



## SPECIAL RESEARCH CONFERENCE ISSUE

This issue of the *CTS Report* features extended coverage of the 21st Annual CTS Transportation Research Conference, held April 27 and 28 in St. Paul. Coverage includes:

- An opening session titled “How National Transportation Priorities Influence Local Decisions: Building Momentum for Sustainable American High Speed Rail,” with a keynote presentation by **Eric C. Peterson** (below) and panel

discussion with **David Levinson, Tim Henkel, Bob McFarlin,** and **Jim McDonough** (page 3).

- A luncheon presentation titled “Megaregions: A Framework for Planning in the 21st Century” by **Catherine Ross** (below).
- Mn/DOT highlights from **Tom Sorel** (below).
- A sampling of concurrent sessions (pages 5–8). **CTS**

### Opening session keynote:

## National plans for high-speed rail affect local decisions

“Not since the launch of the interstate highway system in the mid ’50s can I think of a more dramatic example of a national priority influencing local decisions,” said **Eric C. Peterson**, president of the American High Speed Rail Alliance. “The entire high-speed rail initiative is predicated on the involvement and consent of local, state, and regional decision



*Eric C. Peterson*

makers.” Peterson made his remarks during the opening plenary session of the CTS research conference.

The Alliance’s origin, Peterson said, coincided with the Obama administration’s announcement last year that \$8 billion would be included in the economic stimulus package (the American Recovery and Reinvestment Act of 2009, or ARRA) to begin work toward the goal of high-speed rail service in America.

In addition to the reasons given in the

president’s announcement—job creation, infrastructure development, and international competition—the Alliance promotes high-speed rail for a number of reasons, Peterson said. It will help address the nation’s environmental challenges, help reduce dependence on fossil fuels (especially foreign oil), and spur the redevelopment of the nation’s urban centers.

Peterson then described six challenges to the establishment of sustainable high-speed rail in America:

*Rail continued on page 2*

## Luncheon speaker addresses the challenges and opportunities of emerging megaregions

Sixty years ago, the cities of Boston, New York, Washington, and Philadelphia formed the country’s first megalopolis, quickly gaining the attention and research interest of transportation experts and turning the northeast corridor into the core of the U.S. economy. Within 40 years, Dr. **Catherine Ross** predicted, the United States will see the formation of 10 such similar areas across the nation. These 10 areas, called megaregions, are “the new economic unit in world markets” and a critical component in how the nation will position itself to address global competition.



*Catherine Ross*

conference, Ross explained the concept of megaregions—networks of metropolitan centers and their surrounding areas connected by existing environmental, economic, political, and infrastructure relationships. In short, it is the connection or linkage of metropolitan areas in a given region.

Ross, an internationally recognized expert in transportation and urban planning, currently serves as Harry West Professor and directs the Center for Quality Growth and Regional Development at Georgia Tech’s College of Architecture. In July 2009, she was selected to advise the Obama administration on the first-ever White House Office of Urban Affairs. Her second book, *Megaregions: Planning for Global Competitiveness*, was

*Ross continued on page 4*

## Commissioner outlines sustainability efforts

Transportation needs to play a key role in creating a sustainable future, said **Tom Sorel**, commissioner of the Minnesota Department of Transportation (Mn/DOT), in his comments outlining the department’s activities at the CTS annual research conference.

He first reinforced the importance of research, even in difficult economic times. Mn/DOT’s vision statement calls for it to be a global leader in transportation and provide a world-class transportation system. “To do that,” he said, “we need a strong research program. It’s critical to continue to support research at all levels.”



*Tom Sorel*

*Sorel continued on page 2*

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Safety: In most instances, high-speed rail will not begin operations on dedicated right-of-way and infrastructure, but instead will share facilities with freight operations—raising significant safety issues.

Capability of the states: State agencies are not prepared to manage passenger rail services. “Our nation’s education system, and especially universities such as the University of Minnesota, will play a vital role in developing this expertise,” Peterson said.

Status of planning: Many states are playing catch-up and need to be brought up to speed so they have a realistic plan and implementation strategy.

Freight railroad partnerships: Infrastructure is needed to permit high-speed rail and freight not only to co-exist, but to find synergy to keep both world class.

