

Florida Transportation Modeling Newsletter

March 2011

Florida Model Task Force – Meeting Current and Future Modeling Demands

The Florida Model Task Force (MTF) is the statewide working group that addresses the technical needs and policy direction for transportation modeling in Florida, based on the Florida Standard Urban Transportation Model Structure (FSUTMS).

The most time-sensitive issue facing the modeling community is the next cycle of long range transportation plans (LRTPs). All of the 26 metropolitan planning organizations (MPOs) in Florida are working closely with the MTF to develop and calibrate base-year models in preparation for the LRTP process. The continued support of the MTF is critical to the MPOs, and the next MTF meeting later this year will be an important milestone for reporting on the progress of the MPOs' individual models.

The MTF is moving forward with addressing LRTP needs in the short-term, but the MTF is looking to the long-term goal of developing local and statewide models that can respond to policy demands that include more than just adding highway lanes. As Florida's transportation system grows, the old highway-only models can no longer provide direction on congestion management opportunities such as improved transit options, managed lanes, tolling, and changes in land use. The MTF has continued to strive for improvements to the FSUTMS models, and the MTF's efforts are playing a greater role in shaping our ability to respond to more intricate transportation policy demands and decisions.

At the December 2010 meeting in Orlando, the MTF focused on two important goals:

- 1) Prioritizing the modeling improvements that are most critical to meet short-term travel forecasting needs and identifying the outcomes of these applications; and
- 2) Prioritizing the long-term goals for the MTF and the modeling community.

It is imperative for the MPOs to understand how specific applications will apply to their particular transportation systems and what policy questions can be answered through the new applications.

The MTF is developing a business plan for presentation at the next MTF meeting. The business plan focuses on the five areas of research most critical to the MTF, its member MPOs, and participating agencies. The five areas that are directly tied to the LRTP process include:

- 1) Developing an advanced transit framework,
- 2) Integrating activity-based modeling capabilities into FSUTMS,
- 3) Incorporating time-of-day into FSUTMS for transit modeling and in model calibration and validation,
- 4) Incorporating advanced toll modeling into FSUTMS, and
- 5) Integrating Dynamic Traffic Assignment (DTA) tools into FSUTMS.

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Florida Statewide Model – Enhancements and Applications

By: FDOT Systems Planning Office

Florida Statewide Model

The Florida Department of Transportation (FDOT) supports development and maintenance of the Florida Statewide Model (FLSWM) for statewide travel demand forecasting. The FLSWM provides transportation planners the capability to evaluate alternative investment scenarios developed for the Florida Strategic Intermodal System (SIS). The SIS is Florida’s intermodal transportation system which includes facilities and services of statewide and interregional significance.

The FLSWM includes base and future analysis, in an open structure, four-step model. The FLSWM complements existing metropolitan planning organization (MPO) models by integrating local and regional model data.

Statewide Model Enhancements

The FLSWM is currently undergoing enhancements that include generation, distribution, assignment, and future highway module updates. The FDOT has completed a review of the trip generation and trip distribution modules. The Federal Highway Administration’s (FHWA) release of the National Household Travel Survey (NHTS) Add-on for Florida has provided an opportunity to more thoroughly review and assess trip rate assumptions for rural areas within the model.

The FDOT has updated several regional and county models and the supporting socio-economic data since the last revisions to the FLSWM. As part of the process, the updated model input files were identified and conflated into the FLSWM. The FLSWM model network is also undergoing enhancements based on the twenty-six MPOs’ adopted 2035 Long Range Transportation Plans (LRTPs) and Transportation Improvement Programs (TIPs); the FDOT’s Work Program 2015; and the 2035 SIS Cost Feasible Plan.

The FLSWM enhancement project is entering into the initial validation phase for the model. Once the initial validation is complete, calibration and revalidation will be conducted. As shown in Figure 1, the 2040 Needs Plan development process and resulting statewide network will be incorporated.

Statewide Model Application - Big Bend Model

A Master Development of Regional Impact (DRI) was proposed for an area in Taylor County, Florida, which is part of the area known as the Big Bend. A transportation demand model for the Taylor County region was needed to address traffic mitigation strategies, and to provide stakeholders with a set of base assumptions to evaluate reducing conflicts through the traffic impact assessment process. FDOT District 2 staff participated in methodology meetings with stakeholders on the Master DRI.

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Figure 1 – Process for Developing Statewide 2040 Needs Plan

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The FLSWM was selected as the model that could quantify the general impacts of the DRI to the region and potential mitigation strategies. A sub-area extraction of Madison, Taylor, Lafayette and Dixie counties from the FLSWM produced the initial traffic analysis zones (TAZs) and network for the DRI. Base year and future year model networks and socio-economic data were used from the current FLSWM to create the initial Big Bend Model. The Big Bend Model was then customized by renumbering the TAZs, adding external stations, splitting zones within Taylor County, and eliminating the freight component.

The Big Bend Model is currently undergoing calibration and validation. The current TAZ boundaries are shown in Figure 2. Once completed, the Big Bend Model will be a successful example of the FLSWM's ability to provide a tool for evaluating impacts of potential land development.

