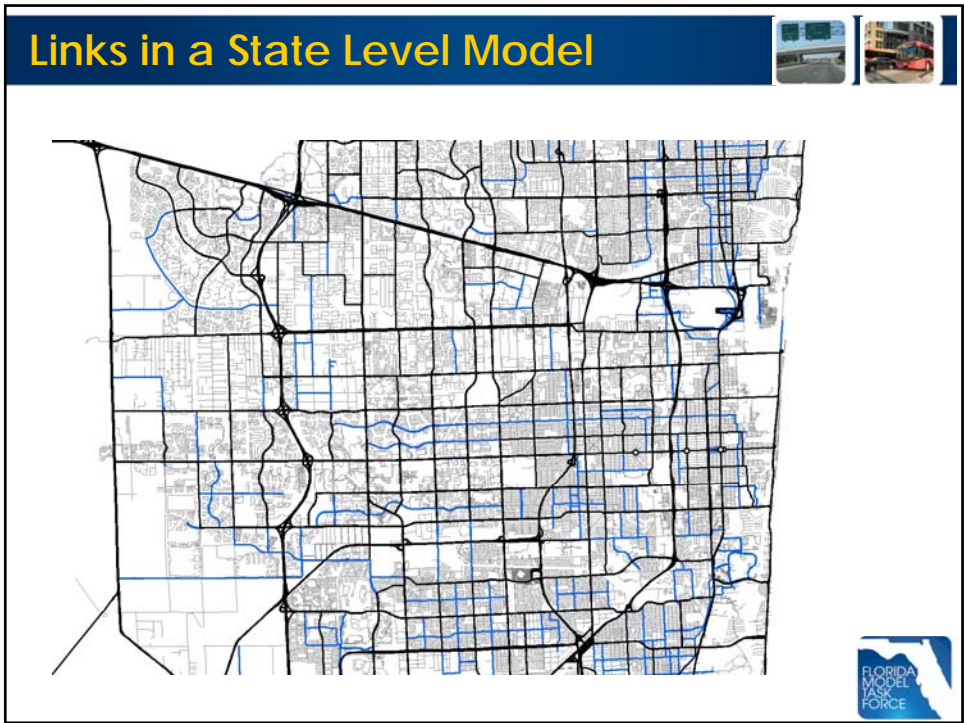


Common Network



Links in a Regional Level Model





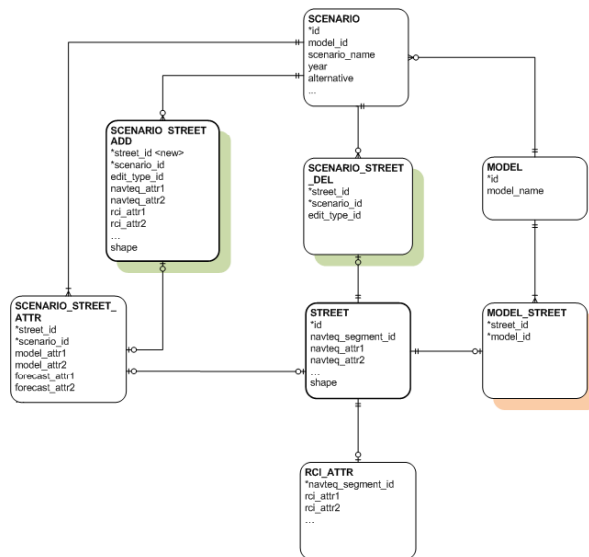
MIXS Framework

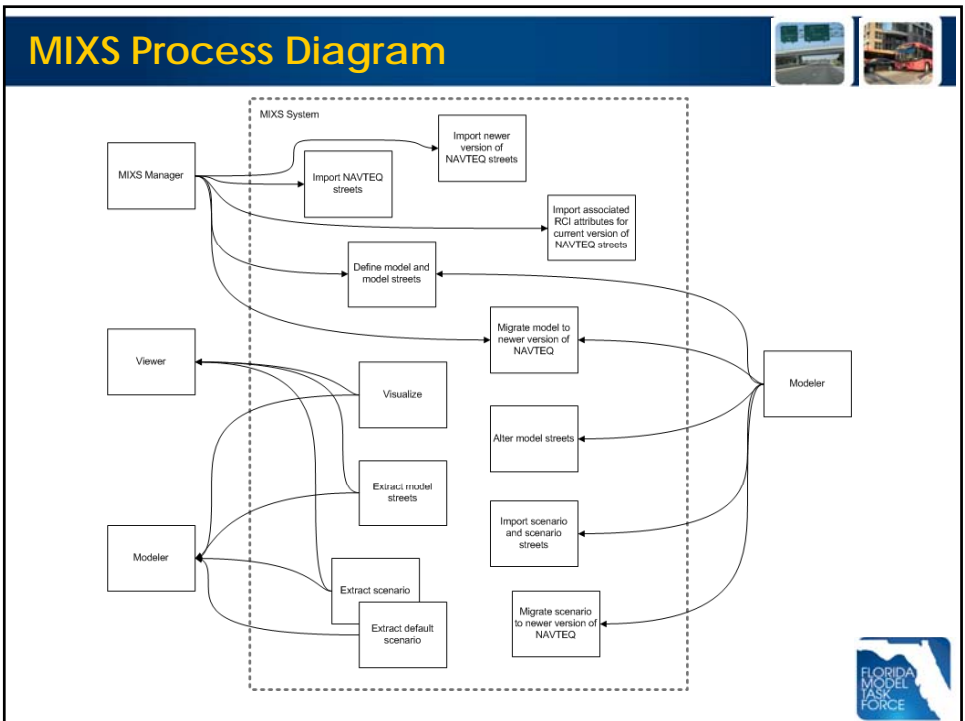
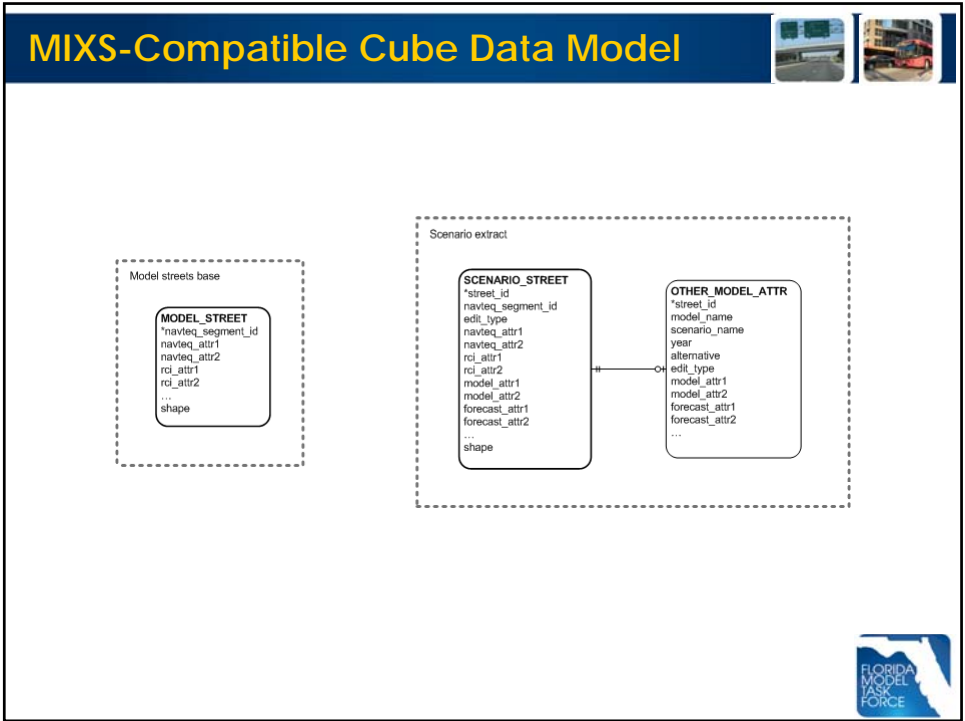


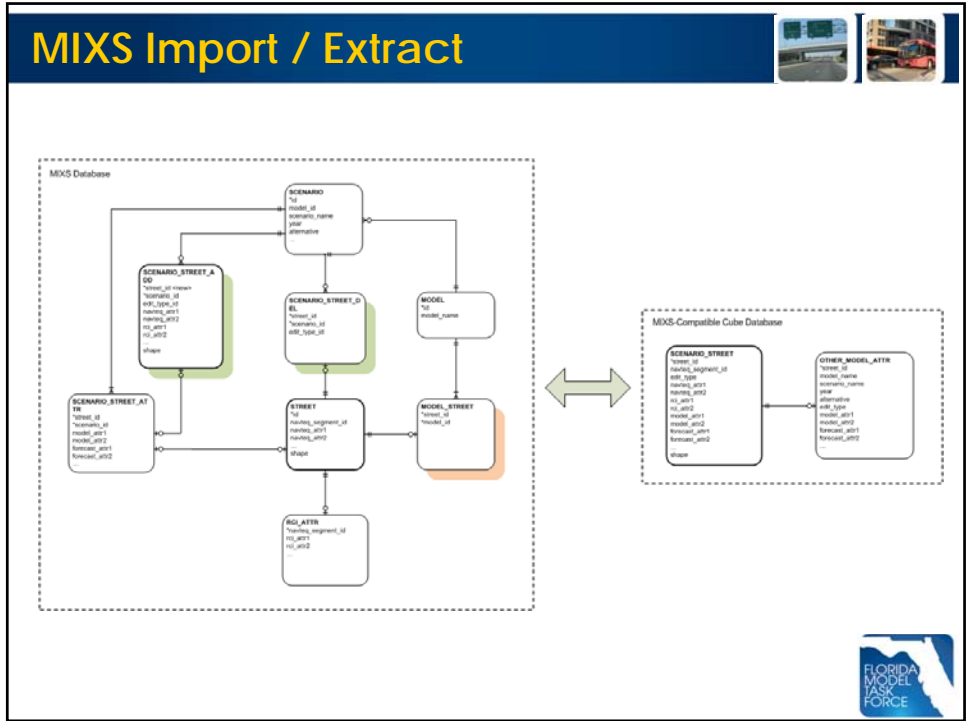
- A master network database (DB)
- Tools to manage the master network DB
 - MIXS Explorer: a tool visualize the master network data elements
 - MIXS Versioning: a tool to semi-automate maintenance of master network updates
- A data structure for individual models to support the exchange
- Tools to facilitate 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 Data Model







MIXS Import / Extract

Import scenario

This step imports all scenario-specific customizations to your model streets. This includes linework, scenario attributes, and forecast attributes.

Model name:

Scenario year: Alternative:

Model streets shapefile:

Street ID field:

Navteq segment ID field:

Edit type field:

Allowed values: BASE, EXTERNAL, LOCAL, PLANNED, FUTURE

Model attribute 1: Forecast attribute 1:

Model attribute N: Forecast attribute N:

Extract scenario

This step exports all scenario-specific customizations to your model streets. This includes linework, scenario attributes, and forecast attributes.

Model name:

Scenario year: Alternative:

Target shapefile:

