



Advanced Technology Task Force

Meeting Notes - August 10, 2006

The meeting was called to order at 10:00 AM at the CMAP Offices, 233 South Wacker Drive, Suite 800, Chicago, Illinois. Those present at the meeting were:

David Zavattero, Co-Chair
Duana Love, Co-Chair

Attendees

Members:	Marty Anderson	<i>IDOT Elec. Op.</i>	John Dillenburg	<i>UIC</i>
	Jeff Galas	<i>IDOT TSC</i>	Ken Glassman	<i>ISTHA</i>
	Joe Heinrich	<i>SSMMA</i>	Andy Hynes	<i>Naperville</i>
	Patti Killinger	<i>Will County</i>	Duana Love	<i>RTA</i>
	Dean Mentjes *	<i>FHWA</i>	Taqhi Mohammed	<i>Pace</i>
	Ruth Myers	<i>DuPage Co.</i>	David Zavattero	<i>Chicago OEMC</i>
Interested Parties:	Wai-Sinn Chan	<i>CTA</i>	Monte Chen	<i>Wilbur Smith</i>
	Christopher DiPalma	<i>FHWA</i>	Craig Franklin	<i>Trichord</i>
	David Kredow	<i>Transit Technologies</i>	Scott Lee	<i>Delcan</i>
	Matt Letourneau	<i>Edwards & Kelcey</i>	Rafay Mohammed	<i>URS</i>
	Jon Nelson	<i>IDOT</i>	Greg O'Neill	<i>CTA</i>
	Justin Potts	<i>IDOT IT</i>	Lee-Ann Seeling	<i>Trichord</i>
	Christina Slayton	<i>RTA</i>	Gerry Tumbali	<i>RTA</i>
	Govind Vadakpat	<i>Parsons</i>	Rao Vaitla	<i>IDOT</i>
	Larry Wilson	<i>IDOT</i>	Ping Yu	<i>Motorola</i>
CMAP Staff:	Parry Frank			
	Craig Heither			

*Dean Mentjes teleconferenced.

SUMMARY OF COMMENTS:

1. Approval of meeting notes from May 17, 2006 Task Force meeting

The notes were approved as submitted.

2. CTA Bus Tracker Demo

Wai-Sinn Chan demonstrated the CTA's Bus Tracker system which was launched on 8-5-2006. This is a web based information system that shows the location of the buses on the #20 Madison route and their expected arrival times. The information can be viewed at www.ctabustracker.com.

Bus location is determined with the CTA's automated vehicle location system. The buses send information to a computer every 15 seconds. The information about the location of the bus and its travel patterns are processed and the arrival times for stops are estimated. Arrival

times on the website are updated every minute and arrival times to the bus stop message sign are updated approximately every 30 seconds. The final arrival time is listed as "Less than two minutes". There is also an alarm system that viewers can select that will send a message to the computer screen or a web-enabled PDA notifying when a bus arrives at a predetermined location. This feature will allow commuters to reduce their waiting time for buses.

David Zavattero asked about integrating this application with the transit signal priority project on Western Avenue. Wai-Sinn Chan noted that they are separate projects using different algorithms and that conditional priority would be needed to accomplish that. David Zavattero asked how the Madison route was selected. Wai-Sinn Chan stated it was selected because it is a cross-town route and to gain an understanding of how the GPS system would work in an urban environment. Duana Love asked how long the pilot project would last and Wai-Sinn Chan stated it would run until the end of the year. Following that an evaluation will be done and it will include user surveys.

3. Parking Management Guidance System

Gerry Tumbali updated the task force about this pilot project that uses message signs to alert drivers to the number of available parking spaces at Metra parking lots. This real-time parking availability information will reduce parking lot circulator times. Multiple lots may be shown on one sign and the signs can be located at the lot or on nearby roads so that riders can make informed choices concerning which train stations have available parking spots.

This is a joint project between Metra, RTA, IDOT, Cook County, the City of Mokena and the Village of Tinley Park. This pilot project is being conducted at two train stations on the Rock Island District (Tinley Park/80th Avenue and Mokena/Hickory Creek). At this point the software and hardware have been installed, as well as the radio communication infrastructure. Design and implementation of the demonstration cost \$2.1 million but the software is scalable.

The system uses pairs of loop detectors to count vehicles entering and leaving Metra parking lots. The information is transmitted to the signs and the information is also sent to Metra headquarters through the use of a T1 line. The system is capable of tracking vehicles that enter through the exits and can also account for drivers who drop off transit riders. The system would be the most useful for stations with parking lots that have many available daily spots and are not full for most of the day. Parking lots that service monthly users or fill up very early would be less suitable for this system. The technical evaluation of the project will be led by USDOT.

Andy Hynes asked about any issues with miscounts and Gerry Tumbali stated two sets of loop detectors are used and vehicles must pass through both. He also stated motorcycles can be counted. John Dillenburg asked about errors with the system. Gerry Tumbali stated there are some issues and that the margin of error needs to be calibrated. Jeff Galas asked about the threshold used to determine that a lot is full. Gerry Tumbali stated that a threshold of between 10 and 50 available spaces was being used and that it would be adjusted.