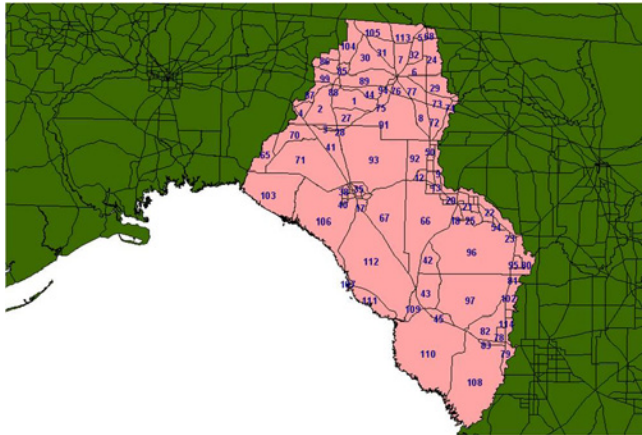


Figure 2: Big Bend Model TAZ Boundaries

continued from Page 1

The MTF has continued to improve the research focus for each of the MTF committees: Data, Transit, Model Advancement, and GIS. These committees are dedicated to timely model application development and implementation to meet the LRTP cycle demands and long-term goals of the MTF. A listing of each committee chair and its members is provided on the www.fsutmsonline.net. The committees welcome the addition of new members.

The presentations and minutes from the December 2010 Full-MTF meeting and individual Committee presentations are available at www.fsutmsonline.net.

In Memory of Dr. Zhao



It is with great sadness that the Florida Model Task Force and our statewide modeling community must say goodbye to a wonderful colleague, Dr. Fang Zhao.

Dr. Zhao was dedicated to improving the transportation modeling practice, and her contributions will be missed. A Celebration of Life was held in January of 2011 and a photo gallery honoring Dr. Zhao is located on the FIU website:

<http://www.cec.fiu.edu/2010/12/fang-zhao/>.

A graduate of the Beijing Institute of Civil Engineering and Architecture in China, she moved to the US in the mid-80's and received her masters and doctorate degrees in civil engineering from Carnegie Mellon University in 1987 and 1991, respectively. She joined FIU in 1992.

Dr. Zhao specialized in computer applications for civil engineering problems, particularly transportation problems. Her research covered many areas including geographic information system (GIS), engineering databases, visualization techniques, transportation planning, transit planning and operations.

An account has been established at the FIU Foundation for The Fang Zhao Endowment. This endowment will help support scholarships and lecture series in civil engineering in her honor. You can find additional information on the FIU website.

Evaluating and Communicating Model Results: Guidebook for Planners

Robert G. Schiffer, AICP and Daniel S. Goldfarb, P.E., Cambridge Systematics, Inc.

A report entitled, *Evaluating and Communicating Model Results: Guidebook for Planners*, July 2010, was prepared by Cambridge Systematics, Inc. for the National Cooperative Highway Research Program (NCHRP). The report, NCHRP 08-36/Task 89, identifies and describes assumptions, applications, and limitations that transportation planners should understand about both conventional and advanced forecasting models and processes.

Often the division of responsibilities within metropolitan planning organizations (MPOs) relegates travel forecasting to technical experts, while use of model output for policy and plan development is in the hands of planners and policy makers. This division of labor can lead to unintended consequences in the decision-making arena. As noted by the Committee for Determination of the State of the Practice in Metropolitan Area Travel Forecasting in the Transportation Research Board's Special Report 288, *Metropolitan Travel Forecasting – Current Practice and Future Direction*, "There are many sources of error and uncertainty in travel demand forecasting, but end users of most travel forecasts would not be aware of these limitations" (page 85).

Planners are engaged in increasingly complex decision-making analyses relying on the output of ever-more sophisticated modeling tools, yet they often possess only a cursory understanding of travel forecasting models and their inherent assumptions, biases, and limitations. This heightens the risk that the modeling process or its output will be unintentionally misrepresented or misapplied, with unfortunate consequences for resulting decisions and investments.

Transportation planners do not need to be able to develop a travel demand model or conduct a traffic forecast, but they do need a solid understanding of key modeling fundamentals that go beyond recitation of the four-step process. Planners often act as the liaison between policy makers, the public, and modelers. A stronger foundation in the appropriate applications of forecasting models and the ability to effectively communicate this will strengthen that planning role.

The report provides information to help transportation planners be able to (1) ask and answer critical questions about their agencies' models and model development processes; (2) to understand how robust or sensitive the outputs are, why that matters; and (3) incorporate that knowledge into planning and programming decision-making processes.

The Guidebook for Planners is available for downloading at:

http://www.statewideplanning.org/_resources/262_NCHRP-08-36-89.pdf.

The Next TRB Transportation Planning Applications Conference

The 13th TRB Transportation Planning Applications Conference will be held in Reno, Nevada on May 8-12, 2011 at the Peppermill Resort.

The TRB Conference on Transportation Planning Applications, held every other year since 1987, provides a forum for the exchange of workable ideas, methodologies, and experiences in all areas of transportation planning. The Conference will feature presentations chosen from abstract submittals that offer practical and innovative solutions to contemporary planning challenges. One of the conference tracks is devoted entirely to travel demand modeling, and the two other tracks (planning and data/operations) include several presentations related to modeling, as well.

More information on the conference is posted on the website at www.trb-appcon.org. If you have any questions about the conference, please contact Rob Schiffer, Conference Chair, via e-mail at rschiffer@camsys.com or telephone at 850-219-6388.

New Features in the Southeast Regional Planning Model

Ken Kaltenbach, The Corradino Group, Inc.

