

**METROPOLITAN TRANSPORTATION SUPPORT INITIATIVE  
METSU**

**For the Illinois Department of Transportation (IDOT)  
Bureau of Urban Program Planning**

**QUARTERLY REPORT**  
For the quarter ending March 31, 2008

Joseph DiJohn, Research Professor  
Director, Metropolitan Transportation Support Initiative  
Urban Transportation Center  
University of Illinois at Chicago  
412 South Peoria Street, Suite 340  
Chicago, Illinois 60607

Tel: (312) 996-1458  
Fax: (312) 413-0006  
E-mail: [joedi@uic.edu](mailto:joedi@uic.edu)

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# **METROPOLITAN TRANSPORTATION SUPPORT INITIATIVE (METSI)**

## **QUARTERLY REPORT**

For the quarter ending March 31, 2008

### **CURRENT QUARTER ACTIVITIES**

#### **GENERAL AND ADMINISTRATIVE**

The following are highlights for the most recent quarter:

-Met with Secretary Milt Sees and Dick Smith on February 5 to discuss the METSI Fiscal Year 2009 program.

-At the request of IDOT- DPIT, completed the study ADA Special Services: Price Elasticity for the Provision of Free Service in the State of Illinois as an amendment to METSI.

-Late for Work? Blame Freight and Trucks Op-ed appeared in the January 14 *Crain's Chicago Business*.

-Kouros Mohammadian completed the following ramp metering report: Calibration of ATMS Ramp Metering Tables: Methodology and Software Design Phase I: Eisenhower Expressway as an amendment to METSI.

-Moderated two panels, presented a paper titled The Impact of Freight on the Chicago Area Commute and toured the BNSF headquarters and intermodal yard at the Annual Meeting of the Transportation Research Forum.

-Presented three papers and cosponsored a social function at the Annual Meeting of the Transportation Research Board.

-Cosponsored a meeting with CMAP of public transit agencies and global and national private providers in order to foster public-private partnerships.

Below is a description of progress during the quarter. Please note the progress report below on the IDOT funded project Improving Operational Performance of Ramp Metering Systems, which was added as an amendment to the METSI contract.

#### **RESEARCH PROGRAM**

##### **Improving Operational Performance of Ramp Metering Systems**

Prepared and submitted a project report to IDOT; Calibration of ATMS Ramp Metering Tables; Methodology and Software Design Phase I: Eisenhower Expressway. The report discussed the process of developing a methodology that can allow IDOT to calibrate ATMS ramp metering operational parameters, specifically identifying the critical mainline occupancy parameter. The report also explains how IDOT can calibrate two of ATMS ramp metering strategies, Time of Day (TOD) table and Local Traffic Responsive (LTR) operation. The report of the first phase of the study also discusses how TOD and LTR tables are calibrated for all controlled ramp junctions along the Eisenhower Expressway. Updated tables are provided in the Appendices. Data extraction and processing is underway from other expressways in the Chicago region.

##### **Regional Intermodal Freight Planning**

Kazuya Kawamura continues as a member of CMAP Intermodal Advisory Task Force (IATF) and as the chair of the Research and Planning Subcommittee. He is working on the creation of the publicly accessible web site that will post freight performance data.

### **Center for Freight & Infrastructure Research and Education (CFIRE)**

CFIRE is one of ten National University Transportation Centers that were established under SAFETEA-LU and is led by the University of Wisconsin, Madison and will focus on issues of sustainability and freight transport. UIC is in contract negotiations with the University of Wisconsin. Dr. Kawamura has assisted in the preparation of the revised contract. CFIRE also distributed the Spring Issue of their Newsletter.

### **Making Truck-Rail Intermodal Competitive**

The UIC team has made progress in the development of the Freight Model: How To Make Intermodal Competitive. The match funds for this activity will come from Midwest state DOTs and METSI. Erin Cohen, a Research Assistant has combined import data and domestic freight flow data from the Freight Analysis Framework 2 (FAF2) to examine the trends in intermodal goods flow. She has also contacted logistics companies in the Chicago region to schedule interviews to obtain information on their mode choice criteria and possible enhancements to the rail-truck intermodal that will make that mode more attractive to the shippers.

### **Mississippi Valley Freight Coalition (MVFC)**

UTC staff will provide logistical and technical support to facilitate the initiatives being planned under the MVFC effort. The Spring Meeting and Workshop began on March 31 in Indianapolis.