Matt Letourneau asked if reserved spots were included and Gerry Tumbali stated the system counted daily spots. Patti Killinger asked if the information is available on the internet. The information is not on the web yet but there are plans to place the information on the Metra webpage, RTA Trip Planner and on the GCM website. Duana Love noted that a more

generic sign may be designed or data may be sent to existing municipal signs. David Zavattono noted that this could be integrated into an arterial management system. Marty Anderson suggested that color coding the number of available parking spots might be useful.

4. Pace Transit ITS Initiatives

Taqhi Mohammed provided an update on Pace's ITS initiatives, including Bus Rapid Transit (BRT) and transit vehicle signal priority (TSP). It is estimated that 15% of bus delay is due to time spent at signals. TSP has been deployed between North Riverside Mall and the 54th/Cermak CTA station, showing that operating costs could be reduced between 7% and 20% and that the payback time for this project would be 3 years.

Pace is planning a TSP demonstration project around the Harvey Transportation Center which will include installing TSP equipment at approximately 25 traffic signals. In order to determine the time savings due to TSP, the study corridor will first have its signal timing optimized where it is deemed appropriate. It has been suggested that buses should board on the far side of the intersections to minimize the delay at signals. After the route has been optimized, the time savings for buses employing a request for TSP can be measured. Results from the demonstration project will help Pace prioritize other TSP locations around the region.

BRT uses a combination of roadway improvements, TSP and automatic vehicle location technology to improve transit operation in a corridor. The use of queue jumping lanes for transit vehicles is a strategy that will be studied. The *Vision 2020 Plan* calls for implementing BRT in 23 corridors around the region.

5. County and City of Chicago ITS Efforts

DuPage County – Ruth Myers summarized the activities for the Transportation Coordination Initiative. The Traffic Incident Management Workgroup met and had a good turnout. There will be an effort to use ITS to improve response times to routine incidents in addition to major incidents. A traffic incident management self-assessment will be conducted. The next meeting will focus on stakeholder interviews. Matt Letourneau noted that a DuPage subregional ITS Architecture will be developed in accordance with the Regional and Statewide Architectures.

Will County – Patti Killinger stated the Will County TMC feasibility study had been completed. It recommends collocating the TMC and emergency management centers and possibly the 911 center. The County will share construction and incident data with the GCM website. The County is also beginning an effort to inventory its traffic signal systems and will coordinate with CMAP and IDOT staff to avoid duplicating work.

City of Chicago – David Zavattono discussed activities Chicago is undertaking. The City's Traffic Management Authority was created last year and placed within the Office of Emergency Management and Communication (OEMC). Chicago is developing a TMC that will integrate the existing Chicago Operations Center (OC), Chicago Incident Center (CIC) and Joint Operations Center (JOC), which are collocated at OEMC with the Chicago 911 Center. The coordinated operation of the traffic management system and the emergency management services is similar to the model used successfully in Europe and Asia. Integration of these functions will facilitate the sharing of information in the future and support the traffic management system. In

addition the City has developed a program to optimize signal timing at 500 to 600 signalized intersections a year and is expected to be able to optimize its nearly 2,900 signals within 5 years. Timing at nearly 300 signalized intersections has been optimized since the start of the program in 2005.

6. Congestion Analysis using Archived Data

Craig Heither summarized work MPO staff had done analyzing traffic congestion using archived traffic data. The analysis is included in a Congestion Management System (CMS) state-of-the-system report which is available at www.catsmpo.com/prog-cms.htm. One year's worth of five-minute summary data on the expressway and tollway systems were used to analyze traffic conditions in eight corridors. This information is being made available to public transportation agencies through the federal Intelligent Transportation Infrastructure Program.

Three performance measures were developed to describe operating conditions in the corridors: average travel time, the 95th percentile travel time (the amount of time one would need to allow to be on-time 95% of the time), and travel time reliability. In general the travel time increases during the morning and afternoon peak periods in the Eisenhower corridor were about the same magnitude. This was also true in the Stevenson corridor, while the Edens and Dan Ryan Express corridors showed that one peak period had travel times noticeably longer than the other. The Dan Ryan corridor had the most unreliable travel times of the four expressway corridors. The tollway corridors all showed noticeably longer travel times during one peak period. The Tri-State corridor had the most unreliable travel times of the tollway corridors. It was noted that the GCM partners have made some tools available at www.gcmtravelstats.com that allow members of the public to perform their own analysis with the travel time data.

Craig Heither also stated that the analysis included a case study of a specific crash that occurred on the Northwest Tollway. The purpose of the case study was to examine how the incident was reflected in the archived data and to determine the feasibility of using it to analyze incident-related delay. A next step is to develop a methodology to analyze the frequency and duration of incidents in the study corridors.

David Zavattero cited this work as an example of the value that can be provided by archived data. Ken Glassman noted that a Technical Advisory Group will oversee a Regional Archive Study that will be 50% funded by ISTHA. This effort will be conducted jointly with Argonne National Lab and they will be sure to involve all of the regional players with an interest in archived data. John Benda can provide additional information on the project.

7. Upcoming Meetings and Conferences

<u>Meeting Title</u>	<u>Location</u>	<u>Dates</u>
IDAS training course	IDOT District 1	Aug. 30-31, 2006
GCM Meetings	Consult calendar at www.gcmcommunicator.com	
ITS Midwest meetings	Consult calendar at www.itsmidwest.org	

8. Next meeting

The next ATTF meeting is scheduled for Thursday, November 9, 2006 at 10:00AM.