

TBAG

TAMPA BAY APPLICATIONS GROUP

An Open Forum for
Transportation-Related Issues



October 2004

“FROM THE CHAIR”

By: Christopher Hatton, P.E., Kimley-Horn and Associates, Inc.
2004 Chairman for the Tampa Bay Applications Group

The Tampa Bay Applications Group had over 80 members in attendance at the August 26, 2004 presentation on “Land Use and Transportation.” We were lucky to have a date scheduled that was an off week for this crazy hurricane season. Several members were unable to attend the meeting because of time spent helping with Hurricane Charlie. Thank you to these volunteers and we hope that everyone is recovering from these storms.

Our first speaker was **Steve Polzin**, CUTR, who presented on a collection of research and data related to travel behavior. His presentation, “The Case for More Moderate Growth in VMT: A Critical Juncture in U.S. Travel Behavior Trends” included very useful information on the projected growth of travel demand and how this may impact policy decisions locally and nationally.



Steve smiles for the camera.

Our second set of speakers, **Alan El-Urfali**, Collier County, and **Michael Gorton**, URS, highlighted the development of the “New Collier County Transportation Concurrency Management System”. This application was developed using FSUTMS, Microsoft Access and ESRI



Alan asks Cheryl to join him for a quick snap of the camera.

ATTENTION!!!

**Next TBAG Meeting:
October 28, 2004**

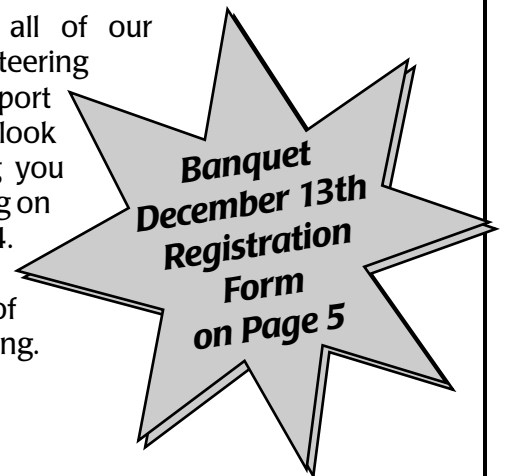
ArcGIS to generate existing and future roadway capacity for the County.



Domingo congratulates Michael on a good presentation.

Our third set of presenters included **Danny Lamb**, FDOT District 7, and **Wade White**, Citilabs, Inc. They are co-authors on a paper “Development of an Empirically-Based Area Type Model,” which they presented at TRB in January 2004. They discussed the methodology behind this model and its application in the Tampa Bay Area.

Thank you to all of our speakers for volunteering their time to support TBAG. We look forward to seeing you at the next meeting on October 28, 2004. Please see page 4 for the details of this exciting meeting.



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Creation of User-Based Intersection LOS for Pedestrians

By: Peyton McLeod and Theo Petritsch, Sprinkle Consulting, Inc.

As part of the effort to expand non-motorized analysis and planning tools, the Florida Department of Transportation has recently developed a model that accurately measures level of service at signalized intersections for the pedestrian mode. The model was created based on data gathered at the FDOT-sponsored *Walk for Science 2004* research event held on April 30, 2004 in Sarasota, Florida. The primary components of the event were:



- ❖ a downtown intersection walking course with 23 signalized intersections;
- ❖ a "facilities" walking course comprised of intersections and segments; and
- ❖ a video simulation in which intersections and facilities were evaluated, which will be used to calibrate video responses to "real-life."

Approximately 100 participants (paid and volunteer) contributed over 1,200 real-time observations (grades). As they progressed through the courses, participants graded (A-F) how well each intersection accommodated and served their needs as pedestrians. Participants were instructed to obey all traffic signals while crossing intersections. Meanwhile, video recording equipment captured individual behavior, delay, and interaction with motor vehicle traffic as tube counters recorded the actual traffic conditions.

Using Pearson correlation and step-wise regression modeling, researchers developed the following model structure for determining pedestrian LOS at signalized intersections:

$$\text{Pedestrian LOS for Signalized Intersections} = a_1(\text{RTOR} + \text{PermLefts}) + a_2(\text{PerpTrafVol} * \text{PerpTrafSpeed}) + a_3(\text{LanesCrossed}^{0.514}) + a_4 \ln(\text{PedDelay}) + C$$

where:

RTOR+PermLefts = sum of the number of right-turn-on-red vehicles and the number motorists making a permitted left turn in a 15 minute period

PerpTrafVol*PerpTrafSpeed = product of the traffic in the outside through lane of the street being crossed and the midblock 85th percentile speed of traffic on the street being crossed in a 15 minute period

LanesCrossed = number of lanes being crossed by the pedestrian

PedDelay = average number of seconds the pedestrian is delayed before being able to cross the intersection

C = constant

In addition to the model structure, several other hypotheses were tested based on statistical analyses:

- ❖ the existing Pedestrian LOS Model for *roadway segments* does not adequately predict how well intersections serve pedestrians;
- ❖ pedestrians walking *with* and *against* traffic score intersections statistically the same;
- ❖ *paid* and *volunteer* participants score intersections statistically the same; and
- ❖ demographic characteristics of participants do not significantly impact intersection scores.