Introduction

The Florida Department of Transportation (FDOT), Districts 4 and 6, and the area metropolitan planning organizations (MPOs) support the development and use of the Southeast Regional Planning Model (SERPM). SERPM is a multimodal travel demand model that encompasses the three counties in Southeast Florida: Palm Beach, Broward, and Miami-Dade Counties. The FDOT has been coordinating updates to the SERPM Version 6.5 (SERPM 6.5) to increase the effectiveness of the model and to coordinate older FORTRAN programs with the current software platform of Cube Voyager. This article provides a summary of three important updates incorporated over the last year:

- 1) New reporting features have been added that provide more complete and flexible reports, taking advantage of Cube Voyager's scripting and reporting tools;
- 2) A Highway-Only Subarea Modeling Process has been added that allows modelers to focus on a limited area, reducing model running time, while maintaining the detail needed for the study and allowing less detail for areas far away from the study area; and
- 3) An adjustment process has been added based on Cube Analyst, which provides a consistent and effective way to compensate for known model errors evident in the base year.

New Reporting Features

SERPM is based on the Florida Standard Urban Transportation Model Structure (FSUTMS), which provides comprehensive model reporting features through the root-mean-square error (RMSE) program and the highway evaluation (HEVAL) program. The RMSE and HEVAL programs were developed in FORTRAN in the 1970's, and finding programming support is becoming more difficult. The FDOT decided to port these programs to Cube Voyager scripts. The FDOT has eliminated some archaic features of HEVAL, such as 1) the references to text-based input files,

2) use of "profile.mas," and 3) use of "VALIDATION" and "ANALYSIS" key values. Reports on unused node numbers were eliminated, and new features were added.

The scripted HEVAL program uses the catalog key {Scen.Name} to determine the contents of the reports. If the value is "Base," - volume/count ratios are reported, and include a two-page summary, a 30-page detailed report on the base year run that is similar to the traditional HEVAL report, and a screenline report. The screenline report includes volume/counts, and volume/capacity tabulations at level of service (LOS) C, D, and E, as not all MPOs use the same LOS standard. To support each standard, the volume/capacity for each link in the loaded highway network is reported LOS C, D and E, allowing maps for each LOS to be easily drawn.

If {Scen.Name} is not "Base," volume/capacity reports are produced. The reports contain a two-page summary, and a 19-page detailed report. A screenline report which is similar to the base year report is also produced.

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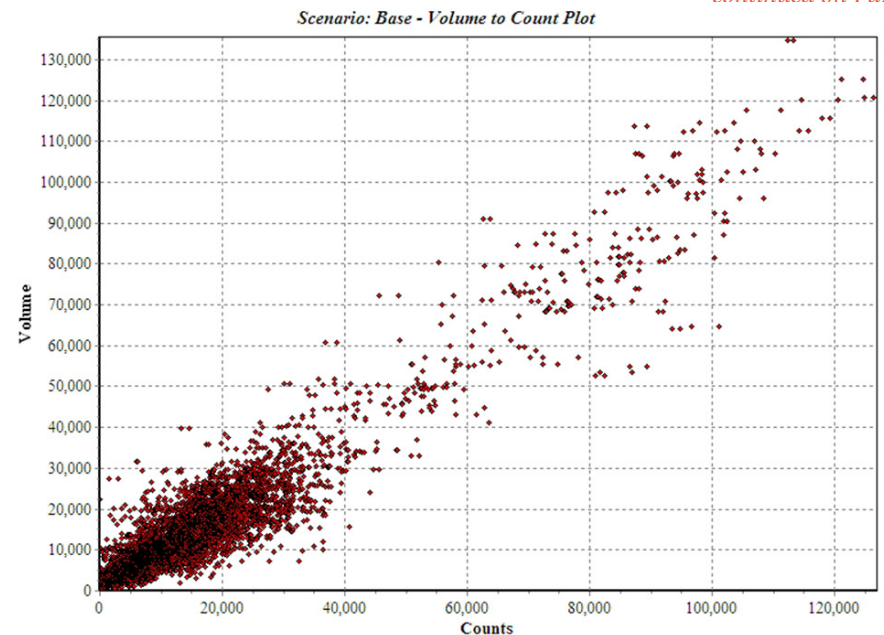


Figure 1 – Scenario: Base - Volume-to-Counts Scatter Plot

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A new feature is the production of reports on the value of travel time and vehicle operating costs. These reports use the Cube Reports feature, and are based on a report called *Southeast Florida Road and Transit User Cost Study*¹. Cube Report templates have been established for the following:

- A table of lane miles by area type and facility type;
- A scatter plot of 24-hour volumes and counts (as shown in Figure 1 on previous page);
- Tables of volume/capacity ratios at LOS C, D and E, by time period;
- Tables of total average volumes and VMT by area type and facility type, by time period; and
- Tables of the value of travel time and vehicle operating costs by area type and facility type, with and without centroid connectors.

Cube Reports are formatted in such a way that they can be easily added to reports as shown in Figure 2, Total Vehicle Operating Cost in Dollars. It is expected that other report templates will be added to District 4 models.

SERPM was developed with a highway speed validation step. While the speed validation metrics are not directly reported by the model evaluation routines, it is significant to note that the model validation step contained an extensive set of comparisons between measured travel speeds in major corridors and modeled congested speeds, which demonstrated that SERPM accurately represents actual travel speed.

¹ *Southeast Florida Road and Transit User Cost Study*. A report prepared by Cambridge Systematics, Inc., for The Florida Department of Transportation, District Four, October 2008.

