

Modeling Support for Alabama MPOs

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By

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A Metropolitan Planning Organization is responsible for traffic modeling and traffic forecasting within its region. It uses these traffic forecasts, to develop its Transportation Improvement Plan, a five-year plan of needed roadway repairs, improvements, or construction projects. This research focused on the general theme for improving transportation planning and management of a community's transportation system for Metropolitan Planning Organizations within Alabama. The project involved developing and teaching workshops on traffic modeling and TRANPLAN, a software package that is difficult to learn and operate for planning purposes.

Executive Summary

This research report focuses on improving transportation planning and management of a community's transportation system. The theme supports transportation planning activities throughout the state. This involved individual training sessions and group workshops with transportation planners from the state's Metropolitan Planning Organizations, tailored for different levels of transportation modeling knowledge. Overall, the project provides tools and support to transportation planners in Alabama to improve the planning process. This will lead to better decisions regarding the transportation infrastructure of Alabama.

Introduction

A Metropolitan Planning Organization (MPO) is responsible for all traffic modeling and traffic forecasting. It uses this information, in cooperation with the state department of transportation, to develop the area's Transportation Improvement Plan (TIP), a five-year plan of needed roadway repair, improvement, or construction. In the past decade, many tools have been developed to assist transportation planners in modeling and forecasting transportation for use in preparing the TIP. Currently, Metropolitan Planning Organizations (MPOs) are using the traffic modeling and forecasting tool TRANPLAN, which is designed for evaluating regional travel demand, essentially, future flows of traffic across the community. Recently, interest has been shown by transportation planners in modeling and forecasting local travel demand, which TRANPLAN can not accomplish efficiently. Fortunately, there have been advances in other tools that assist transportation planners in developing TIPs.

This research report contains the general theme focused on improving transportation planning and the management of a community's transportation system. The first involved enhancing the use, understanding of, and desire to continue to use TRANPLAN, a software package, which is popular but difficult to learn and use for planning applications. In addition, many MPOs have recently hired new transportation planners and the level of TRANPLAN knowledge is changing. To reduce the trouble that many MPOs were having with the software, a series of individual and group workshops were conducted for transportation planners from the state's MPOs. The workshops were tailored to the different levels of transportation modeling knowledge found throughout the state. This research examined different traffic modeling software packages, as requested by the Alabama Department of Transportation, as alternates to or improvements for TRANPLAN.

The report contains three sections. The first section outlines the tasks involved in the research project. The second section documents the workshops and training activities held to increase transportation planning knowledge throughout the state, and presents a review of the alternative transportation modeling programs being considered by the state of Alabama. The third section presents the conclusions of this research effort.

Training

The main task of this research focused on training and software evaluation. The training component of this work was handled through several scheduled workshops, meetings, and individualized training sessions. The software evaluation was performed by working with the new software packages being considered and with MPOs representatives.

There were six major workshops held in Huntsville with MPO representatives from around the state. The dates and topics for each of these workshops are presented in Table 1.

Table 1. Workshop dates and topics.

CUBE modeling support. March 4-5, 2004.
Establishing a directory structure in CUBE. January 27, 2004
CUBE modeling of the Huntsville network. December 10, 2003
Introduction to CUBE. November 5, 2003.
Socio-economic data for modeling. October 2, 2003
Network development in CUBE. August 15, 2003

The workshops were not the only training undertaken by this project. In addition, individual MPOs coordinated on-site training sessions for representatives of various agencies. These training sessions focused on topics such as an introduction to planning and modeling, analysis of external trips, reporting of output, calibration and validation of travel models and geographic information system integration with travel models. A listing of areas visited during this project included:

- Auburn/Opelika,
- Birmingham,
- Huntsville,
- Muscle Shoals, and
- Mobile.

The goal of the training was to increase the transportation planning knowledge level for employees at Metropolitan Planning Organizations within Alabama.

Conclusions

This project focused on the main objective, supporting transportation planning and GIS through education and meetings with transportation planners in Alabama. The support of transportation planning and GIS activities was accomplished through a series of statewide workshops focusing on various aspects of transportation planning and individual training sessions at specific locations. Overall, the project provided knowledge and support to transportation planners in Alabama to improve the planning process, and thereby lead to improved decisions regarding the transportation infrastructure of Alabama.