### **Lake County Commuter Coalition**

The new reverse commute train on Metra UP North Line called the "Sunrise Express" which began April 2, 2007 has been averaging over 200 riders per day. The Committee has not met since the implementation of the new service.

### **McHenry County Transportation Study Implementation**

Staff continues to participate on the McHenry County Transportation Study Implementation Task Force (ITF). A grant application in the amount of \$350k was approved by McHenry County. Met with County staff to discuss status of obtaining an operating agreement with Pace.

### **Freight Congestion**

Undertaking research into the impact of freight congestion on the Chicago region's commute. Prepared a Column for the Opinion Page to Crain's Chicago Business, which appeared on January 14 and presented a paper to the national TRF Annual Meeting on March 17.

### **Highways and Sprawl**

Examination of the rates of sprawl in the Chicago region has resulted in the conclusion that the rates of sprawl have been declining. A recently completed METSI Workpaper titled Suburban Growth Extends Further but the Rate of Suburban Growth is Declining show that over the last seven years the rate of population growth in the Collar Counties has declined. Even in Will County, after several years of growth, the trend is downward. All the counties are growing but at lower rates. Kendall County is the only county that continues to show greater growth each year. While this is impressive, the absolute growth is lower than in Kane or Will Counties. Kendall is an example of continued sprawl and increasing home ownership in the Chicago area. Its growth is not a response to a new expressway but rather the continuation of the outward movement of the region's population. It corresponds to our conclusions that home ownership and prosperity spurs outward growth. In the most recent year (2006-2007), Cook County's population increased, the first increase in the last five years. Clearly the rate of sprawl is changing. It is

noteworthy that in the last year downstate Illinois is beginning to grow after several years of population decline. Now both the six-county region and downstate Illinois are growing. If this continues it will spread the growth of traffic more evenly throughout the state.

### **Sprawl and Obesity in the Chicago Area**

Past efforts have resulted in reports and papers that were presented at national conferences. Current research has also resulted in a submittal for presentation at an upcoming conference. The drivers' license data is in the process of being updated.

### **American Community Survey: Trends in Commuting Behavior by Population Subgroups**

The study investigates seasonal effects of work trips using non-public data from the ACS. UTC researchers have obtained Special Sworn Status from the Census Bureau to access confidential transportation microdata. The information will be used to determine cycles and seasonality in transportation demand.

### **Spatial Accessibility Indices for Transit**

The development of this project will enhance the functionality of an accessibility measure tool that will facilitate transportation planning practice in the Chicago area. We have made good progress and have initiated discussions with CMAP on how to best incorporate such work in their planning process. A related paper was presented at TRB in January 2008.

### **Database and Library**

Staff continues developing a database and library for UTC and METSI. The CUPPA has hired a web site developer to assist in revamping the UTC and METSI web sites.

### **Locomotive Horns**

Ashish Sen, Director Emeritus, is working with CMAP and IDOT to maintain the exemption granted to northeastern Illinois by the FRA. The matter has been sent to the Committee on National Statistics (CNSTAT) of the National Academies. There is nothing new to report.

### **Longitudinal Employer-Household Dynamics (LEHD) Data**

The UTC team has conducted extensive analysis of the LEHD data for Illinois obtained from IDES and have identified shortcomings in previously released data. These deficiencies have been made known to Census, FHWA as well as to planning and transportation agencies in the Chicago region. We are now working with the new data set recently released by the Census. Our collaboration with IDES continues and preliminary findings appear promising.

### **Loop Detector Data**

Staff has begun analyzing loop detector data from the region's expressways for the purpose of analysis and potential use in real time traveler information systems.

### **Burnham Plan**

Undertaking research into the transportation components of the Burnham Plan in anticipation of the 100-year anniversary in 2009. Submitted an abstract to the ITE Midwest conference and received acceptance for presentation at their annual meeting in Chicago in July.

### **UIC Green Campus Initiative**

Assisting the University in developing a transportation component of the campus plan to reduce greenhouse gases and congestion. The project will develop transportation data, survey campus faculty and staff and make recommendations to improve the efficiency and effectiveness of transportation and parking on campus. There is nothing new to report.