Highway-Only Subarea Modeling Process

The FDOT added the highway-only subarea modeling process to the SERPM to reduce the computer running time for tests of relatively simple highway alternatives. The highway-only subarea modeling allows the SERPM, which has 4,284 Traffic Analysis Zones (TAZs), to be reduced to a much smaller size. The subarea model produces a highway-only, 24-hour assignment, maintaining TAZ-level trip tables for a user-specified subarea. The entire three-county SERPM region is maintained, thereby correctly modeling diversions to other roads, and the process keeps all links in the regional network. The time savings is created by assigning a trip table that is smaller in terms of the number of TAZs.

The user creates the subarea as a polygon in Cube. Polygons can be saved in the 'vpr' file, and used in several model tests, ensuring consistency. Since the model run uses the entire SERPM model for everything except highway assignment, results are highly consistent with results that would be produced by the full SERPM. Depending on the computer hardware and the definition of the subarea, subarea model runs will save several hours of processing time over the full SERPM model runs.

Cell Values: Sum of VOC

FACILITY TYPE GROUP	AREA TYPE GROUP					TOTAL
	1	2	3	4	5	
1	99,574	1,604,114	4,791,450	7,096,008	113,864	13,705,010
2	16,690	64,142	43,602	778,792	988,585	1,891,811
4	255,038	1,477,708	8,919,893	16,193,270	808,401	27,654,309
6	282,432	1,219,628	3,070,046	2,860,208	310,710	7,743,024
7	46,865	195,906	615,679	681,941	27,031	1,567,421
8			458,727	602,224		1,060,950
9	836	13,342	738,460	5,243,401	794,830	6,790,869
TOTAL	701,434	4,574,840	18,637,855	33,455,844	3,043,421	60,413,394

Figure 2 – Total Vehicle Operating Cost (VOC, in \$) - Excludes Centroid Connectors

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The subarea model produces a set of subarea-specific reports similar to those described earlier, which include reports on RMSE and volume/count and volume/capacity ratios at LOS C, D and E.

A typical subarea is shown in Figure 3.

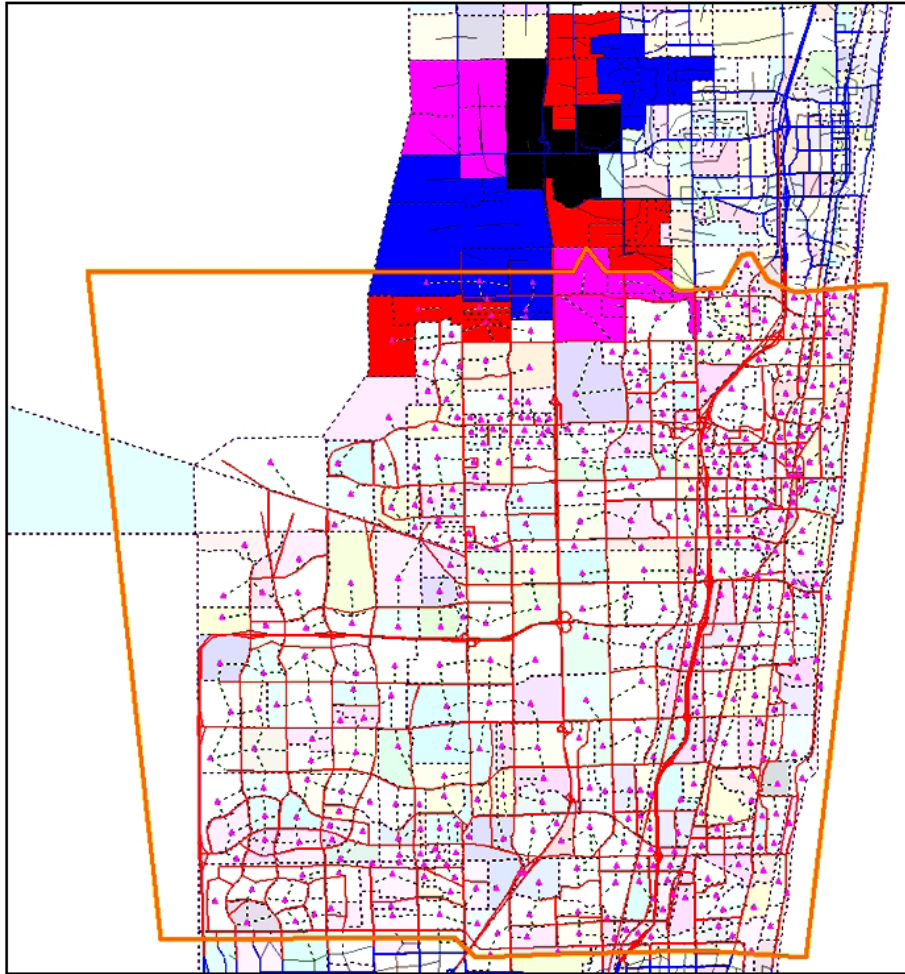


Figure 3 – Typical Subarea

SERPM 6.5 Analyst Trip Table Adjustment Process

Most transportation planners are familiar with the advice, “don’t use traffic volumes directly out of the model for detailed traffic forecasts,” or some variation of this phrase. While SERPM 6.5 does a good job of forecasting traffic for the three-county region, model volumes must be reviewed and adjusted when developing traffic estimates for corridor studies and design traffic. Publications such as NCHRP 255 and the *Florida Design Traffic Handbook* provide guidelines on how these adjustments should be made, but the development of project traffic requires professional judgment and is highly customized to each study.

