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Integrated Corridor Management (ICM) Quarterly Newsletter — Winter 2008

In This Issue:

The mission of this quarterly newsletter is to inform ICM stakeholders about the USDOT ICM Initiative, including the latest knowledge and technology transfer resources available to corridor managers and operators across the country through this initiative. Its mission is also to help raise general awareness about how the USDOT ICM initiative is contributing to managing congestion. Please contact April Armstrong at armstronga@saic.com with any comments or suggestions for future newsletter topics or to sign up for electronic distribution of this newsletter.

ICM Initiative Update: ICM Pioneer Sites Focus on Concept Development

The eight ICM Pioneer Sites are in the process of completing the first step toward the implementation of ICM in a corridor—the development of an ICM Concept of Operations, or CONOPS, for their ICM corridors. In this foundational concept development step, partner agencies along a transportation corridor work together to develop a detailed concept for how they would operate and manage their various corridor assets (such as transit signal priority, traveler information, ramp metering, and high-occupancy vehicle and toll [HOV–HOT] lanes) as an integrated system.

This kind of integration requires these agencies to make substantial institutional, operational, and technical changes. The ICM CONOPS document, which describes the vision and concept for an integrated corridor, includes detailed descriptions of the expected implications of these changes. This level of detail serves as the foundation for the development of thorough requirements (the next step) and helps to align all partners with a shared vision and shared set of expectations, positioning the project for success.

In March 2007, representatives from the eight Pioneer Sites met in Houston, TX, to present their ICM concepts and strategies to the U.S. Department of Transportation's (USDOT) core team and to each other. During this 2-day workshop, the USDOT provided the Pioneer Sites with access to technical experts in concept development, requirements development, technical integration, and modeling. Pioneer Sites followed a Generic ICM CONOPS document based on a fictional corridor developed by USDOT as an example. The USDOT expects to make the Pioneer Sites' actual CONOPS documents available as models for future corridor operators and managers around the country, once they are complete, through the ICM Knowledgebase (http://www.its.dot.gov/icms/knowledgebase.htm) in early 2008. The Generic ICM CONOPS document is available now.

Next Step: Requirements Development

This fall/winter, the Pioneer Sites are taking the next step and defining detailed requirements to support their ICM concepts (note that the USDOT's ICM development process aligns closely with the classic systems integration life-cycle process). In November, they received personalized, hands-on assistance with this step from technical experts at a requirements workshop in Montgomery County, MD, leading up to the technical integration efforts for the ICM Initiative.

In parallel, the USDOT is actively engaged in the ICM Analysis, Modeling, and Simulation (AMS) effort, designed to better understand the potential mobility and safety benefits of ICM and yield tools and methodologies that can help other corridor managers and operators around the country (please see "Spotlight on the USDOT's ICM Initiative," page 6). >>>

Meet the USDOT ICM Pioneer Sites!

Dallas, TX: US–75 Corridor

The ICM corridor in Dallas, TX (US–75), has a heavy volume of traffic and is one of the most critical corridors in the region.

Dallas is home to a wide variety of large employers and universities. The corridor has no ability to expand and will be impacted by major construction planned in the surrounding area.

Along the US–75 corridor, the Dallas ICM team aims to help develop a truly regional network, deliver better traveler information, expand Intelligent Transportation Systems (ITS) and integrated operational systems, coordinate incident management, increase the capacity of park-and-ride facilities, and increase the capacity of transit (e.g., light rail) during major incidents and events. Dallas is implementing HOV and is considering value-pricing strategies. The city opened its DalTrans regional Traffic Management Center in July 2007, allowing all partner ICM agencies to be connected.

Key ICM partners in Dallas include the Dallas Area Rapid Transit (DART) in association with the city of Dallas, Town of Highland Park, North Central Texas Council of Governments (NCTCOG), North Texas Tollway Authority (NTTA), city of Plano, city of Richardson, Texas Department of Transportation Dallas District, city of University Park, Texas Transportation Institute (TTI), University of Texas at Arlington (UTA), Southern Methodist University (SMU), and Telvent Farradyne.

Houston, TX: I-10 Corridor

Houston, TX, is home to a booming population, universities, and an impressive business community.

Traffic demands along Houston's ICM corridor (I–10) continue to grow because the population is increasing and three of its major employment centers are expanding.

Along the I–10 corridor, ICM will help manage delay through ITS and congestion pricing strategies; empower travelers to make decisions with multimodal, personalized information; and enhance multiagency incident management and corridor operations. Houston plans to convert the Katy Freeway (I–10) HOV lanes to semi-HOT lanes as one strategy to help increase capacity.

