TBEST 4.0 Webinar

Welcome

Team members involved in the presentation:

- Steve Polzin – Moderator
- Rodney Bunner – Technical Presentation
- Daniel Harris – FDOT Project Manager

Webinar Topics

1. Introduction and What's New
2. New TBEST User Interface Overview and Demonstration
3. New TBEST Tools and Features Overview and Demonstration
4. TBEST Scenario Summary and Comparison Tool
5. TBEST GTFS (Google Transit) Route Import Tool
6. What's Next?

Introduction and What's New

Introduction

What is TBEST?

Transit Demand Modeling/Analysis Software developed by the Florida Department of Transportation Public Transit Office

Software Goal

"Comprehensive Transit Network Modeling, Management and Analysis Software with a focus on short-term transit planning"

Software Objectives

- Sensitive to service adjustments (operational, schedule, alignment, system, and fare)
- User-friendly
- Cost-Effective
- Scalable (Indian River to LA Metro)
- Minimal Data Requirements
- Standard modeling methodology to be used by any agency for Transit Development Plan (TDP) ridership estimation

What can TBEST be used for?

- Strategic (5 and 10 year forecasts for TDPs) and Service Planning
  - Operational Changes
  - Schedule Changes
  - Alignment Changes
  - Fare Changes
  - Socio-Economic Data
- Model Visualization and Analysis Tools (Corridor, Area, Sites)
- Transit GIS Data Management

What's New

- Since the release of TBEST 3.2 in September 2010, the TBEST Software Development team has been converting core TBEST functions into a new framework for compatibility with Windows 7 and ArcGIS 10.
- During the technology conversion process, the team identified areas where the new technology could be used to enhance the user experience and increase the stability of software.
- In addition to the conversion work, other improvements to the TBEST software were taking place through projects with LA Metro and LYNX.
- All of the conversion and project improvements are combined in the latest major TBEST software release, version 4.0.

TBEST 4.0

- TBEST 4.0 represents a technology shift to be compatible with latest advances from Microsoft and ESRI's ArcGIS
- Technology upgrade to Microsoft .NET
- Provides compatibility with Windows 7
- Provides compatibility with ArcGIS 10
- Users are no longer required to have a TBEST User account or have any Admin privileges on their machine
- Integrated support for SQL Server Express 2005 and SQL Server Enterprise 2005 (SQL Server 2008 will work, but you can't share the system to TBEST users with SQL Server 2005)
- Updated TBEST UI a good combination of old and new to limit the learning curve
- Many new features…and fixes

How to Download and Install

- TBEST 4.0 installation can be downloaded from www.TBEST.org.
- Documentation is a separate download also located on the website.
- If you have a previous version of TBEST installed, uninstall before installing TBEST 4.0.
- If you have questions or issues, please create a support ticket via the TBEST website.

TBEST 4.0 User Interface

Updated TBEST User Interface

- TBEST windows are now configured as “Auto-hide” panels.
- Users can “pin” the panels to the interface or allow them to auto-hide to icons the edges of the main window.
- Users can Close and Re-open auto-hide panels.
- Panels will save to your work environment preferences.

Other Improvements

- Response time improvements
- Improved stability
- Users can configure their work environment
- Model is the same…but changes are coming soon. The TBEST Parcel model will be released later this year.

TBEST 4.0 User Interface Demonstration

TBEST 4.0 Tools and Features

Stop Amenities

- In addition to Special Generators that are calibrated into the model, TBEST 4.0 provides the ability to code stop amenities
- Multiple amenities can be coded at each TBEST stop
- Map and report ridership at stops with shelters, lights, etc.
- Ability to calculate and append generators/amenities

List of Amenities

- BUS STOP SIGN
- BENCH
- TRASH CAN
- BIKE RACK
- SCHEDULE DISPLAY
- SHELTER A
- SHELTER B
- SHELTER C
- UMBRELLA
- PEDESTRIAN LIGHT
- STREET LIGHT
- SHELTER LIGHT

New Employment Data

- Updated 2010 Employment Data available for download and integration into your system
- If you update to 2010 data, you will have to re-validate your model

Note on 2010 Census Data

- Census 2010 did not include long form Block Group variables utilized by TBEST.
- TBEST is still working with Census 2000 data.
- We are working on integrating American Community Survey (ACS) data as a surrogate to the TBEST Block Group variables.
- The TBEST Parcel Model to be released later this year will include updated demographic data.