Cube Analyst provides a tool for adjusting a base year trip table so as to minimize the differences between traffic counts and model volumes. Analyst was used in a SERPM 6.5 procedure that strives to reduce or eliminate the need for post model adjustments of traffic volumes by providing a systematic method for adjusting trip tables that would produce less error in the traffic assignments.

To assist with this effort, Cube Analyst provides a tool for adjusting a base year trip table so as to minimize the differences between traffic counts and model volumes. Analyst was used in a SERPM 6.5 procedure that strives to reduce or eliminate the need for post model adjustments of traffic volumes by providing a systematic method for adjusting trip tables that would produce less error in the traffic assignments.

In the traditional manual method of adjusting model results for design traffic, an important consideration is a comparison of model volumes to counts for the base validation assignment; if the validation count is overestimated or underestimated at a particular location, forecasts for that location will most likely follow the same trend. The Analyst procedure applies a similar logic, but at the trip table level, allowing a more systematic adjustment method and eliminating the difficulties that are encountered when the base network and future networks are different.

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The basic Cube Analyst procedure is applied in the following steps:

- Create an unadjusted base [year] trip table;
- Produce a base year trip table with Analyst that minimizes the differences between model volumes and traffic counts. The result is an adjusted base trip table;
- Make a future year model run to create an unadjusted future trip table;
- Create an estimate of travel growth between the base and future year equal to the future trip table minus the base trip table;
- Add the growth to the adjusted base trip table to produce an adjusted future trip table;
- Assign the adjusted future trip table to the alternative highway network to produce refined traffic volumes. The resulting volumes should be reviewed for reasonableness.

While this procedure appears to be quite simple and straightforward, the implementation in SERPM 6.5 was considerably more complicated. The issues included:

- The large size of the SERPM region in terms of the number of traffic analysis zones (TAZs) exceeded the capabilities of Cube Analyst to produce acceptable results in a reasonable amount of time. In some tests Analyst program limits were exceeded, and the program failed. This required the use of a subarea to reduce the problem size. All Analyst processing was

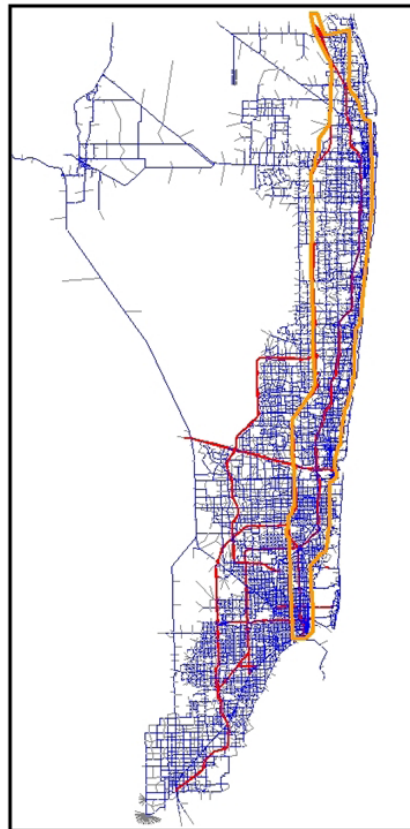


Figure 4: I-95 Subarea (SERPM v6.5)

done at the subarea level. Thus, the Analyst adjustments are valid only in the subarea for which they are developed. Figure 4 shows the I-95 subarea in SERPM 6.5.

- The subarea process required the use of a Cube polygon to extract a subarea network. Extraction of the subarea was a manual step in Cube that could not be scripted. The network, in turn, was used to extract a subarea trip table in a highway assignment for the entire region. For the I-95 Corridor, the subarea was bounded on the west by Florida's Turnpike, on the east by US 1, on the north by the Palm Beach-Martin County line, and on the south by the end of I-95 at US 1. This reduced the number of zones to 2,123 TAZs. The subarea process encountered a new problem when a future year network contained a different number of roads crossing the subarea cordon. This occurred if the adopted long range transportation plan contained new or modified roads. This issue was successfully managed in scripting, using data on new and old numbers produced by Cube in the subarea extraction process.
- Analyst was not able to efficiently consider all of the traffic counts present in the SERPM network. Thus, Analyst was applied in an iterative fashion, randomly sampling from available counts during each iteration. Note that since this method was applied in the time-of-day (TOD) model, TOD-specific traffic counts were coded into the network.

The iterative procedure was applied for each TOD period. Major steps, as illustrated in the Cube flowchart in Figure 5 are as follows:

- Prepare the network;
- Begin iterative loop;
 - Identify traffic counts to be sampled by drawing a random sample.
 - Run a highway assignment, producing the required Analyst outputs using the "ESTMO=T" parameter on the "PATHLOAD" statement.
 - Calculate RMSE for evaluation.
 - Set confidence values on selected counts and trip ends.
 - Apply Analyst, attempting to match traffic counts and trip ends.
 - Adjust the trip table for the next iteration.
- End iterative loop.

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NERPM Port Truck Enhancements

Ken Kaltenbach and Sunil Saha, The Corradino Group, Inc.