Key ICM partners in Houston include the Texas Department of Transportation, Houston Metropolitan Transit Authority of Harris County, city of Houston, Houston TranStar, and the Houston-Galveston Area Council.

http://www.its.dot.gov/icms/pioneer.htm

The USDOT has selected eight Pioneer Sites to act as critical partners in the development, deployment, and evaluation of ICM strategies designed to help manage congestion in some of our nation's busiest urban corridors as part of its 5-year ICM Initiative.

Minneapolis, MN: I–394 Corridor

The Minneapolis, MN, ICM corridor (I–394) is a bustling commuter corridor with limited space to improve physical capacity.

The Minneapolis ICM team hopes to reduce congestion caused by incidents and planned events; encourage travelers to shift travel modes and routes; increase traffic flow with managed lanes, transit signal priority, and coordinated signal timing; and improve signal equipment reliability.

The Minneapolis ICM team is focusing actively on developing relationships with key partner agencies and stakeholders to exchange incident data along its ICM corridor. This is a first step toward the city's goal for full computer-aided dispatch (CAD) integration. In the very near term, it is considering sharing information through manual channels, such as by radio, e-mail, and telephone, to improve communications and increase shared visibility among the different agencies.

After the August 2007 Minneapolis bridge collapse, Minneapolis area transportation agencies used lessons learned from the development of their ICM CONOPS to implement some ICM strategies to address the lost capacity on one of the city's main transportation corridors. Key ICM partners in Minneapolis include the Minnesota Department of Transportation, Metro Transit, Hennepin County, city of Minneapolis, and the Minnesota State Patrol.

Montgomery County, MD: I–270 Corridor

The Montgomery County, MD, ICM corridor (I–270) is located in the heart of the Washington, D.C., metropolitan area and accommodates a high number of local travelers commuting into the city and nearby suburbs.

Montgomery County, MD, is home to one of the busiest regional metro lines in the country and boasts an extensive transit system with express buses. Yet the increased commuter traffic, combined with capacity limitations, poses serious challenges for the corridor.

Along the I–270 corridor, ICM will help integrate multiagency operational and incident data, coordinate multimodal traveler information, deliver real-time transit vehicle status and commuter parking information, predefine signal timing plans and management plans for incidents, and optimize traffic signals on arterials.

Montgomery County ICM partners are developing a prototype Regional Integrated Transportation Information System (RITIS) that will help commuters make more informed transportation choices. RITIS will serve as a clearinghouse for all data and information coming from multiple Transportation Management Centers in the region and will help to integrate incident and operational data for a more robust shared operational picture among agencies.

Key ICM partners in Montgomery County include the Maryland Department of Transportation (MDOT), Maryland State Highway Administration (MDSHA), Maryland Transit Authority (MTA), Montgomery County Department of Public Works and Transportation (DPWT), and the Washington Metropolitan Area Transit Authority (WMATA).

Meet more Pioneer Sites on p. 4

Oakland, CA: I–880 Corridor

Oakland, CA, is home to a large employment center, coliseum/sports arena, seaport, airport, and major population centers. It has a heavy-rail transit system (Bay Area Rapid Transit or "BART"), multiple bus routes, and a ferry that connects the East Bay with San Francisco.

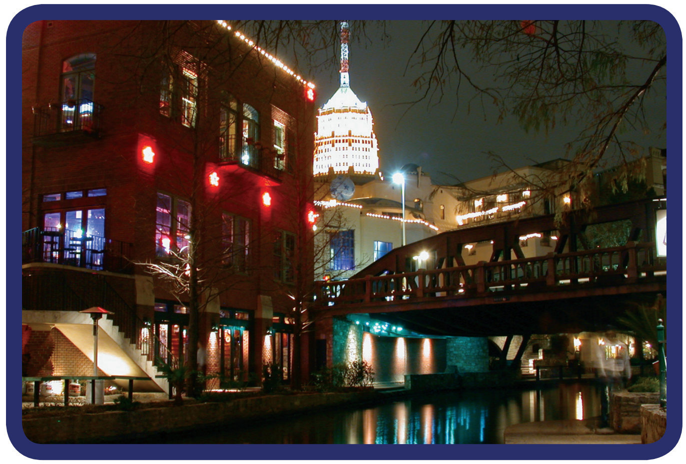
The Oakland ICM corridor (I–880) experiences significant volumes of local commuter and freight traffic and has some high-incident areas.

Along the I–880 corridor, ICM will help agencies share actionable information among freeway, arterial, and transit network systems; improve real-time supply and demand balancing; and improve traffic management for planned events and incident response.

In April 2007, after completing their draft ICM CONOPS, Oakland's corridor managers were able to use some of the ICM concepts discussed in that plan to respond to the collapse of an elevated section of highway that carries motorists from the San Francisco-Oakland Bay Bridge to a number of freeways.

Key ICM partners in Oakland include the California Department of Transportation District 4, Metropolitan Transportation Commission, Alameda County Congestion Management Agency, Alameda Contra Costa Transit District, and the BART District.