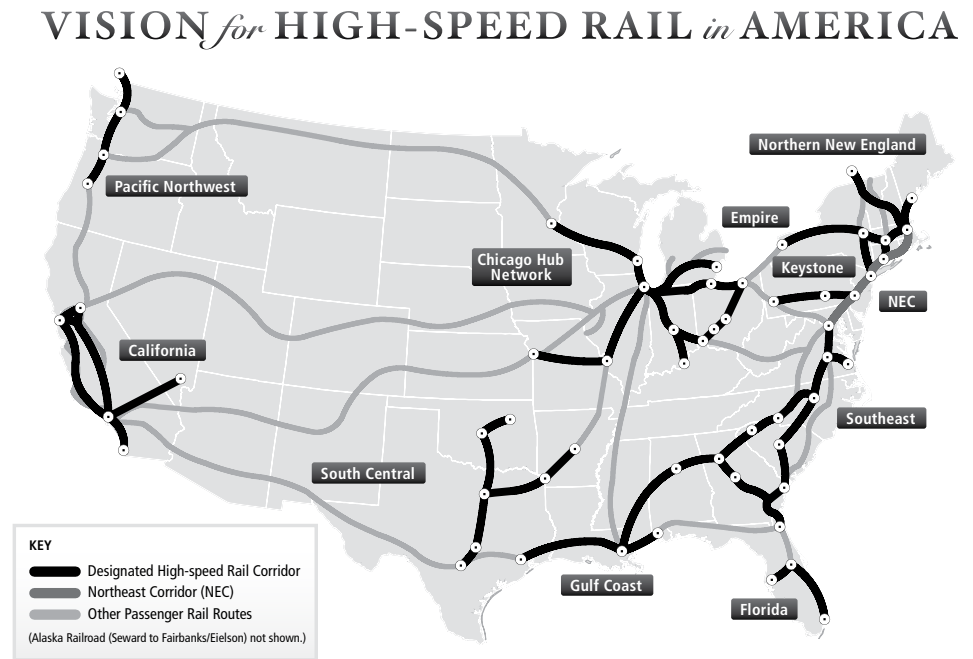
Intellectual infrastructure: Workforce development is needed in areas such as track design, signal engineering, and track-train dynamics. “The Alliance urges that universities and other education institutions, especially the DOT-sponsored University Transportation Centers, launch education initiatives that will train and guide America’s 21st century high-speed rail workforce,” he said.

Sustainability and managing expectations: The Alliance is committed to helping the American public become aware of and understand the need to plan now for the future, as well as to understand that

**Sorel** from page 1

The concept of sustainability includes three components—economic, social, and environmental—“and transportation needs to play a key role in all three,” Sorel said. One of Mn/DOT’s actions to move forward in this area is the creation of a sustainability position. The idea emerged last summer through an “e-magination” online jam in which employees offered ideas for improving the department. This position has been “invaluable,” he said, in looking at how to improve internal and external sustainability concepts.

Another idea the department is considering is to make use of Minnesota’s strong corridor groups. The main goal



Source: Federal Railroad Administration

there are many reasonable—and sustainable—ways to design, build, and operate improved passenger rail service, he said.

In January of this year, the Obama administration announced the selection of 79 passenger-rail proposals in 31 states, including \$831 million to begin work on a line connecting Minnesota and Wisconsin. These initial strategic investments include improvements to existing right-of-ways owned and operated by freight railroads, he said, but in only two or three cases do they underwrite the planning and construction of

of these groups now is to seek funding to build particular elements, he said, but their focus could be broadened to include economic development, housing, and various elements of sustainable communities.

To support these efforts, Mn/DOT is looking at ways to transform its performance management system to address quality of life, Sorel said. It has started a quality-of-life pilot program and is conducting market research to learn what citizens value. “Ultimately, what we’re trying to do is make sure the activities we perform at Mn/DOT intersect with the vision we have established for

true high-speed rail express service—trains that will run at speeds up to 220 mph.

This is where “managing expectations” comes to play, Peterson said. If Americans’ vision of high-speed service isn’t delivered the way they see it in Europe or Asia, the public and policymakers may become skeptical and unwilling to support it. Still, he said, the Alliance believes the administration’s incremental approach is the best attainable at the moment.

Peterson then outlined what the Alliance sees as next steps. First, there needs to be

transportation for our state, intersect with our strategic directions, and intersect with the day-to-day activities that we perform, so that we’re enhancing people’s quality of life,” he said.

Mn/DOT has also established an online community to acquire citizen input and ask questions about perceptions of the department, he said. About 600 citizens have signed up for this service.

In closing, Sorel said sustainability will “transform how we look at transportation and integrate it with housing, economic development, and other sustainable options,” which in turn will influence research priorities and activities. **CTS**

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## Panelists give local perspectives of high-speed rail

Following **Eric C. Peterson's** keynote presentation, CTS acting director **Laurie McGinnis** moderated a panel discussion with four local experts: **David Levinson**, associate professor and Braun/CTS Chair in Transportation Engineering, University of Minnesota; **Tim Henkel**, modal planning and program management division director, Minnesota Department of Transportation; **Bob McFarlin**, District 3 member, Metropolitan Council; and **Jim McDonough**, commissioner, Ramsey County.

