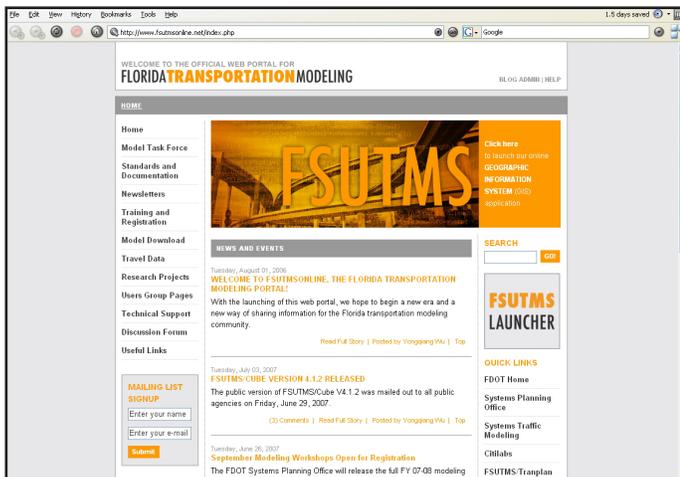




Florida Department of Transportation Research Development of Time-of-Day Modeling Procedures using FSUTMS Powered by Cube Voyager BD545-65 (9/07)

The Florida Standard Urban Transportation Modeling Structure (FSUTMS) is an FDOT-developed computerized modeling program that FDOT, all of the major transit agencies in Florida, and other agencies use to perform transportation planning and analysis. Planners use FSUTMS to model existing and potential passenger behavior in order to improve urban transit service.



Web site: <http://www.fsutmsonline.net/>

FSUTMS currently bases its models on aggregate daily traffic data but with enhancements could address issues related to time-of-day (TOD) traffic patterns. TOD models would be especially useful in planning high-occupancy vehicle (HOV) lanes, toll facilities, and, potentially, fixed guideway transit facilities. TOD data analysis would need to operate within the Cube Voyager platform recently adopted for use with FSUTMS.

Researchers developed time-of-day factors using local travel survey data from different parts of the state. The factors included travel data for urban and rural areas, for five time

periods during the 24-hour cycle, and for each of the different trip purposes used for FSUTMS models (work, shopping, school, etc.). All five time periods identified peak usage hours.

The researchers determined that the available TOD data did not present a complete picture of travelers' activity because it did not include factors, such as transit system capacity limitations and passenger response to congestion, needed to more accurately forecast passenger behavior.

Other deficiencies limited the usefulness of the TOD data for New Starts applications. One aspect of New Starts, a federal program that provides funding support for new transit and fixed-guideway projects and facilities, is the development of high-occupancy vehicle/toll (HOT) lanes on freeways. FSUTMS will need more detailed TOD data about passenger trip purposes and personal incomes than is now available in order to estimate both the potential traffic level in the HOT lanes and an acceptable toll charge for their use.

While the TOD data may not yet be useful for New Start applications, it has the potential to be useful in the FSUTMS framework for modeling complex passenger trip patterns. The ability to model travel demand as it varies throughout the day should prove valuable in planning advanced high-occupancy passenger transit systems. Better planning of transit systems can expand transportation options and ensure accessibility for all transportation system users.

Project Manager: Yongqiang Wu, Systems Planning, yongqiang.wu@dot.state.fl.us
Principal Investigator: Yafeng Yin, University of Florida, yafeng@ce.ufl.edu