Effective Integration of Analysis, Modeling and Simulation Tools

CALL FOR **VOLUNTEERS!**

The "Data Hub" was created to simplify complex transportation analyses requiring more than a single resolution (macro, meso, micro, deterministic), for applications such as Integrated Corridor Management (ICM), roadway pricing/tolling, and air quality analysis.

The Data Hub uses a data schema to manage the interchange of data from common off-the-shelf software programs. The graphical user interface displays measures of effectiveness from field and model data in a side-by-side format which enables more effective calibration and validation processes.
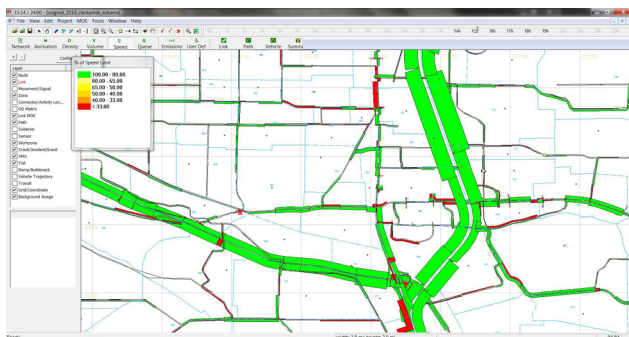
A prototype Data Hub was successfully tested on subarea networks in Portland, OR; Tucson, AZ; and Raleigh, NC. Additional applications are currently being undertaken by the research team to demonstrate its benefits.

- **Travel Demand Model**
- **Dynamic Traffic Assignment Engines** — Refined Operations and Demand; Origin Destination Matrix Estimation Refining Tools
- **Mapping Visualizations**
- **Analysis and Modeling Simulation Data Hub** — Comma Separated Values Database and Traffic Simulation Tools and Visuals
- **Microscopic Export to Dynamic System Simulation Software** — Detailed Operations Analysis
- **Signal Optimization** — Data Preparation and Import/Export
- **Field Data** — Traffic Counts, Speeds, Travel Times

This diagram summarizes the relationship comprising the analysis, modeling, and simulation (AMS) data hub.
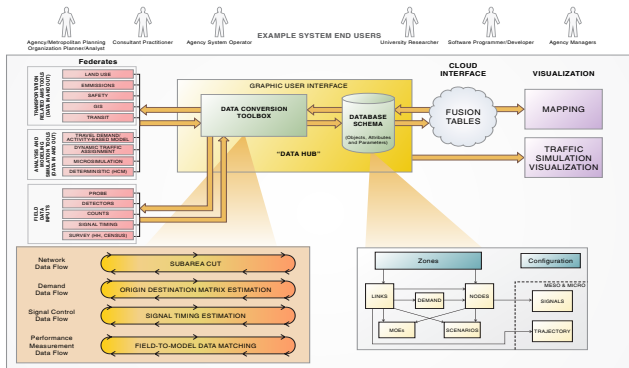
This complex system diagram depicts a series of connections with a close-up view of two main elements showcasing the analysis, modeling, and simulation (AMS) data hub architecture.

This figure shows a screen capture of a Network EXplorer for Traffic Analysis map illustrating time-dependent speed performance by link.

CALLING VOLUNTEERS

Now we need your help to take the Data Hub to the next level. We would like you to test drive the software and provide us your feedback on how to make it more useful, seamless, and applicable to your day-to-day modeling work.

According to Federal Highway Administration's *The Effective Integration of Analysis, Modeling, and Simulation Tools* (FHWA-HRT-13-036), the Data Hub is estimated to reduce model development and analysis efforts by up to 80 percent.

SIGN UP

To sign up as a volunteer or for more information on the project, please contact:

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A project team member will contact volunteers with additional instructions.

U.S. Department of Transportation
Federal Highway Administration