McGinnis kicked off the discussion with a question for Levinson: Should the United States build a national high-speed network, and should Minnesota play a role?

Levinson answered that a real high-speed rail network—with speeds over 200 mph as seen in Europe or Asia—would cost on the order of \$2 trillion. That money could instead pay for 2,000 light-rail transit lines like the Central Corridor between St. Paul and Minneapolis or a “helluva bus system,” he said. “There are various uses for this kind of money.”

The planned U.S. rail network would have a set of hubs in major cities such as Chicago and New York and spokes to cities such as Minneapolis. While hub cities would clearly benefit from the additional accessibility, Levinson continued, Minnesota’s benefits aren’t as clear if costs are split 50-50 between federal and local agencies. He also noted the noise externality of high-speed rail: running large, 200-mph trains next to houses annoys homeowners and diminishes property value, which could be a serious problem in urban areas.

And assuming little or no dedicated high-speed passenger rail infrastructure will be built, Levinson questioned the impact on the capacity of commuter rail and freight. “So, the question comes down to this,” he said. “Is this the best way to spend \$2 trillion or so on transportation?”

“I don’t believe we have a choice,” Henkel countered. “Collectively, we need



Laurie McGinnis, Eric C. Peterson, Tim Henkel, David Levinson, Jim McDonough, Bob McFarlin

a number of transportation systems to serve the world economy...While we need to make some tough choices, high-speed rail needs to be a key component of the choices that are made available.”

Pointing to the work of Minnesota and its local partners, Henkel said grassroots efforts have established high-speed rail as a national priority. “That said, it’s all about the money,” he granted. Moving forward requires a federal partner for funding and for establishing a consistent, national network connected to Minnesota.

McFarlin emphasized the importance of federal funding and national criteria in driving local decision making. “The Obama administration has made great strides in putting a greater strategic framework around the investment in high-speed rail, but it still hasn’t gone far enough,” he said.

He agreed with Levinson that the current 50-50 funding split warrants economic analysis of the benefits to Minnesota or any location at the end of a spoke. “That’s one of the flaws of the federal program as it exists right now. The money does not reflect high-speed rail as a national priority,” he said. “It reflects high-speed rail as a national-local partnership.” The interstate system, with an 80/20 split, is reflective of a true national priority, he said.

According to McDonough, “national priorities tend to start with grassroots champions and true believers.” National policy then influences those areas that have champions, such as the Midwest and its high-speed rail initiative. “As dollars

are available federally, then you’ve got people that move to those dollars and opportunities.” For example, he said, Minnesota has reinstated its passenger rail office and approved \$26 million to prepare to compete for federal dollars.

Peterson agreed “it’s all about dollars, but when you think of [it] as a multi-decade project...you’re not asking for a \$2 trillion investment today. You’re asking for a plan that will commit a level of resources for the project duration,” he said.

Peterson also recommended a national infrastructure bank to foster capital investment and a long-term perspective; annual appropriations would subsidize operating costs. “There’s not a system now that doesn’t operate without a subsidy,” he asserted.

Levinson, noting that some Asian rail systems do not require subsidies, advocated economically efficient transportation systems that cover not only capital costs but operating costs as well. “Just because one mode is subsidized doesn’t justify another subsidy,” he said. “What it does is it argues for removing the subsidy of the first mode, unless you have some other good social reason for providing the subsidy.”

Minnesota’s recently completed high-speed rail plan, Henkel said, suggests the state needs to create a stable source of funding for capital, operations, and maintenance costs. Without a dedicated source, he said, it “will be very difficult to garner the support necessary to pursue federal funding as well as to build and operate a system and network that’s necessary to support this state’s needs.” **CTS**

**Mark your calendars: 22nd Annual CTS Transportation Research Conference**

**May 24–25, 2011, Crowne Plaza Hotel, St. Paul, Minnesota**

Ross from page 1

also published in 2009.