The result of this research is a reliable, statistically calibrated Pedestrian LOS model for intersections, suitable for application in a vast majority of Florida and U.S. metropolitan areas. The Pedestrian LOS model for *segments* is used by numerous jurisdictions to evaluate conditions on roadways between intersections. This new model supports improved designs of *intersections* to more safely accommodate pedestrians. To obtain a copy of the results submitted to the Transportation Research Board, please contact **Martin Guttenplan**, from the FDOT at (850) 414-4906 or **Peyton McLeod** or **Theo Petritsch** from Sprinkle Consulting, Inc. at (813) 949-7449.

North Dale Mabry Corridor Study

By: Mary Stallings and Jim Anderson, PE, Grimail Crawford, Inc.

The Florida Department of Transportation (FDOT), in cooperation with Hillsborough County, has been evaluating the Dale Mabry Highway corridor to improve congestion, multi-modal issues and reduce safety concerns. Recently, FDOT's efforts have focused on North Dale Mabry from Waters Avenue to US 41 (across the Pasco County Line), approximately 12 miles in length. This article provides a brief summary of some of the multi-modal and traffic congestion issues that have been documented as part of the evaluation.

Specifically, the study is investigating the validity of adding an additional lane to Dale Mabry both northbound and southbound by "filling in the gaps" between existing right turn lanes in the southern portion of the study area. Opportunities for bicycle/pedestrian improvements along the corridor are also being examined as part of this additional lane concept, especially in the vicinity of the two schools located near the project study area, Carrollwood Elementary and Gaither High School. The need for signalized intersection improvements along Dale Mabry for the existing year through 2015 are also under evaluation.

Initial findings for the study corridor are highlighted:

Safety Issues

❖ From 1999-2003, approximately 2,500 automobile crashes; thirteen (13) pedestrian crashes, with two fatalities; and five (5) bicycle crashes with sustained injuries were identified.

Availability of Pedestrian and Bicycle Facilities

❖ Pedestrian facilities: approximately 2½ miles on the southbound side and 3½ miles on the northbound side of Dale Mabry.

❖ The Lutz Community Greenway and the Upper Tampa Bay Trail connect to the corridor. *Pasco County MPO 2025 L RTP* includes the addition of a bicycle facility from the Pasco County line to US 41.

❖ *Hillsborough County MPO 2025 L RTP* has identified bicycle facility improvements for the corridor.

❖ Two candidate sidewalk projects are listed in the FDOT production-scheduling database: Northgreen to Carrollwood Place and Linebaugh Avenue to Hudson; as well as a pedestrian overpass between Waters and Busch (details have not been developed).

North Dale Mabry continued on page 6

New and Improved Multimodal LOS Resources from Systems Planning

A new version of LOSPLAN is on the Web and includes ARTPLAN, FREEPLAN and HIGHPLAN. ARTPLAN now accommodates auto, bicycle, pedestrian and bus LOS. The software is available at NO COST at the website listed below:

NEW!

Modal Regulations and Plan Amendments for Multimodal Transportation Districts - Final Report, USF

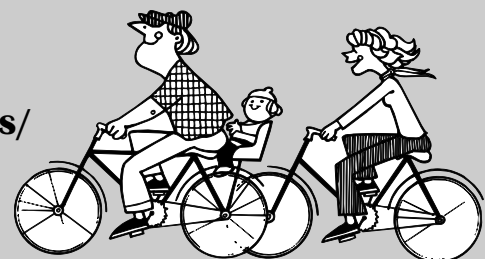
NEW!

Multimodal Transportation Districts and Areawide Quality of Service Handbook (November 2003)

Multimodal Level of Service resources are at our website:

<http://www.dot.state.fl.us/planning/systems/sm/los/>

For more information, you may contact Martin Guttenplan (FDOT Systems Planning Office) at (850) 414-4906 or martin.guttenplan@dot.state.fl.us



ATTENTION



Tampa Bay Applications Group

October 28, 2004

*FDOT District Seven Office from 12:00 p.m. to 2:00 p.m.
(Auditorium Opens at 11:30 a.m.)*

**BRING YOUR
BROWN BAG
LUNCH TO
TBAG!**

“MULTIMODAL TRANSPORTATIONS PLANNING”

Theo Petritsch and Peyton McLeod, Sprinkle Consulting, Inc. *Creation of User-Based Intersection LOS for Pedestrians*

The FDOT has recently developed a highly reliable, statistically calibrated model that accurately measures LOS at signalized intersections for pedestrians. This presentation will include a video highlighting the real-time data collection event, the FDOT-sponsored *Walk for Science 2004*, as well as a discussion on the unique aspects of the model and opportunities for application in a vast majority of U.S. metropolitan areas.

