

North Carolina Statewide Model Users Group Meeting  
April 26, 2006 in Raleigh, North Carolina  
*Notes prepared May 9, 2006*

**Overview:**

The spring 2006 meeting of the North Carolina Model Users Group (NCMUG) was held in Raleigh, North Carolina at ITRE in Room 2600 between the hours of 10:00 a.m. and 4:00 p.m. There were (42) participants from agencies ranging from NCDOT, MPOs, RPOs, universities, and the private sector. Geographic regions were fairly well represented with folks traveling from as far away as Charlotte and Wilmington. The event offered a full day program with two technical presentations in the morning and three technical presentations in the afternoon. The afternoon presentations were followed by an open discussion at the end of the day. The original time slot scheduled for the meeting was 10:00 a.m. to 3:00 p.m. but the session ran an hour longer than scheduled, due primarily to a later start and the amount of discussion around the presentations.

Presenters and topics are listed below along with contact information for the presenter. A brief summary of the presentations is also provided. If you would like more information about a particular presentation, please contact the presenter or access a copy of their PowerPoint slides from the North Carolina Model Users Group website at: <http://ncdot.org/doh/preconstruct/tpb/MRD/modelUsers/default.html>

Land Use Planning Information to Inform Travel Modeling  
Anna Leos-Urbel, UNC Graduate Student Interning with CTE  
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NetManager: A Model Network Management System  
Bing Mei, ITRE Service Bureau  
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WEB-Based Socio-economic Data Evaluation and QC  
Jeremy Raw, DCHC MPO  
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Jake Petrosky, CAMPO  
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Triad SE Data Forecasting  
Todd Steiss, PB  
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An Approach to Land Use Forecasting  
Don Bryson, MAB  
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## **Presentation Summaries:**

### Land Use Planning Information to Inform Travel Modeling, Anna Leos-Urbel, UNC Graduate Student Interning with CTE

Anna presented her graduate project on guidelines for the development of a land use plan. Her work originated from the land use process requirement in the Comprehensive Transportation Plan Process (CTP). The CTP is a process improvement effort currently being spearheaded by CTE for NCDOT. In essence, modifications to the General Statutes require that local areas have a land use plan prior to being eligible for a transportation plan. While the General Statues outlined the requirement, it did not provide guidance on how to implement the requirement. Anna's research is built upon three basic goals:

1. Consistency between land development, utilities, and public facilities plans with the transportation plan.
2. Coordination with other localities' plans and with regional and state strategic visions
3. Environmentally friendly plans.

To support these goals Anna recommends several categories of data and policy information for consideration. This data along with public involvement and the appropriate level of analysis can lead to the development of local land use plans that can inform decisions about future growth in employment and population. This process lays the groundwork for forecasting land use variables needed for model application, leading to more robust transportation plans.

NetManager: A Model Network Management System, Bing Mei, ITRE Service Bureau  
Bing presented a network data management tool that he developed to facilitate highway and transit network coding for the Triangle Regional Model. The tool is built on the concept that all future year highway and transit projects for various plan scenarios can be managed from one geographic line layer. The tool has a user friendly interface and incorporates various levels of error checking and error trapping. The TRM model team at ITRE has been using this tool to develop future year network scenarios for the Triangle region. One of the components that make this tool so unique is the incorporation of the management of transit route systems.

### WEB-Based Socio-economic Data Evaluation and QC, Jeremy Raw, DCHC MPO and Jake Petrosky, CAMPO

In the Triangle region InfoUSA data is used as one of the primary sources for base year employment data. To facilitate the review and editing of this database which is often fraught with error, Jeremy developed an interactive WEB-Based tool so that local planners can use to easily review and modify the employment data for their regions. The data for individual employers can be accessed and reviewed using various queries including number of employees, business name, or employee clusters. In addition to presenting the data in tabular format, the tool also allows the user to view the data on a descriptive map or to overlay the data on the TAZ layer. Some of the more innovative features of the tool include the ability to identify the employers closest to the record being reviewed; the ability to track recently visited or edited records; and a history log that keeps track of all edits, including any comments.

### Triad SE Data Forecasting, Todd Steiss, PB

Land use forecasting is an important aspect of the overall travel modeling effort. Without a high degree of confidence in our future year land use forecasts, we cannot have confidence in our future year traffic forecasts. Todd shared with the group an approach that was used in the Triad region to prepare land use forecasts for the modeling effort. This approach incorporated a top down/bottom up methodology. Various sources of data were utilized including Woods and Poole, State Data Center, local land use information, and land use data from the previous model. Forecasting was focused on three tiers parcel, TAZ, and sub-area. The top down approach initially focuses on county level forecast trends that are further allocated to sub-areas. The bottom up approach started at the parcel level with each parcel being tagged with a TAZ ID. Parcels were identified as vacant or developed utilizing pre-determined rules. All vacant parcels were then tagged for potential development and density ranges. The results of the top down forecast were compared to the results of the bottom up approach and differences were identified and resolved to create the final forecasts to be used in model application. Todd highlighted several lessons learned in this process including the importance of knowing the definition of employment for the data set you are using and the importance of using census geography to define your TAZs.

### An Approach to Land Use Forecasting, Don Bryson, MAB

Economic and market trends heavily influence the amount and type of growth experienced by a region. Economic forecasts are based on sustainable and consistent economies that are affected by supply and demand. The land use forecasting procedure presented by Don relies heavily on a regional economic forecast. This approach was successfully applied in Asheville and is currently being applied in Wilmington. The approach presented was based on national demographic and economic trends with the assumption that basically the national trends will continue much as they have in the past. Different market sectors are identified and local trends for these sectors are compared to the national trends. An analysis is performed to obtain future year forecasts for 50 square mile geographies. These forecasts are then allocated to individual TAZs considering things like existing roads, slopes, and environmental constraints. Don highlighted several lessons learned including the importance of knowing your data and recognizing that different data sets have different employment characteristics and different definitions of employment. He also stressed that QA/QC is critical when working with employment data from secondary data sources.

### **Open Discussion:**

During the open discussion several questions were posed and discussed by participants. The focus of the discussion revolved around future meeting location, timing, and topics. The group also brainstormed activities and outreach geared towards increasing participation by students.

### Future Meetings

There seemed to be consensus that the fall meeting of the Users Group should be a stand alone meeting and not be combined with the NCMPO Conference. Combining the meeting with the conference presents many logistical challenges for participants and also infringes upon the amount of time that can be dedicated towards User Group activities. Most participants felt that there was enough interest and information to support a meeting in the spring and a meeting in the fall with a format similar to the one at this year's spring meeting. The group identified several topics of interest that would be appropriate for the next meeting and/or for the modeling session at the MPO:

- Report from Modeling Innovations conference
- Report from TRB Small and Medium Sized Communities conference
- Report from MPO survey on modeling practice
- Update on models around the state
- Modeling best practice
- Presentations by representatives from employment data sources (InfoUSA, Employment Security Commission)
- Model applications
- Differences in travel behavior for Hispanic populations
- School forecasting/modeling
- Land use scenario building
- Rolling data management plan
- NPTS add-on
- How can modeling community respond to ACS rolling inventory
- Modeling M&N

#### Student Involvement

The users group is interested in getting more students involved in group activities. Several suggestions were mentioned as ways to reach out to students including identifying a group of speakers that would go to student ITE meetings to give a presentation, coordinating with professors who teach travel modeling to see if we can have a guest presentation in one of their classes, hosting a student focused event where we provide free food as an enticement to get students to attend.