She first attached to the idea of megaregions about five years ago, she said. While working closely with the Federal Highway Administration, she realized the need to bring more focus to the concept. By 2050, the U.S. population is expected to exceed 400 million people, more than 70 percent of whom will likely reside in or near 1 of 10 megaregions scattered across the country. “We didn’t decide that

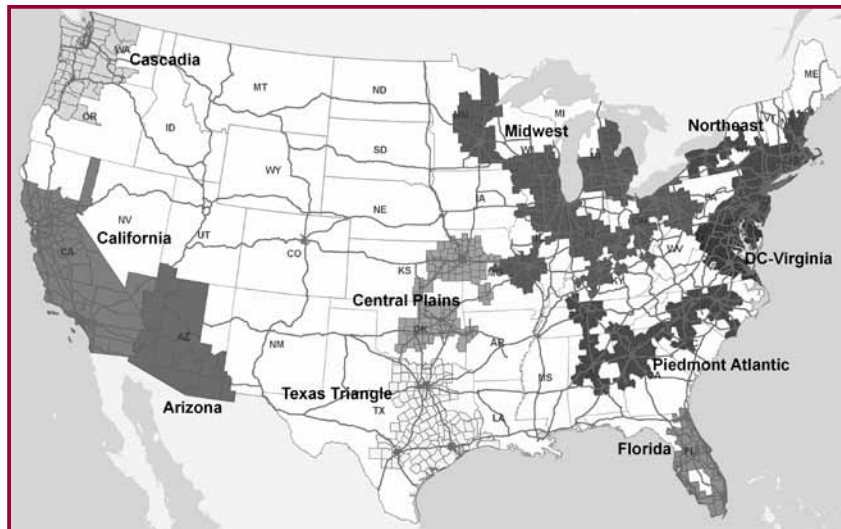
these 10 areas were going to be megaregions,” Ross said. “We just noticed their emergence and [started thinking about] how we could capitalize on and benefit from those areas.”

This is not a new idea, Ross said. “We are talking about a phenomenon that is gripping the world.” The cities of Beijing, Tokyo, and Seoul set a global precedent when they merged to create the BESETO Corridor megaregion, a 1,500-kilometer strip home to 100 million inhabitants. Megaregions can also consist of connected nations, the European Union being one example.

Megaregions are primarily a strategy for investment, based on the idea of connecting economic sectors to garner economic advantages. They encompass only about 30 percent of this country’s physical area, but they represent 76.5 percent of the population and 76.8 percent of employment. They produce 90 percent of Fortune 500 companies’ revenue, 86.77 percent of the patents, and 67.82 percent of emissions.

In terms of reciprocity, Ross noted that economic cores also have a responsibility to spread their economic wealth, assist adjacent cities or areas that are struggling or dying, and invest in and protect natural resources.

In identifying the nation’s emerging megaregions, Ross’s team began at the lowest level—by linking counties. They conducted population projections for every U.S. county through 2050, noted local and regional characteristics, and



U.S. megaregions (source: Catherine Ross)

identified sectors that produced particular commodities. “We have to first consider our core areas or areas of influence, how they cluster into megaregions, and how we empower each one to make the investments that are important to it,” Ross said. “It’s not a one-size-fits-all approach. Quite the opposite. Every megaregion doesn’t have to work the same way.”

So what are the implications for future development? To take advantage of the tremendous economic opportunities engendered by megaregions, it then becomes critical to focus on mobility—individual, local, regional, and global. It will require “a web of seamless connectivity, metropolitan centers linked by roads, high-speed rail, commuter rail, water resources, alternative technologies, regional economic initiatives, and connected international gateways,” Ross said. “The 21st century infrastructure is called upon to meet many demands, many more than we contemplated when we constructed our interstate 50-plus years ago.”

In terms of infrastructure, the development of megaregions naturally leads to the creation of freight and trade corridors, networks linked to international trading opportunities, and expanded rail and transit, particularly the potential for a national high-speed rail service.

“We hear a lot about the challenges; I want to talk about a lot of the opportunities that are ours,” Ross said, before citing three main areas of focus: 1) creating freight corridors and networks linked to international

trading opportunities, 2) partnering with rail and transit organizations to expand and improve access, and 3) achieving greater sustainability and quality of life by linking transportation policies with housing, land use, energy, economic, and environment policies. Megaregions will represent new challenges for American transportation planning, including funding, policy and project selection and prioritization, and the implementa-

tion of economic incentives and environmental issues.

“We had a terrible recession and what we lost is not going to come back in the same way,” Ross said, but noted that this is a key opportunity to reinvest in America and create new opportunities. She explained the need to study all areas, determine what has been lost, and how it can be replaced—such as the formation of a green economy and creation of new industries that qualify for green job status, the development of alternative fuels and new technologies, and the acquisition and development of high-speed railway cars, all of which will increase employment opportunities.