San Antonio, TX: I–10 Corridor



San Antonio, TX, is the smallest of the ICM sites, yet has a unique set of challenges as both a major business and tourist destination, with its famed Riverwalk and, of course, the Alamo.

San Antonio's ICM corridor (I–10) serves a broad range of mobility needs: Downtown business traffic, tourist traffic, and traffic from regional shopping centers and medical centers. The corridor has continuous frontage roads adjacent to I–10 and several major arterial roads. The corridor also boasts one of the region's most popular amusement parks and two colleges.

Even with the significant traffic flowing through the I–10 corridor, ICM will help colocate operations and emergency/incident management, support decisions with real-time and historical data, promote mode and route shifts through improved information, manage traffic flow through seamless traffic signal control and signal timing plans, and improve infrastructure flexibility using lane control signals and ramp dynamic message signs.

Key ICM partners in San Antonio include the Texas Department of Transportation, city of San Antonio, and VIA Metropolitan Transit Agency.

To learn more about the eight ICM Pioneer Sites, visit:

http://www.its.dot.gov/icms/pioneer.htm

San Diego, CA: I–15 Corridor

San Diego, CA, is a popular tourist destination and an attractive location for businesses.

San Diego's ICM corridor (I–15) is a heavily used commuter route connecting residential areas in the north with major regional employment centers, including downtown San Diego in the south. I–15 is the primary north-south highway in inland San Diego County serving local, regional, and interregional travel. The corridor is experiencing increasing levels of congestion during lengthening peak travel periods, and travelers are incurring commensurate trip delays.

ICM partner agencies in San Diego are working together to develop their ICM strategies and are collaborating to operate and manage this busy corridor. Together, they are introducing dynamic ramp metering to reduce arterial spillover and are collecting arterial data to support efficient signal timing strategies. They have experienced some success with the existing I–15 reversible HOT lanes, reducing congestion in the southern segment of the corridor during the morning and afternoon peak periods. ICM partners plan to lengthen these managed lanes beyond the current 8 miles and implement dynamic variable pricing. They plan to implement congestion avoidance awards and leverage a trend of increased transit ridership along the corridor, which has outpaced population growth since 1970.

Key ICM partners in San Diego include the San Diego Association of Governments (SANDAG); California Department of Transportation (Caltrans); cities of San Diego, Escondido, and Poway; Metropolitan Transit System (MTS); North County Transit District (NCTD); and the San Diego Service Authority for Freeway Emergencies (SAFE).

Seattle, WA: I–5 Corridor

Home to major employers and the famous Pike's Place Market, with commanding views of Mount Rainier, Seattle, WA, is a major freight, commuter, and tourist hub.

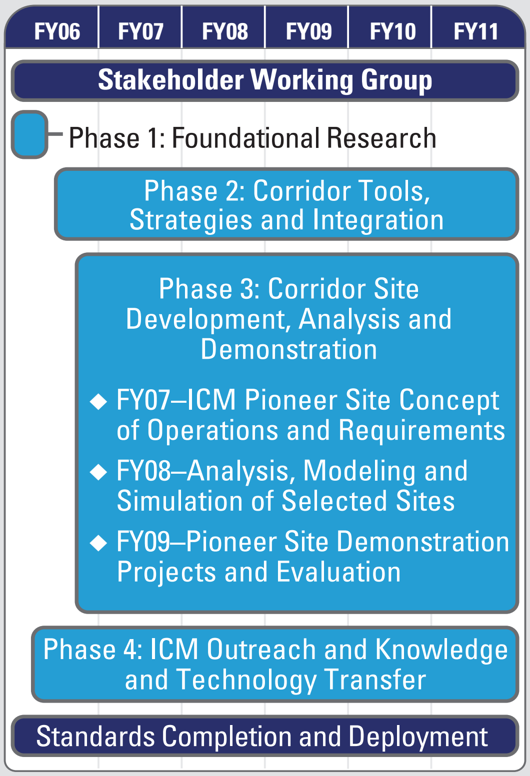
Seattle boasts the busiest rail crossing west of the Mississippi and hosts more than 90 special events annually. Yet the metropolitan area faces many challenges: Geographically constrained corridors, heavy freight traffic, and limited-access facilities.

Along Seattle's ICM corridor (I–5), much work to reduce the level of congestion is already underway, and ICM partner agencies are pursuing ICM strategies to alleviate congestion during construction. As an example, partners are focusing on real-time transit coordination. In other ICM-related initiatives designed to help improve corridor throughput, the city is modifying its signal timing to make traffic flow more smoothly, and the State of Washington is securing a park-and-ride lot with more than 500 vehicle spaces to encourage travelers to shift to buses. With ICM, partner agencies intend to help manage congestion and incidents through active collaboration across the corridor's footprint, to progress traffic across jurisdictions seamlessly, and to optimize corridor mobility via mode and route shifts.