Equation Logs

- Quality Control (QC) Tool to evaluate inputs to the TBEST direct and transfer ridership estimation equations
- Opens in Excel and can be filtered to show a stop and time period
- Displays variable value, coefficient and in-line equation value

Socio-Economic Growth Export

- TBEST User can output calculated growth rates and data for QC and Analysis.
- With the export functionality, the TBEST user can view the calculated growth rates as a layer in the TBEST map.
- By default, the layer will show disparity in population growth around the Transit System service area.
- The user can use TBEST (or ArcMap) tools to change the display value to any of the TBEST Socio-Economic variables.

Demo 2

TBEST 4.0 Tools and Features Demonstration

TBEST Scenario Summary and Comparison Tool

Motivation for the Scenario & Area Comparison (LYNX)

- Senate Bill 360 requires counties to develop Mobility Plans as part of their comprehensive plans.
- Alternative Mobility Analysis (AMA) zones are areas defined in the Mobility Plan where increased development or trips are expected.
- LYNX was asked by counties to provide recommendations and standards for Transit to improve capacity and service to meet demand in these areas.
- LYNX responded by developing the TBEST Scenario Comparison tool.
- Allows LYNX planners to enter trip threshold values and recommendations, and then run the comparison analysis to output the additional trips within the area.
- The resulting report specifies the additional trips that will be generated as a result of the development and recommendations that will be required to support those trips.

Scenario Summary and Comparison Tool

- New tool integrated with TBEST
- Ability to summarize all TBEST variables at the route collection or route level
  - Ridership
  - Population
  - Household
  - Income
  - Employment
  - Performance
- Compare two scenarios from the same transit system
  - Provides the value and percent difference between scenario variables

Scenario Summary and Comparison Tool

- Integrates with TBEST Corridors, Analysis Areas or Site areas to summarize values in a user specified area.
- Reporting also includes the options to output all routes with no area evaluation.
- Summary report can be generated for only one scenario without comparison.

Demo 3

TBEST Scenario Summary and Comparison Tool Demonstration

TBEST GTFS (Google Transit) Route Import Tool

Implementation to Support Service Planning (LYNX)

- LYNX deploys TBEST to all service planners within Planning department.
- Base TBEST model is continually maintained via the Trapeze Network Import tool.
- As service changes, modified routes are imported from Trapeze to TBEST.
- Service Planners have continually updated, validated network to work with and can focus on implementing proposed service changes.

Implementation to Support Service Planning

- LYNX developed a custom tool to integrate with Trapeze.
- Agencies around the state use Trapeze, but others use Hastus or other operations packages.
- The one specification that is now recognized in the industry is the General Transit Feed Specification (GTFS) (aka. Google Transit Feed).
- For TBEST to bridge the gap between operations and planning, it needs to interface with GTFS.

GTFS (Google Transit) Integration

- Integration with the GTFS to import TBEST routes from GTFS text files.
- Eliminates network coding for base year alignments.
- Enables the agency to continually update the TBEST network with minimal effort.
- Enables service planners to focus on planning and analysis, not network coding.
- Also serves the dual purpose of being a good QC tool for your GTFS output.

GTFS (Google Transit) Integration

- TBEST GTFS Import tool is available as a separate installation.
- PSTA and Miami-Dade Transit networks have been generated.
- Currently a beta release and will be undergoing evaluation for use with Florida properties that output to GTFS.
  - Requires the shapes.txt file
  - Requires the calendar.txt file
  - Requires the direction_id field to be populated in the trips.txt file
- If you are interested, please submit your GTFS feed to the TBEST team and we will evaluate for compatibility.
- Once we determine the your files are compatible, we will distribute the tool to you for use in your operations.

Demo 4

TBEST GTFS (Google Transit) Route Import Tool Demonstration

Topic 6

What’s Next?

TBEST Evolution

- Designed to mainly support ridership estimation in Transit Development Plans, the TBEST tool is evolving into a tool that will support everyday service planning, data analysis, QC, and GIS visualization.
- Many new tools and workflows are coming including:
  - TBEST Parcel Model
  - Incorporation of Land Use data from DOR Parcels
  - Current and historic APC Integration for evaluating trends in service
  - Reports that will directly meet TDP review requirements
  - Metrics for evaluating route performance
  - Web-based dissemination of TBEST data
  - TBEST Guidebook that will provide agencies the information they need to incorporate TBEST into their Planning workflows

Upcoming TBEST Events

- CUTR Webinar – June 30 from 12-1 pm.
- Parcel Model Release – August 2011
- Look for software updates on the TBEST website – www.tbest.org

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