### **Safety Analysis**

Undertaking an analysis of safety in Illinois. Have begun by mapping the location of fatal crashes, crashes involving property damage and pedestrian accidents in a GIS format.

### **Volunteer Driver Programs Masters Thesis**

Work continues on the research assistant's thesis proposal: Contribution of Volunteer Driver Programs to the Transportation Network in the Chicago Region. A number of surveys have been completed.

### **ADA Special Services: Price Elasticity for the Provision of Free Service In Illinois**

At the request of IDOT- DPIT, completed a discussion draft of the study for the Governor's Office and replied to several questions and clarifications.

### **Bus Tracking Technology Proof of Concept**

A fourth generation technology is being developed that will track the UIC Campus Shuttle buses in a more cost efficient and effective manner.

### **The Economic and Environmental Impact of Intermodal Terminals**

Preparing a scope of work to undertake an analysis of the impacts of the intermodal terminals in Rochelle and Joliet for submission to IDOT.

### **The Impact of Weather Conditions on Highway Driving**

Preparing a scope of work to undertake an analysis of the impacts of weather conditions on highway driving in Illinois for submission to IDOT.

## **TECHNICAL ASSISTANCE**

### **Association for Commuter Transportation (ACT)**

Participate as a member on the Board of Directors and to develop jointly sponsored workshops.

### **CMAP Intermodal Advisory Task Force (IATF)**

Continue participation on the Task Force and attended meeting on January 30 and March 27.

### **CMAP Private Providers Task Force**

Meetings were held with John McCarthy, Continental Airport Express, Tony Pagano, UIC and Bola Delano, CMAP in planning to restructure the CATS Private Providers Task Force into a new CMAP Public/Private Partnership Task Force.

### **CMAP Comprehensive Plan Development**

Continuing to meet with CMAP and discuss participation in the Regional Comprehensive Plan.

### **Greater North Michigan Avenue Association (GNMAA)**

Continue participation with the Transportation Committee and attended meeting on March 27.

### **IDOT- DPIT**

The final scope of work and budget for the Database project has been approved by IDOT and a presentation was given to the ICCT. The contract was approved, the kick-off meeting was held and work continues.

### **Interagency Coordinating Committee on Transportation (ICCT)**

No meetings were held during the quarter.

### **Peoria MPO**

Met with Peoria MPO staff at the IDOT Planning Conference and offered assistance with their consultant to complete their transportation modeling tasks. There is nothing new to report.

### **Champaign MPO**

Work on trip generation has been completed. A paper based on this research was submitted for presentation to the annual TRB meeting in January and for publication in the Journal of TRF. We anticipate they will need additional assistance in working with CUUATS' consultant to complete their transportation modeling tasks.

## **WORKSHOPS, TRAINING AND VISITING SCHOLARS**

### **TRF Chicago Chapter Activities**

#### **Update on Rail Transit and Amtrak Service in Illinois**

Rick Harnish, Executive Director of the Midwest High Speed Rail Association gave a presentation on January 23 at DePaul University.

#### **Canadian National Purchase of the Elgin, Joliet and Eastern Railroad**

Jim Kveradas, CN, Randy Blankenhorn, CMAP, Jim Giblin, DuPage Rail Safety Council and Dave Young, retired Transportation Reporter, Chicago Tribune and author presented and discussed the topic on February 22 at IDOT offices in Chicago. There were phone-ins from Indianapolis, Champaign-Urbana and Evanston.

### **TRF Annual Meeting**

Attended the Annual Forum on March 17-19, presented a paper The Impact of Freight Congestion on the Chicago Area Commute, moderated two panels; Capacity Strategies and Transportation Planning and Traffic Safety Analysis and Hazardous Material Response Issues and attended a tour of the BNSF headquarters, network operations center and intermodal yard.

### **TRB Annual Meeting**

Attended the Annual Meeting on January 13-17 and the following METSI supported papers were presented; Examination of the Relationship Between Real-Time Traffic Information and Market Entry Barrier for Local Delivery Firms: Agent Based Approach, Trip Generation Revisited: Estimation of Trip Generation Rates from Small-Scale Household Travel Surveys and Influence of Urban Form on Work Related Travel Behavior: Exploration Using Agent-Based Modeling.

**Climate Change: Tipping Point for TDM or Tipping at Windmills**

Cosponsored a Webinar with ACT and the University of South Florida on January 9.