Key ICM partners in Seattle include the Washington State Department of Transportation, King County Metro, Seattle Department of Transportation, and the Puget Sound Regional Council. >>>

Spotlight on the USDOT's ICM Initiative: Phase 2—Analysis, Modeling, and Simulation (AMS)

Figure 1: The Four Phases of the USDOT's ICM Initiative



Phase 1 of the USDOT ICM Initiative focused on conducting foundational research.[1]

Phase 2 of the ICM Initiative focuses on corridor tools, strategies, and integration. A key aspect of this phase is the development of **AMS** methodologies that can be applied to help decision-makers understand potential benefits of ICM in various corridors.

What is AMS?

With ICM, partner agencies actively coordinate the use of transportation assets along parallel transportation routes (roadway and transit) in a corridor[2] to create an interconnected system that offers travelers the most efficient routes and modes of travel. Using existing assets such as transit signal priority, ramp metering, real-time parking availability at park-and-ride facilities, and traveler information technologies, corridor operators and managers can employ an array of ICM strategies to improve the movement of people and goods in a transportation corridor. With so many choices, however, agencies are interested in analyzing the potential benefits of the various approaches to help them decide on specific ICM strategies to implement. Many transportation agencies are interested in modeling and simulating specific strategies under a range of conditions or scenarios (such as planned special events, peak flow congestion, and incidents) to gain a better understanding of mobility impacts that result from using specific ICM strategies, which is the purpose of the Phase 2 AMS effort.

The goal of the AMS effort is to test and validate methodologies that can support analysis of ICM strategies and help generate insights on expected benefits of implementing ICM. The AMS methodologies will be applied to a test corridor using a host of sample ICM strategies. Interstate 880 (I–880) in the San Francisco Bay Area, CA, will serve as the test corridor for analysis of the ICM modeling and simulation methodology. The AMS methodology will use historical data from the test corridor to examine the potential implications of specific ICM strategies—such as ramp metering, transit, HOT lane, and traveler behavior—under a variety of conditions, including average and high travel demand, both with and without incidents along the corridor. By using multiple ICM strategies, the team will test the AMS methodology comprehensively in terms of traveler response (route diversion, mode shift, and temporal shift) and validate the interfaces for the flow of data among the modeling tools that will be used. The resulting information and tools will enable transportation decision-makers at all levels to estimate the benefit resulting from ICM across different transportation modes and traffic control systems.

What is the approach for the AMS effort?

The Phase 2 AMS team began by reviewing the **data needs** to model, simulate, and assess ICM concepts. This step included a review of the specific assets of each Pioneer Site's corridor, its current level of technical and operational integration, and its available data. Next, the team developed and compiled a set of draft methodologies or **analytic approaches** to model ICM strategies. This fall/winter, the team will test and validate these methodologies in the test corridor by combining three classes of simulation models—macroscopic, mesoscopic, and microscopic (see the summary box for descriptions of these models)—for the most comprehensive analysis of ICM strategies. The USDOT is using this new approach of integrating different classes of modeling tools because AMS tools have varying capabilities with relative advantages and limitations—no one tool exists that can address all of the analytic capabilities required to evaluate ICM strategies. Combining the strengths of the available tools will provide the most comprehensive support to corridor management planning, design, and operations.

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[1] Phase 1 documents are available to corridor operators and managers in the ICM Knowledgebase at www.its.dot.gov/icms/knowledgebase.htm.

[2] The Preliminary ICM Analysis, Modeling, and Simulation Experimental Plan defines an ICM corridor as "a combination of discrete parallel surface transportation networks (e.g., freeway, arterial, transit networks) that links the same major origins and destinations." ICM corridors are defined primarily operationally rather than geographically or organizationally. (See www.fhwa.dot.gov/crt/roadmaps/icmprgmplan.cfm).

Finally, the AMS team has defined a set of **performance measures** to be used in the evaluation of ICM strategies for the test corridor and to help compare different investments within a corridor. The performance measures being used include:

Mobility: How well the corridor moves people and freight, measured in terms of travel time and delay.

Reliability of travel time: Relative predictability of travel time.

Safety: Qualitative assessment based on expected levels of improvement in safety as a result of mitigation strategies.

Cost estimation: Planning-level cost estimates calculated in terms of net present value of various components of ICM strategies.

Why use a test corridor?

Combining tools presents its own set of challenges—such as maintaining consistency across the analytic approaches of the tools and defining a consistent set of performance measures. Even when combining tools, some modeling gaps exist, primarily related to traveler behavior, such as analysis of traveler responses to traveler information and analysis of mode shift. By applying these methodologies to a test corridor—using real data from archives—under a range of scenarios, the team will be able to validate the assumptions in the models and calibrate the models to support more accurate predictive results.