The North Florida Transportation Planning Organization (TPO) and Florida Department of Transportation (FDOT) District 2 are adding a Port-Oriented Truck model to the existing Northeast Florida Regional Planning Model Version 4 (NERPM v4.0) to address the expected expansion of the Port of Jacksonville. The existing NERPM model includes a truck trip purpose based on the Quick Response Freight Manual, but does not include enough detailed information to adequately model trucks entering and leaving the Port. Regional models and metropolitan planning organization (MPO) models generally do not include port-oriented models because they require detailed information on truck movements.

The TPO and FDOT have added a Cube-Voyager application to NERPM v4.0 to extract the truck traffic from the Florida Statewide Freight Model (FSWFM). The FSWFM provides a rich source of information on the production, consumption and flow patterns of commodities in Florida and North America. The FSWFM models fourteen commodity groups (Agricultural; Minerals; Coal; Food; Non-Durable Manufacturing; Lumber; Chemicals; Paper; Petroleum Products; Other Durable Manufacturing; Clay, Concrete, Glass, and Stone; Waste; Miscellaneous Freight; and Warehousing). The FSWFM models “tons” of each commodity using generation, distribution and mode choice modules. The final module, freight mode choice, allocates commodities to five freight modes (truck, rail, water, air and intermodal), and converts commodity flows by the truck mode to freight truck trips.

The new Cube Voyager application for NERPM extracts freight truck trips from the FSWFM for an area covering the six-county NERPM region, including external stations. The application combines an extracted trip table with data on operations at port sites and information on intermodal rail terminals (CSX, FEC, and NS) to produce a base trip table for port-oriented truck trips. The application converts the trip table to the NERPM network and traffic analysis zones (TAZs), and adds to NERPM as an overlay to the truck trip purpose.

The Cube Voyager application has the following major steps (also shown in Figure 1):

- Port end data are assembled from local port studies;
- Non-port end data are extracted from the FSWFM;
- Drayage to intermodal site volumes are estimated from local port studies;
- Port truck trip tables are converted from the FSWFM to NERPM TAZ system; and
- Port trucks are integrated with the NERPM Highway Assignment (Figure 2).

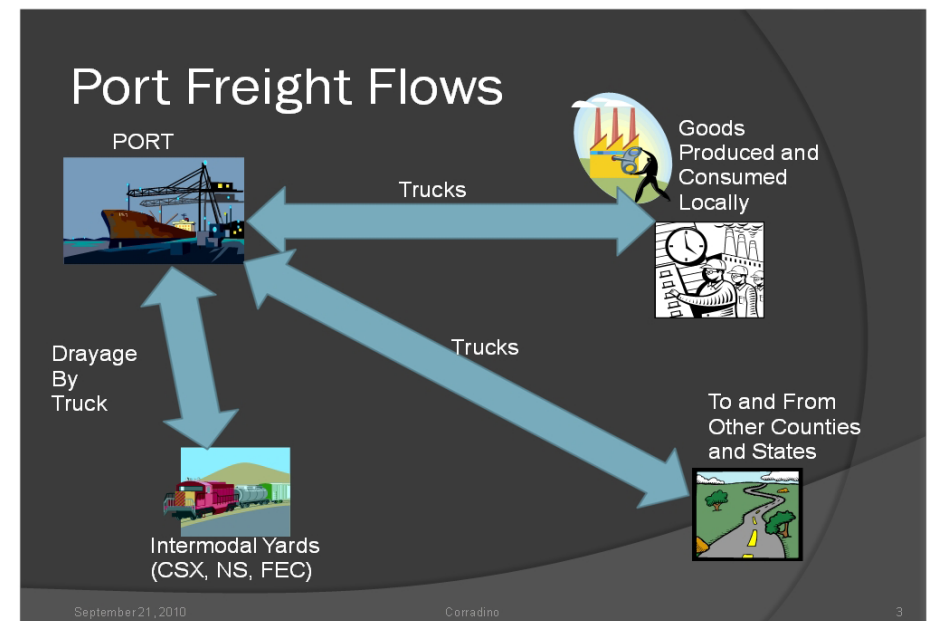


Figure 1 - Method Overview

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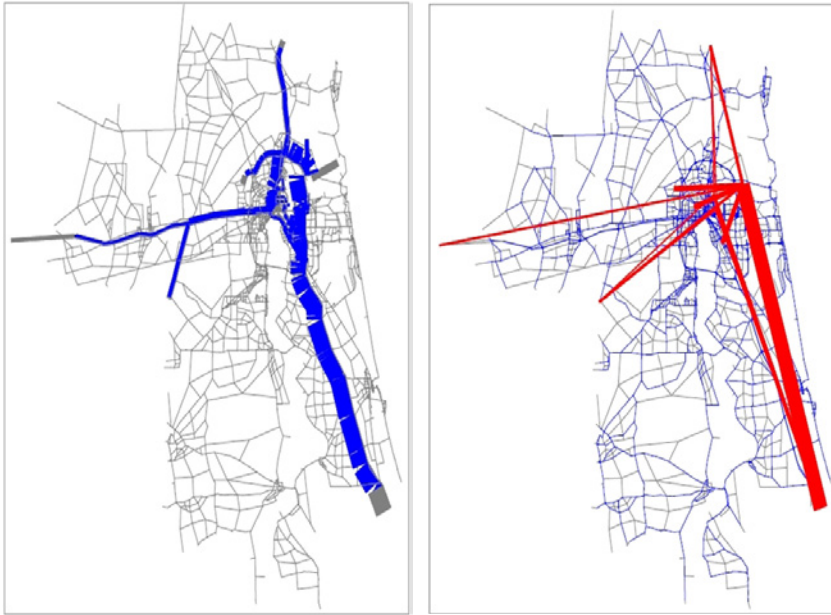


Figure 2: Truck Desire Lines and Bandwidth Plots for Port Activity

The Cube-Voyager application process is controlled by a database file specifying information about the ports and intermodal facilities. The process is flexible, allowing port terminals and intermodal yards to be added or deleted, and their characteristics altered as necessary. The following illustration shows the base year control file for NERPM v4.0.

