Model Users Group Meeting

TMIP Peer Review

NCSITE
June 9, 2004

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Model Research & Development Team
TMIP Peer Review, How Were You?
The Mystery of TPBs Modeling Efforts!

1. Purpose of the Review
2. Discussion Points of Interest
3. Recommendations from the Panel
4. Where we are headed
Purpose of the Panel:
We Need Some Help From You Now!

We took a Look at the modeling world around us & realized:

We lost a lot of knowledge

The modeling world was changing

Concerned about not being state of the practice

Wanted some idea of what is accepted
Who Rode in our Mystery machine?

Leta Huntsinger
Lydia McIntyre
Tim Padgett
Rhett Fussell
Beverly Williams
Dan Thomas
Mike Bruff
What is Need to be Answered to Solve the Mystery?

- Information on travel modeling best practices at all stages of TDM development
- Prioritized recommendations for travel demand modeling improvements
- Recommendations on organizational questions, such as the role of MPOs and staffing capacities
- Guidance and recommendations on types or levels of travel demand modeling
Discussion Points of Interest

Organizational Type Issues

Data Sources

Four Step Process
Organizational Type Issues

NCDOT's responsibilities across the state

Does the Department need specialists or generalists

Partnerships with Others

Model Types Developed across the State
Data Issues

Field Surveys-Does this make sense?

Non-standard data collection methods

Use/collection of Data

Travel Surveys- performing them, transferability, commercial vehicles

Data Forecasting
Four Step Process

Gravity Model

Friction Factors/gamma function

Borrowing of equations, factors

Destination Choice

Transit modeling

Assignment Techniques

Validation/Calibration Issues
Panel Recommendations
Mystery Fact 1: Strengths of TPB Modeling Staff & Approach

Young pool of modeling talent-
    seem to be forward thinking
    open to criticism, ?’s

Good understanding of the validation/calibration criteria

Good modeling training documentation (Modeling 101)

Good survey base for regional areas
Mystery Fact 2: Data/Survey Recommendations

Create Data collection strategy-
  10 yrs update major surveys
or schedule off years to spread out cost
do more speed studies
Sample broader areas in state & use to apply
Creative funding-CMAQ

Take advantage of other data-NPTS, census, etc
look at new ways of using data

Regional control totals are a must-
use other tools, delphi panels, specialists

Develop consistent data standards-
data formats, use of data, etc
Mystery Fact 3: 4 Step Process Recommendations

- Stay Away from subjective variables (classification)
- Keep special generators to a minimum - stratify into another trip purpose
- Gravity model still the standard
- Invest heavily in surveys before doing destination choice
- Friction factors still accepted - use gamma too
Mystery Fact 3: 4 Step Process Recommendations

Transit-identify a menu of varying techniques, nested logit, pivot pt, binomial, etc

No more AON assignment-except to run logic checks

Perform User equilibrium

Speed studies to develop new vol/delay curves and measures for free flow speed

Use aerial photos to verify centroids for loading
Mystery Fact 4:
General Opportunities & Challenges

Create a Statewide Model users group

Statewide Model

Make better use of consultant services-specialized tasks

Create a consortium of technical partners

Specialists are a necessity in your branch-pay for it

Develop a toolbox for analysis

Open mind in emerging processes
Where are We headed?

Modeling Unit- specialists

Control totals- have been using them in areas, looking at covering the whole state

Surveys- involved in some, looking at using together perhaps a survey RFP

Looking at new modeling processes-using census, modeling process development

Model users group-helping to create/develop
Where are We headed?

Use of consultants more-on call contract, consortium of expertise

Toolbox for use in modeling analysis - ITRE/universities

Best practices Committee
Mystery Solved!!!!