How was the test corridor selected?

The Phase 2 AMS team selected the San Francisco Bay Area's I–880 corridor to serve as the test corridor after a careful review of more than 20 candidate corridors. This corridor is one of the main arteries in the San Francisco Bay Area, with 38 miles of freeway connecting Silicon Valley with the East Bay. It is a major freight and passenger throughway serving the Port of Oakland, Oakland International Airport, and the Oakland Coliseum, as well as a concentration of residential, industrial, and commercial properties. The team also selected the San Francisco Bay Area's I–880 corridor because of the wealth of available corridor data, multitude of transportation modes and facilities (freeways, arterials, HOV lanes, transit, etc.), and the transferability and applicability of results and methods to other corridors.

What exactly will be analyzed?

The table on page 8 summarizes the ICM strategies the Phase 2 AMS team will use to test and validate the methodologies and tools using data from the test corridor. They will use archived corridor data from a 2005 regional travel demand model to calibrate the models for improved accuracy. The AMS analysis will focus on the morning rush hour peak (roughly 7 a.m.–9 a.m.) and will take into consideration the frequency of nonrecurrent conditions based on archived data. (The team determined the average and high-travel demand conditions by analyzing archived data for this

AMS continued on p. 8

AMS will combine three classes of simulation models for the most comprehensive analysis of ICM strategies:

- **Macroscopic simulation model** (Travel Demand Forecasting Model): Supports assumptions on travel demand and trip patterns based on destination choice, mode choice, time-of-day travel, and route choice; will also *analyze mode shift in response to congestion and ICM strategies.*
- **Mesoscopic simulation model** Has less fidelity than microscopic tools but is superior to travel demand models; combines properties of microscopic and macroscopic simulation models to *evaluate the impact of traveler behavior in response to ICM strategies (within and between modes).*
- **Microscopic simulation model** Simulates the movement of individual vehicles, based on theories of car following and lane changing; will support *analysis of operational control aspects of ICM,* such as ramp metering and traffic signal coordination strategies.

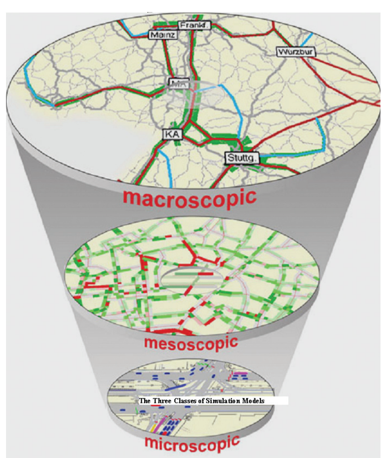


Figure 2: The Three Classes of Models

Spotlight on the USDOT's ICM Initiative: Phase 2—AMS (cont.)

corridor from the Performance Monitoring System [PeMS] database. To support the incident scenario, the Phase 2 AMS team pinpointed the highest frequency incident location within the corridor based on historical data.) The hypothetical incident will assume that one freeway lane is closed for 33 minutes starting at 7:15 a.m., rush hour.

The methodologies and tools will be applied under control conditions (meaning no application of ICM strategies) and then applied to a set of five scenarios, each involving a different specific ICM strategy (traveler information, mode shift to transit, ramp metering, HOT lane, and a combination of these strategies).

What's next for AMS?

The USDOT will use the resulting AMS methodologies and existing tools to model ICM strategies in up to three Pioneer Site corridors as part of Phase 3 of the ICM Initiative in FY08. This modeling will help identify cost-effective ICM strategies and help prioritize ICM investments based on expected performance. Finally, the team will validate the methodologies and tools based on the Pioneer Site demonstrations (also occurring as part of ICM Phase 3).

AMS methodologies, tools, and lessons-learned will be made available to corridor operators and managers across the country through the knowledge and technology transfer resources being developed throughout the ICM Initiative. Visit the ICM Web site at http://www.its.dot.gov/icms/index.htm for more information on the Phase 2 AMS effort. Bookmark the ICM Knowledgebase (available on the Web site) to have a ready desktop reference that is updated quarterly. >>>

Content for this article was derived from the "Preliminary ICM Analysis, Modeling, and Simulation Experimental Plan, Draft Report," prepared by Cambridge Systematics, with assistance from the University of Arizona and the University of California PATH (May 2007), and the "Preliminary ICM Analysis, Modeling, and Simulation Test Corridor Model Description, Draft Technical Report," prepared by Cambridge Systematics (June 2007).

Vassili Alexiadis of Cambridge Systematics is the project manager for the AMS effort. Dale Thompson is the USDOT FHWA program manager overseeing this effort.

