

Distrib Committee Meeting  
Daytona Beach - May 4, 2004  
8:00 AM – 9:00 AM

### **Introduction & Welcome**

Mike welcomed all the members and gave a brief history on the Distrib Committee's activities over the past year. At the last meeting the Distrib Committee decided to no longer pursue possibilities to enhance the current gravity model but rather to shift focus toward a destination choice distribution model.

### **Enhancements to the Gravity Model**

Fang Zhao, Florida International University (FIU) briefly presented the enhancements, which were made to the Gravity model prior to switching to the research related to the destination choice model. In an effort to enhance the gravity model, survey data was analyzed to identify potential variables for enhancing trip distribution; intervening opportunity models were studied; and potentials of enhancing gravity models by considering land use, demographic, and socioeconomic variables were analyzed. Several technical reports were published regarding this research effort.

### **Destination Choice Model**

Fang Zhao of FIU, presented "Investigation of Destination Choice Models." The destination choice model belongs to a family of discrete choice models. The idea behind the model is that when an individual is faced with choices, his or her preference toward each alternative may be described by the alternative's "attractiveness" or "utility." The utility is determined by characteristics of the individual and the alternative. The alternative with the highest utility is chosen.

The first phase of the study consisted of the identification of areas that are using a destination choice model. Next, the Portland destination choice model was applied to the Broward County model. The results of the destination choice model were then compared to Broward County's gravity model.

On the household side, the data was stratified by three household income levels, and on the employment side; the data was stratified by three categories. Then in the distribution process, income level was linked to employment categories. It appeared that the destination models produce better trip lengths and higher spatial accuracy than the gravity model, while the gravity model replicated the intrazonal trips better.

### **Open Discussion and Action Items**

It was generally agreed that income is an important variable but politically hard to forecast. It was also pointed out that the data requirements for destination choice models are very intensive.

As a next step Shi-Chiang Li and Mike Neidhart will work together with the Systems Planning Office to discuss possible research on implementing an income variable in the gravity model. A recommendation will be put together and forwarded to the Distrib Committee members.

The meeting was adjourned at 9:30 AM.