Figure 3 illustrates that each line in the file provides data for a port terminal, or an intermodal yard, where containers are moved between trucks and rail cars.

Other data illustrated in Figure 3 include the following:

- Trip ends = daily trucks in and out of the terminal
- HWY_FRAC = fraction of trucks that enter and leave the terminal by highway (for example, the Tallyrand terminal has an intermodal yard, so 10% of the containers are moved to intermodal rail and travel by rail).
- IN_FRAC = For port terminals, fraction of trucks bound to and from intermodal rail yards. For intermodal rail yards, fraction of region-wide intermodal trucks using the facility.
- TYPE = Terminal type: port terminal (1) or intermodal rail yard (2).

In summary, the Cube-Voyager application provides a framework for adding port trucks to NERPM v4.0, and the process takes advantage of local data and the rich database provided by the FSWFM. The FDOT can adapt the Port-Oriented Truck model for use with other FSUTMS models.

INDEX	NAME	ZONE	TRIPENDS	HWY_RAC	IM_FRAC	TYPE
1	CSX Intermodal	187	0	0	0.33	2
2	FEC Intermodal	268	0	0	0.33	2
3	NS Intermodal	333	0	0	0.34	2
4	JAXPORT Cruise	351	0	1	0.25	1
5	Blount Island	415	1,480	1	0.25	1
6	Dames Point	416	0	1	0.25	1
7	Talleyrand1	439	214	0.9	0	1
8	Talleyrand2	440	214	0.9	0	1

Figure 3: Base Year control file for NERPM v4.0.

Validation and Sensitivity Considerations for Statewide Models

By Robert G. Schiffer, AICP, and Sarah A. McKinley, Cambridge Systematics, Inc.

A report entitled *Statewide Travel Forecasting Models* provides the first comprehensive examination and inventory of statewide models in the U.S. The report, completed in September 2010, was prepared by Cambridge Systematics, Inc. for the National Cooperative Highway Research Program (NCHRP).

Historically travel demand models have been primarily created for urban and regional areas and have focused on forecasting travel demand within metropolitan areas. In the last 15 to 20 years, many state Departments of Transportation (DOTs) have undertaken the development of statewide transportation demand models. Statewide models are used to forecast travel demand for the entire state and often areas within contiguous states. Urban transportation models focus on travel within and through the urban area. These trips, for the most part, are short-distance home-based and nonhome-based trip purposes. Conversely, statewide models focus on long-distance trips, freight, intercity, and rural trips that are frequently categorized into business, personal, and recreational purposes.

To date, over 30 states have developed or are developing statewide models. These models are often used to help formulate policies, to prioritize projects, and to identify the potential revenue streams from toll road, intercity rail, and other major transportation investments. Because these models play such a significant role in the planning process, careful and thoughtful evaluation of how well these models reproduce existing travel markets as well as their sensitivity to major market segments and behavioral responses is an increasingly important consideration for state and Federal DOTs. Most of these statewide or superregional models are built upon practices originally developed for a monocentric urbanized area.

The report provides the first comprehensive examination and inventory of statewide models in the U.S. The research effort did not, however, include validation and sensitivity considerations for this relatively new class of model. NCHRP Synthesis 358 highlights the ways in which many of these statewide models are different from their urban counterparts. For urban and regional models, there are many sources of guidance on validation and reasonableness checking such as NCHRP Report 365 (under revision) and the FHWA Model Validation and Reasonableness Checking Manual (recently updated). These documents provide a set of excellent resources to evaluate urban models but do not provide any guidance on how nonurban (regional, superregional, and statewide) models should handle validation considerations, performance standards, and/or sensitivities.

This report documents validation and sensitivity issues that should be considered in the development and deployment of statewide models. This report should act as a supplement to the FHWA and NCHRP guidance on model estimation and validation for urban models and highlight ways in which statewide models should be treated differently from urban models.

The Report: NCHRP SYNTHESIS 358, *Statewide Travel Forecasting Models*, is available for downloading at:
http://www.statewideplanning.org/_resources/267_NCHRP-08-36-91.pdf.

FLORIDA TRANSPORTATION MODELING NEWSLETTER

is published under contract to the FDOT Systems Planning Office in Tallahassee. All information and materials contained in the newsletter are contributed by FSUTMS users and Model Task Force members. Please contact the editors to submit articles for future issues or to get on the mailing list.

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On-Site FSUTMS Training Courses

FSUTMS Executive Summary Modeling Seminar: The course will provide an overview of the transportation planning process, travel demand forecasting methodologies, and FSUTMS modules under Cube. Participants will learn the underlying theories of modeling and see the benefits of Cube's abilities to produce presentation graphics for reports and meetings.