ICM Strategies To Be Evaluated with AMS Using a Test Corridor

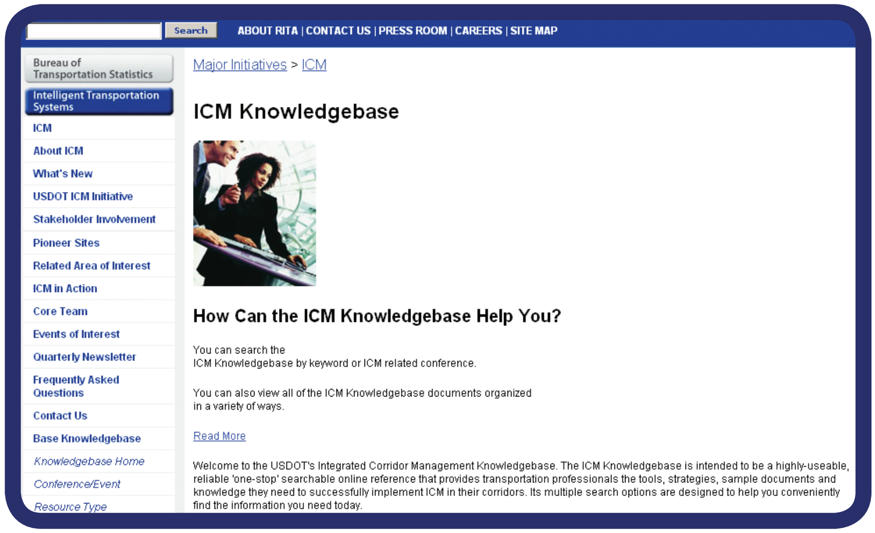
ICM Strategy	AMS Objectives
Traveler information	Evaluate pre-trip and en-route traveler information as well as alternative arterial routes, or drive to a transit station with available parking using Dynasmart-P
Mode shift to transit in the presence of an incident	Evaluate mode shift due to the hypothetical incident (builds off the assumptions used in the traveler information strategy)
Ramp metering	Study the impact of parking availability by manipulating assumptions on parking search time Study freeway traffic management effects of an optimized corridor-wide ramp metering strategy
HOT lane	Study the impact of converting the existing I-880 HOV lane to a HOT lane
Combination of strategies	Evaluate the combined effects of the above ICM strategies, previously applied in isolation

USDOT Launches Redesigned ICM Web Site

New Web site design provides transportation practitioners more intuitive, up-to-date access to ICM-related information

The Research & Innovative Technology Administration (RITA) recently redesigned all program Web sites to maintain a consistent branding.

New features include the addition of a **left navigational bar** that allows the user to move easily to different pages or topics within the ICM site, as well as search within the site. A **new "ICM in Action" link** shares stories from regions that have applied ICM strategies or techniques to real-world situations, such as the Minnesota bridge collapse (see "ICM in Action" feature article in this quarter's newsletter). The site also features **frequently asked questions (FAQ)** and highlights **events** that may be of interest to the ICM community.



The Web site is updated regularly, in tandem with the release of the ICM quarterly newsletter and **features the ICM Knowledgebase**. The Knowledgebase is a searchable, browseable one-stop reference tool, designed for transportation practitioners by transportation practitioners, to provide convenient and reliable access to useful resources and knowledge (including how-to guidance, sample documents, and lessons-learned) needed to successfully implement ICM. Every Knowledgebase resource includes a brief summary abstract, information on who may find the resource to be useful, and how the resource can be used. This simple feature saves professionals the time and trouble of downloading or opening files that may not be of value to them. Every resource also includes a current point of contact.

Advancing Multimodal Corridor Operations: ICM Knowledge and Technology Transfer

The USDOT is committed to transferring the knowledge and lessons-learned gained through the ICM Initiative to interested corridor managers and operators around the country.

The mission of the Knowledge and Technology Transfer element of the ICM Initiative (Phase 4) is to help equip transportation practitioners to implement ICM as a way to gain efficiencies in transportation corridors, using existing assets. Visit the ICM Web site and Knowledgebase at *http://www.its.dot.gov/icms/index.htm* to learn more about ICM and leverage practical resources that can help you implement ICM in your corridor. **>>>**

Public Transportation Ridership Continues to Climb in 2007

American Public Transportation Association (APTA) President William W. Millar said, "Whether it is because of high gas prices, increased congestion, or new and expanded transit services, more and more people are choosing public transportation."

The study also reported that 30 percent of riders said this was the first year they had taken public transportation, and most transit riders have been riding for more than 2 years (57.1 percent). Millar stated, **"The increased public transit ridership we are seeing this year clearly shows that people want travel choices."** Visit *http://www.apta.com/media/releases/070104_ridership_increases.cfm* for more information on this APTA report.

ICM helps empower travelers to leverage available modal choices, and even dynamically shift modes during a trip in response to traffic conditions, by providing the traveler with actionable information, such as nearby transit facilities, schedules, and parking availability. Visit the ICM Web site to learn more about ICM.

