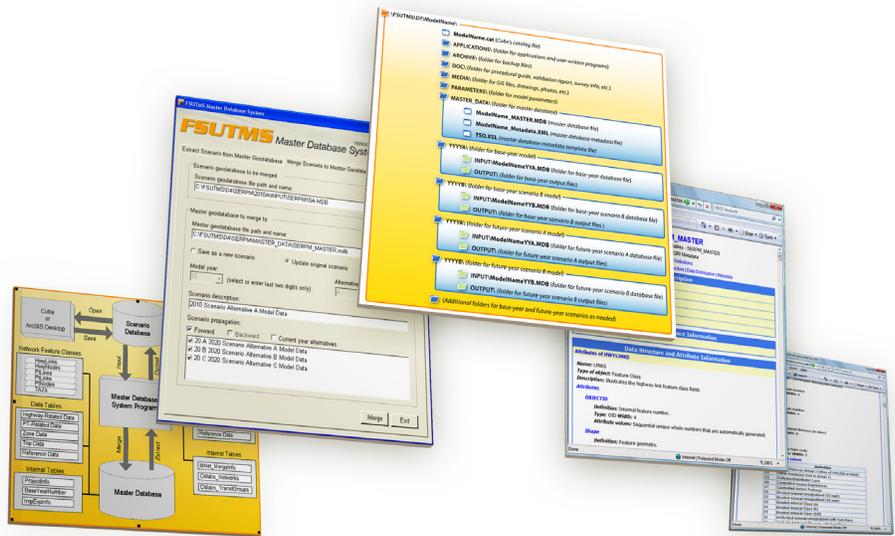


Florida Department of Transportation Research

Development of a Data Framework for the Florida Standard Urban Transportation Modeling Structure (FSUTMS)

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The Florida Standard Urban Transportation Modeling Structure (FSUTMS) is Florida’s standardized travel demand model. Standardization allows transportation planners to maintain consistent modeling practices, share resources, conduct training, and develop tools that can be applied to various local models. Over time, however, the local models have become less standardized, somewhat defeating the purpose of a standard model, and making it difficult to develop tools applicable to different local models.



File folder structure of the FSUTMS

Researchers at the Lehman Center for Transportation Research, Florida International University recently developed a data framework for FSUTMS that sets standards for all input data elements, including file folders, file names, table names, field names, and associated metadata files. The framework uses a GIS centric approach and stores model input data in ArcGIS personal geodatabase, uses a master database approach to consolidate the storage of model scenarios in a single GIS database to facilitate data maintenance, and facilitates the easy integration of existing models into the new data framework by preserving all existing fields from FSUTMS models and thereby allowing them to use the existing modeling approach.

The framework is a multi-year, multi-modal and multi-scenario master database. Users can easily extract a specific FSUTMS network by indicating a year and a design alternative of the scenario. After the scenario network is extracted and modified, users can merge the scenario network back into the master database. During the merge, changes made to the extracted network can be applied automatically and propagated to other scenarios in the master database, saving time by

eliminating both repetitive manual changes and avoiding database coding errors.

Researchers developed a standalone master database that allows users to extract a scenario database from the master and to merge a scenario database back to the master database. Researchers also developed a procedure for converting existing input files to the master database structure.

Implementing the framework into Florida’s transportation modeling community will allow practitioners to apply useful tools such as the Florida ITS Evaluation Tool (FITSEVAL), the FSUTMS Standard Reports, and the Level of Service (LOS) calculator across all models with little or no customization. Thus, the framework will benefit model standardization and avoid duplication. Implementing the framework using the master database approach also will reduce the time needed to develop and maintain the model input data, particularly for those associated with transportation networks. More over, the master database approach will automatically enforce network consistency, resulting in improved modeling output.