**STB Open House**

Attended the STB Open House on the CN purchase of the EJ&E on January 9 in Barrington.

**Merging Environmental Protection and Transportation Impacts: The I-355 South Extension**

Attended a presentation by Angela La Porte, ISTHA planner, former student and CUPPA alumnus on January 18.

**Lessons Learned in Implementing Multi-Jurisdictional Transit Signal Priority Systems: King County Metro Transit and Los Angeles County Metro Authority**

Held a Webinar sponsored by the USDOT on January 22.

**Longitudinal Employment Household Dynamics Workshop**

Cooperated in a training workshop with CMAP staff on January 24.

**Public Transit in Illinois and the Intersection of Service, Labor and Technology**

Sponsored a workshop at UTC with Robert Ginsberg presenting labor's perspective of the recent transit legislation on February 15.

**Approaches for Integrating Configuration Management into Your ITS Project Development Processes**

Held a Webinar sponsored by the USDOT on February 21.

**Approaches for Building Effective Regional Relationships in the Deployment of IT**

Held a Webinar sponsored by the USDOT on March 4.

**Evaluation of the Application of Delivery Consolidation in the U. S. Urban Area Using Logistics Cost Analysis**

Sponsored a workshop at the UTC on March 21 where Kazuya Kawamura discussed some of his METSI research on strategies of reducing truck traffic.

**Paratransit Curriculum Development**

Developing curriculum for a graduate interdisciplinary seminar based on an earlier METSI-related research on paratransit computer-assisted scheduling and dispatch technology.

**PLANNED ACTIVITIES FOR NEXT QUARTER**

**RESEARCH PROGRAM**

**Improving Operational Performance of Ramp Metering Systems-** Data extraction and processing will be done for other expressways in the Chicago region.

**Regional Intermodal Freight Planning-** Continue participation with CMAP IATF.

**Center for Freight & Infrastructure Research and Education (CFIRE)**- Complete contract negotiations with University of Wisconsin.

**Making Truck-Rail Intermodal Competitive**- Continue analysis of freight flow data and complete survey of mode choice among Chicago area logistic companies.

**Mississippi Valley Freight Coalition (MVFCC)**- Spring Meeting and Workshop will be completed on April 2 and a report on the course of action over the next two years will be issued.

**Lake County Commuter Coalition**- No meetings have been scheduled.

**McHenry County Transportation Study Implementation (ITF)**- Participating in committee and subcommittee activities on paratransit and taxi vouchers. The next meeting been scheduled for April 10 in Woodstock.

**Freight Congestion**- Continue research and submit paper for presentation or publication.

**Highways and Sprawl**- Research continues in the areas of population growth in the counties in Illinois to examine growth trends next year, during less prosperous times.

**Sprawl and Obesity in the Chicago Area**- A paper is being prepared for presentation at a conference in July and efforts will be underway to update drivers' license data.

**American Community Survey: Trends in Commuting Behavior by Population Subgroups**- Obtain and analyze data and prepare a paper on the cyclical and seasonal effects of work trips.

**Spatial Accessibility Indices for Transit**- Continue development of indices and collaborate with CMAP on how to best incorporate the work into the planning process.

**Database and Library**- Continue development of a database of transportation information for use in determining research focus and to provide data to constituent transportation and planning agencies. Also, continue development of library and associated website.

**Locomotive Horns**- Await reply from CNSTAT and direction from CMAP work group.

**Longitudinal Employer-Household Dynamics (LEHD) Data**- Working with the 2004 data set from the Bureau of the Census to identify and rectify shortcomings, if any. Continuing the collaboration with IDES.

**Loop Detector Data**- The speculative work is ongoing.

**Burnham Plan**- Research transportation components will be ongoing and a paper will be completed for presentation at ITS Midwest in July.

**UIC Green Campus Initiative**- Nothing new to report on the project.

**Safety Analysis**- Pursue the development of data and definition of objectives.

**Volunteer Drivers Program Masters Thesis**- The survey of not-for-profit social service agencies and the final thesis report will be completed in May.

**ADA Special Services: Price Elasticity for the Provision of Free Service in Illinois**- Awaiting final acceptance or additional scope from IDOT- DPIT.

**Bus Tracking Technology Proof of Concept**- Continue the development of an improved fourth generation bus tracking for the UIC Campus Shuttle.