Transportation Chief Touts Toll Roads

The country's highest-ranking transportation official said that it's time for motorists to pay if they want to beat freeway gridlock. Toll roads built and run by private companies under government contract would ease freeway congestion, U.S. Secretary of Transportation Mary Peters told a group of business and government leaders in Tempe, AZ. "Toll roads are a proven congestion-buster," she said. Visit *http://www.azcentral.com/arizonarepublic/local/articles/0629peters0629.html* for the full article. **>>>**

ITSA Annual Meeting Spotlights ICM and the Pioneer Sites

The Intelligent Transportation Society of America (ITSA) Annual Meeting, held in June in Palm Springs, CA, introduced hundreds of transportation practitioners to ICM, the Pioneer Sites, and ways that Intelligent Transportation Systems (ITS) technologies, such as traveler information, can be applied to enhance the mobility and safety of our nation's busiest transportation corridors.

USDOT officials from the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and RITA recognized the eight ICM Pioneer Sites at the opening reception for their efforts in developing concepts and partnerships designed to optimize the use of existing transportation assets to improve cross-modal mobility and flexibility for travelers.

Attendees mingle with Pioneer Site panelists during breaks.

The USDOT ITS Joint Program Office (JPO) booth features ICM with fact sheets, the ICM newsletter, and the ICM Web site and Knowledgebase.

Images pages 10; April Armstrong, SAIC

Transportation Practitioners Learn About ICM at the Panel Discussion

ICM was the featured topic at the Transportation Systems Operations and Planning (TSOP) and Public Transit Forum, held at the ITSA Annual Meeting. More than 100 transportation practitioners attended this interactive forum, during which they had the opportunity to speak with and ask questions of representatives from the ICM Pioneer Sites. The Pioneer Site representatives shared their perspectives and experience with the early phases of ICM concept development. The panel focused on three ICM topics: Institutional challenges and opportunities, technical integration, and performance measures. Because each Pioneer Site is a leader in multimodal congestion management strategies, site representatives had valuable perspectives on elements of ICM already in place in their corridors such as transit priority and signal timing strategies. Every corridor in the country is a candidate for ICM.

ICM Featured in the USDOT's ITS JPO Exhibit

The ITS JPO's exhibit booth spotlighted the USDOT's ICM Initiative; attendees browsed fact sheets, the ICM Newsletter, the Web site, and the new ICM Knowledgebase, designed to equip practitioners around the country to implement ICM.

Visit the ICM Knowledgebase at www.its.dot.gov/icms/knowledgebase.htm to view or print the four ICM fact sheets available: Overview of the ICM Initiative, the ICM Pioneer Sites, ICM Knowledge and Technology Transfer, and the ICM Knowledgebase. The USDOT is committed to helping corridor operators and managers across the country implement ICM in their transportation corridors. Users are invited to download and tailor the ICM fact sheets or other outreach materials to support their own ICM-related outreach needs with local partners. **>>>**

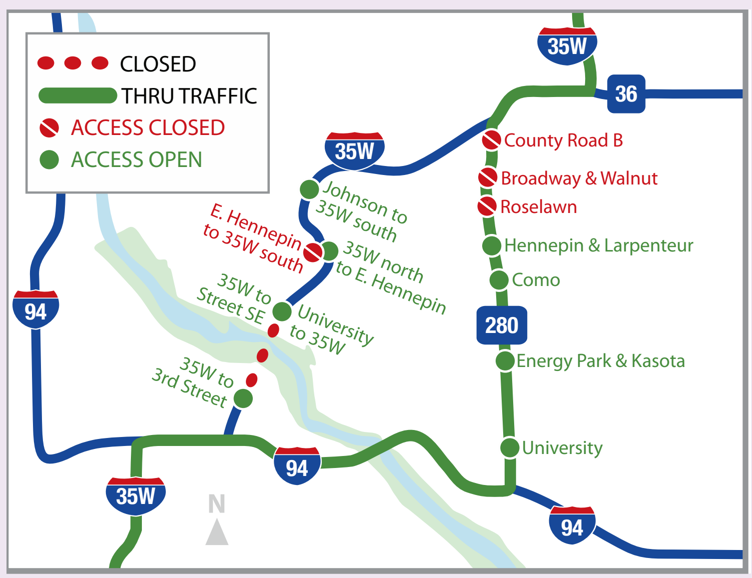
ICM Concepts Help Engineers Reroute Traffic After Minnesota Bridge Collapse

Transportation officials asked Yi-Chang Chiu, University of Arizona assistant professor and ICM consultant for the AMS effort in the US-DOT ICM Initiative, to use the urban traffic simulation model he developed to help reroute traffic in Minneapolis following the collapse of the I–35W bridge in August (see "Spotlight on the USDOT's ICM Initiative," an article on AMS).