Ram Pendyala, USF Civil Engineering and Rodney Bunner, Geodecisions, Inc. *TBEST - Nothing But the BEST for All Your Transit Ridership Forecasting Needs*

TBEST (Transit Boardings Estimation and Simulation Tool) is a new state-of-the-art transit ridership forecasting model system capable of estimating transit boardings at the individual stop level. It is a user-friendly software package that integrates GIS functionality. A description of the methodology and a demonstration of the software will be provided. TBEST has been developed under contract to the FDOT Central Public Transit Office.

Jonathan Paul and Ned Baier, Hillsborough County Planning and Growth Management *Improving U.S. 301: A Win-Win Opportunity*

Hillsborough County has experienced a major influx of development in South County, particularly along the US Highway 301 corridor from Gibsonton Road to SR 674. With close to 10,000 residential units in the works, future roadway capacity is critical, but the \$50 million price tag is high. The County, FDOT, and the developers are working together on a process to widen US 301 and provide the capacity needed using a systematic and timely process, but this precedent breaking approach is new. This presentation will provide an update on this cooperative venture.

Cristy Mayer and Myung Sung, Gannett Fleming, Inc. *New Directions for Florida's Mode Choice Model Structure*

The “multimodal” mode choice model structure currently used by Florida agencies incorporates various types of motorized transportation alternatives, but not modes such as bicycle and pedestrian. The FTA, however, is encouraging modeling of transit alternatives and non-motorized modes to support processes such as *New Starts*. A review of the existing model structure is underway to address FTA's concerns and this presentation will address new directions for Florida's Mode Choice Model Structure.

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TAMPA BAY APPLICATIONS GROUP

2004 Awards Banquet

Monday, December 13th, 2004
Landry's Seafood House

Social Hour: 6:00pm to 6:30pm
Dinner and Program: 6:30pm to 8:30pm

Program:

Awards Ceremony - Three Winners will be Announced at the Banquet.

All TBAG contributors will be recognized during the ceremony.

Speaker(s): To be announced in next TBAG Newsletter

NEW AND IMPROVED!

As time fades, so do
our shirts. It's time to
get your NEW updated
TBAG shirt.

Free with every paid
registration!!!

Registration Form

Landry's Seafood House - Rocky Point
7616 West Courtney Campbell Causeway
(813) 289-7773

Cost of Buffet is \$30.00 (New TBAG shirt is included with every meal).
Dinner buffet includes Fresh Catch Pontchartrain, Grilled Chicken and
Mushrooms, and Shrimp Alfredo, as well as a salad, side dish, dessert and
beverage. A vegetarian meal is available upon request.

Yes, I _____ (name) would like to attend the banquet.
If this registration is for several attendees, please attach the name of each person to this form.

Make check(s) payable to **Kasey Cursey** (TBAG Coordinator) and mail to Kasey Cursey,
Gannett Fleming, Westlake Corporate Center, Suite 150, 9119 Corporate Lake Drive, Tampa, FL 33634.

RSVP by Check by Wednesday, December 6th, 2004

Checks will also be accepted at the October 28th TBAG Presentation.

If you have any additional questions, please contact Kasey Cursey at (727) 726-2235 or by e-mail at kcuresey@aol.com.

Roadway Improvements

❖ Several candidate projects are listed in the FDOT production-scheduling database. However, the current 5-year work program shows the major project as resurfacing from Waters to Van Dyke. Although bicycle/pedestrian improvements have not been discussed as part of this project, the Community Liaison group within FDOT has recently developed a GIS application that may highlight some of these opportunities.

❖ *Hillsborough County MPO 2015 LRTP* shows an interchange improvement at Dale Mabry and Waters.

Most of the data collection tasks have been completed and a report with appended aerial

photography showing the proposed improvements will be developed on CD. The aerials will show abutting parcels with the land use and parcel number from the County Property Appraiser's Office for reference on future Dale Mabry projects. GIS data will be stored and managed on the District GIS data server, and if necessary, on-line access will be provided on the FDOT server through a password protected site.

The FDOT along with Hillsborough County will continue to evaluate this corridor over the next several months. For more information please contact **Jim Anderson** (janderson@gc-inc.com), **Gabor Farkasfalvy** (gabor.farkasfalvy@dot.state.fl.us), or **Waddah Farah** (waddah.farah@dot.state.fl.us).

The Tampa Bay Applications Group Newsletter is published under contract to the FDOT District Seven Planning Office in Tampa. FSUTMS users and TBAG members contribute all information and material contained in the newsletter. Please contact the editors to submit articles for future issues or to get on the mailing list.

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