**The Economic and Environmental Impact of Intermodal Terminals**- Will begin upon approval of scope.

**The Impacts of Weather Conditions on Highway Driving**- Will begin upon approval of scope.

#### **TECHNICAL ASSISTANCE**

**ACT**- Continued activity on Board of Directors and seek to continue co-sponsoring workshops.

**CMAP Intermodal Advisory Task Force (IATF)**- Continue ongoing assistance to CMAP and attend meetings on April 24 and May 29.

**CMAP Public/Private Partnerships Task Force**- Follow up to luncheon meeting in held in November with public sector and private providers and assist CMAP develop the new Task Force membership and meeting agenda.

**CMAP Regional Comprehensive Plan Development**- Continue participation as requested by CMAP and provide research input into white papers.

**GNMAA**- Provide ongoing assistance to GNMAA Transportation Committee.

**IDOT- DPIT**- Statewide database project is underway separate from METSI and a progress meeting will be held on April 4.

**ICCT**- Continue participation, obtain input on data needs and plan to attend meeting on April 3.

**Peoria MPO**- Nothing new to report from Peoria regarding travel demand models.

**Champaign MPO**- Continue to provide assistance with trip distribution modeling and publication of a paper in the Journal of TRF.

#### **WORKSHOPS, TRAINING AND VISITING SCHOLARS**

**ITE Midwest Conference**- Continue on planning committee for conference and preparing a paper for presentation in Chicago on July 6 through 8.

**Future of Public Transit in Chicago**- Planning to cosponsor a panel discussion in late April with the College of Urban Planning and Public Affairs (CUPPA) Alumni Association.

**A Technical Discussion on Wireless Data Transportation Systems: Wireless Trends, Tools and Tips Session II- Wireless Link Engineering Webinar**- Planning to hold a workshop sponsored by the USDOT on March 8.

**Assessing the Potential for BRT in Your Region: Lessons Learned from a Los Angeles-New York ITS Peer to Peer Exchange Webinar**- Planning to hold a workshop sponsored by USDOT on March 16.

**Richard J. Daley Forum**- Planning to attend the annual forum at UIC on April 29.

**Hazardous Materials Research Workshop**- Planning to cosponsor a Webinar with Northwestern University Transportation Center and the Railroad Program at the University of Illinois Champaign-Urbana in June.

**National Transit Institute Courses**- Undertaking a review of NTI course menu to determine interest in cosponsoring training courses in the Chicago area.

**2007 Global Supply Chain Forum: Innovative Public/Private Financing for Supply Chain Infrastructure**- The event planned for November 20 under joint sponsorship of CMAP, MPC, Metropolis 2020, and the Chicagoland Chamber of Commerce was postponed due to scheduling conflicts. No date has been set for rescheduling the event and there is nothing new to report.

**Paratransit Curriculum Development**- Complete the seminar by the summer session.

#### **PROJECTS COMPLETED DURING CURRENT CALENDAR YEAR**

**Climate Change: Tipping Point for TDM or Tipping at Windmills Webinar**

**Lessons learned Implementing Multi-Jurisdictional Transit Signal Priority Systems: King County Metro Transit and the Los Angeles County Metropolitan Authority Webinar**

**Update on Rail Transit and Amtrak Service in Illinois Workshop**

**Approaches for Building Effective Regional Relationships in the Deployment of IT Webinar**

**Canadian National Purchase of the Elgin, Joliet and Eastern Railroad Panel**

**The Impact of Freight Congestion on the Chicago Area Commute Presentation**

**Late for Work? Blame Freight and Truck Traffic Op-Ed**

**Evaluation of the Application of Delivery Consolidation in the U.S. Urban Area Using**

**Logistics Cost Analysis**

**Suburban Growth Extends Further but the Rate of Suburban Growth is Declining METSI Workpaper**

**ADA Special Services: Price Elasticity for the Provision of Free Service in the State of Illinois Discussion Draft Paper METSI Amendment**

**TRB Annual Meeting and Presentations**

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**STB Open House on the CN purchase of the EJ&E**

**Merging Environmental Protection and Transportation Impacts: I-355 South Extension**

**LEHD Workshop with CMAP**

**Public Transit in Illinois and the Intersection of Service, Labor and Technology Seminar**