The I-35W bridge collapse in Minneapolis, MN.

Seventy percent of the traffic over the I–35W bridge in Minneapolis, MN, before its collapse (August 2007) was bound for downtown and the bridge carried more than 140,000 cars daily. Using detailed traffic census and planning data collected by state and city transportation agencies, as well as real-time traffic surveillance data, the model evaluated several mitigation strategies, including rerouting traffic through other corridors or highways and retiming traffic signals. Chiu noted, "The main emphasis of the analysis is the integrated corridor management concept that focuses on multi-modal solutions in which all the possible transportation modes are coordinated. This includes transit and buses, value pricing and intelligent transportation systems (ITS) technologies."

"Solving large-scale problems like this one is overwhelming without a simulation package," Chiu said. "No one can just sit down with a map and draw lines and figure out the best answer to problems like these." >>>



Traffic simulation model helps decision-makers reroute traffic.

Article source: Stiles, Ed. "UA Engineers to Help Ease Traffic Woes Following Minneapolis Interstate Bridge Collapse." August 3, 2007. University of Arizona News. http://uanews.org/node/13551 (accessed September 4, 2007).

Image: Detour Map for I–35W. Minnesota Department of Transportation I–35W Bridge Web site, http://www.dot.state.mn.us/i35wbridge/ (accessed September 18, 2007). >>>

ICM Discussed at TRB's 87th Annual Meeting

Transportation practitioners from across the country discussed strategies to maximize the effectiveness of ITS systems already deployed in transportation corridors at the **Transportation Management in Integrated Corridors and Regional Systems session (Session Number 689)** at TRB's Annual Meeting held in January. The session moderator stated that the Committee is interested in the progress of ICM because, it sees ICM as "a very good example of how to manage regional systems in an active way." Brian Cronin, RITA, provided an update on the ICM Initiative. Representatives from two ICM Pioneer Sites (Minneapolis, MN and Dallas, TX) were among the presenters. Bernie Arseneau, a State Traffic Engineer with the Minnesota Department of Transportation's Office of Traffic, Safety and Operations, provided an overview of Minneapolis' ICM concept and stated, "We like how ICM can help us extend the value of our infrastructure across our system." Koorosh Olyai, P.E., and Assistant Vice President, Mobility Programs Development for Dallas Area Rapid Transit described Dallas' ICM concept noting, "We see mode shift as our biggest [ICM] asset because we have the capability and the capacity [to support this]."

Presentations during this session included:

- **Overview and Objectives of the Integrated Corridor Management Initiative,** Brian Cronin, RITA
- **Initial Experiences of the Minnesota ICM Project in the I-394 Corridor,** Bernie Arseneau, Minnesota Department of Transportation
- **Transit-Oriented ICM Corridor,** Koorosh Olyai, Dallas Area Rapid Transit
- **Integrated Management During Reconstruction of the I-10 Freeway in Phoenix,** Arizona, Sarath C. Joshua, Maricopa Association of Governments
- **Integrating Performance Measurement, Data Archiving and Modeling for Effective Corridor Management,** Karl Wunderlich, Noblis

Read More: These presentations will be made available to the TRB Regional Transportation Systems Management and Operations Committee website at http://webboard.trb.org/default.asp?boardid=16.

Steve Mortensen, FTA, Joins the USDOT ICM Leadership Team!

Steve Mortensen is a senior ITS engineer with the FTA, Office of Research, Demonstration and Innovation. He joined the FTA in May 2007. In his current role, Steve is supporting the USDOT ICM Initiative, Urban Partnership Agreement Program, Transit Operations Decisions Support System Demonstration, and other transit ITS projects. For the past 12 years, Steve has managed and conducted technical research in the areas of advanced traveler information systems for transit, rural transit ITS and human services transportation coordination, electronic fare collection, and rail and transit ITS evaluations. Before working in the field of ITS, Steve spent 7 years in the aerospace and defense industry, performing thermodynamic analyses and tests on missile guidance system components and the Space Shuttle Discovery. Steve has a master's degree in community and regional planning and a bachelor's degree in mechanical engineering, both from Iowa State University. He is a member of the American Institute of Certified Planners. You can reach Steve at: *steven.mortensen@dot.gov.* **>>>**

Did You See...

Easing Crowded Corridors
The latest edition of the TTI's "Researcher" magazine features ICM in its "Easing Crowded Corridors" story—Read the article at *http://tti.tamu.edu/publications/researcher/newsletter.htm?vol=43&issue=2&article=9&year=2007!*

ITS International Magazine
ITS International Magazine highlighted the USDOT's ICM Initiative in its July-August edition—Check out *http://www.itsinternational.com/Features/article.cfm?recordID=2890* to read the article!

Intelligent Transportation Systems
U.S. Department of Transportation

To learn more about the USDOT ICM Initiative:

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