Duration: 1 day

Date: April 12, 2011

Location: Orlando

Level of Difficulty: Basic

Audience: Reviewers/Planning Management

Florida DOT TAZ Delineation and Data Access Software Training:

The course is designed for staff responsible for setting traffic analysis zone (TAZ) boundaries and collecting modeling-related census data. The course will identify census data products available for transportation planning, and will provide training on the TAZ MTPS software MPOs will use to upload TAZ boundaries to FHWA to ensure census data geographical aggregations are consistent with TAZs. The course will be taught by FHWA representatives, Ed Christopher and Liang Long.

Duration: 1 day

Date: April 13, 2011

Location: Orlando

Level of Difficulty: Basic-Intermediate **Audience:** Appliers/Developers

Transit Executive Summary Workshop: The workshop is designed for executives/supervisors and transit project managers to become familiar with the process of transit demand forecasting and transit modeling. The course will also cover the Federal Transit Administration's expectations regarding the Section 5309 Program.

Duration: 1 day

Date: May 4, 2011

Location: Ft. Myers

Level of Difficulty: Basic

Audience: Reviewers/Planning Management

Transit Executive Summary Workshop: The workshop is designed for executives/supervisors and transit project managers to become familiar with the process of transit demand forecasting and transit modeling. The course will also cover the Federal Transit Administration's expectations regarding the Section 5309 Program.

Duration: 1 day

Date: May 5, 2011

Location: Tampa

Level of Difficulty: Basic

Audience: Reviewers/Planning Management

Development of Regional Impact (DRI) and Traffic Impact Modeling Workshop:

The course will provide an understanding about what DRIs are and why traffic impact analyses are conducted. Alternate methodologies associated with performing traffic impact analyses will be discussed, as well as sources for assumptions.

The course will provide detailed step-by-step and interactive exercises on model applications typical of DRIs, including refinement of the traffic analysis zone structure, transportation network, and socioeconomic data. The course will require students to complete tasks related to both Subarea Refinement and DRI studies and will focus on the model refinement and re-validation efforts.

Duration: 4 days

Date: May 16-19, 2011

Location: Orlando

Level of Difficulty: Basic-Intermediate **Audience:** Appliers/Developers

Key:

Reviewers - Model Reviewers - Participants who intend to review model results, but not actually run the models themselves.

Appliers - Model Appliers - Participants who will primarily use travel demand models for model applications

Developers - Model Developers - Participants who plan to develop and validate travel demand models.

2011 Training Schedule

For confirmed dates and to register, visit <http://www.fsutmsonline.net>.

The Panhandle Transportation Applications and FSUTMS Users' Group

Resides in the Panhandle of Northwest Florida. Sixteen counties are represented, including four MPO/TPO urban areas and two planning councils. Meetings, when scheduled, are usually held on the same day as the quarterly MPO meetings and are held at the Washington County Public Library, 1444 Jackson Avenue (U.S. Hwy. 90), Chipley, FL from 1:30 p.m. to 3:00 p.m. A notice will be sent to members prior to users' group meetings. For additional information, please contact Linda Little by email: linda.little@dot.state.fl.us.

The Northeast Florida Transportation Applications Forum

Jointly organized by the FDOT, District 2 Planning Office and the North Florida TPO. The meetings are held at the North Florida TPO facility on 1022 Prudential Drive, Downtown Jacksonville, 32225 from 12:00 p.m. to 2:00 p.m. The meetings are open to the public and private sector. Professionals are encouraged to either bring their own lunch or order pizza by the slice. For additional information concerning the Forum, please contact Thomas Hill by email: thomas.hill@dot.state.fl.us.

The Southwest Florida Users' Group

Meets at the Charlotte County-Punta Gorda MPO, 1105 Taylor Road, Suite G, Punta Gorda. For additional information, please contact Bob Crawley, FDOT, District 1, by e-mail: bob.crawley@dot.state.fl.us.

The Tampa Bay Applications Group (TBAG)

A transportation planning users' group which meets quarterly to hear speakers address technical issues on travel demand modeling and project applications. Previous meeting topics, newsletters and presentations are available on the www.tbrta.com website under TBAG Archives. The meetings are brown bag and are held at the Florida Department of Transportation, District 7 Office, 11201 N. McKinley Drive, Tampa, Florida, 33612 from 12:00 p.m. to 2:00 p.m.

The meetings are free and open to all transportation planning professionals. If you are interested in receiving meeting notices, the TBAG newsletter and other users' group information, please contact Danny Lamb by email: daniel.lamb@dot.state.fl.us.

Southeast Florida FSUTMS Users' Group

Promotes understanding and proper application of FSUTMS to the solution of transportation planning and engineering problems. The goal of the group is to enhance the accuracy and reliability of local travel demand models. Membership shall be granted any time during the year to interested individuals involved in FSUTMS applications. General membership meetings will be held quarterly. Special meetings may be held at such other times as considered necessary by the members. Meetings are tentatively scheduled to be held at the FDOT, District 4 Headquarter first floor Auditorium from 9:30 AM to noon. For additional information, please contact Derek Miura at FDOT, District 4 by email: derek.miura@dot.state.fl.us.

The Central Florida Transportation Planning Group

Meets quarterly to provide presentations on travel demand modeling, transportation planning, and growth management topics. The meetings are brown bag, and all are welcome. The meetings are held at the FDOT, District 5 Urban Office, Lake Apopka Conference Room, 133 South Semoran Boulevard, Orlando, Florida 32807 from 12:00 p.m. to 2:00 p.m. For additional information, please contact Betty McKee by email: betty.mckee@dot.state.fl.us.

Users' Groups