“We have a full onslaught of new programs, but we have to have vision, strategy, and a plan for some short-term wins,” Ross concluded. “American ingenuity explains our success, and it’s going to carry us forward.” **CTS**

### Conference video and presentation slides available

The conference featured more than 75 presentations over two days by leading scholars, public officials, and professionals in the fields of transportation funding, technology, infrastructure, and land-use planning. Watch video and download presentations at [www.cts.umn.edu/Events/ResearchConf/2010](http://www.cts.umn.edu/Events/ResearchConf/2010). **CTS**

## High-speed rail: a national, regional, and state update

The Obama administration’s funding for high-speed rail has generated “enormous interest and excitement across the country,” said **Stephanie Eiler** of CH2M Hill. She reviewed various systems in Europe and Asia and compared them with the planned U.S. network.

Eiler began with the different definitions of high speed. Internationally, “super” high-speed trains run at 174 mph or over; high-speed trains between 137 and 174 mph; and “semi” high speed at 124 to 137 mph. U.S. systems define high speed at 110 mph initially and 220 mph in the future, she said. The average speed of Amtrak in the Northeast Corridor is currently 68 mph over the entire distance, briefly reaching 150 mph in some segments.

High-speed rail requires a high level of technology and multiple safety systems, she said. Dedicated infrastructure or major upgrades to existing tracks are needed for high-speed operation, and overhead power lines must be accommodated.

Lessons from Europe indicate a well-designed network and good performance will spur market share, Eiler said. For example, half of travelers between Paris and Brussels take high-speed rail.

High-speed trains are being manufactured in a number of countries. China has invested billions of dollars for new tracks and will need thousands of vehicles, she said. Wisconsin recently bought two train sets from a Spanish manufacturer for the Chicago-to-Milwaukee route; the vehicles will be manufactured

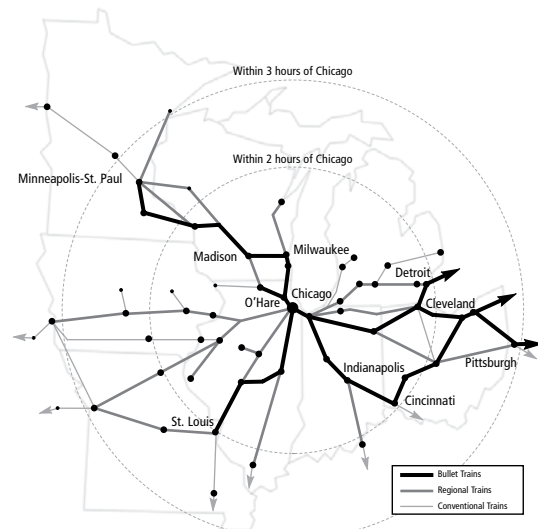
and assembled in Wisconsin.

**Dave Christianson** of Mn/DOT discussed Minnesota’s comprehensive statewide freight and passenger rail plan, completed earlier this year. Commissioned by the 2008 legislature, the plan outlines an intra- and interstate, intercity passenger rail system.

Part of the plan calls for developing high-speed rail service with the Midwest Regional Rail Initiative (a nine-state effort formed in the mid-1990s) to connect the Twin Cities to the Chicago hub network. The system would advance incrementally, he said, starting at 79 mph on a shared freight network before moving to true high speed.

Under the plan, six round trips per day would be offered to Chicago. At 110 mph, the trip would take less than five hours; at 180 mph, less than three hours. Fares would be compatible with normal airline fares, he said.

Over the next 20 years, total capital investment (in 2009 dollars) for both the freight and passenger systems is estimated at \$6.2 to \$9.5 billion, Christianson said. The freight portion of the total would be \$2.2 to \$4.5 billion—74 percent from the private sector. The passenger portion would be \$4.0 to \$5.1 billion, with 50 to 80 percent of that from the federal government. After farebox revenues, the annual subsidy would be \$41 to \$95 million, he said, for a farebox recovery ratio of 48 to 69 percent.



Source: Midwest Regional Rail Initiative

Long-range targets include reduced or eliminated operating subsidies as ridership increases. Mn/DOT is projecting a 3 to 4 percent mode share; above 10 percent would pay for itself, he said.

Moving forward, Mn/DOT will work with grassroots advocates to build momentum for corridor development and with the legislature to address funding issues, Christianson said.

**Dan Krom**, also of Mn/DOT, discussed the federal funding process for intercity passenger rail. The timeline for the Twin Cities to Chicago line aims for design and construction from 2013 to 2015, and service beginning in 2015 or 2016. The time frame relies on a consistent federal funding program, but there is only a three-year commitment, he noted. **CTS**

## Aging drivers and mobility

How will aging affect the driving skills and mobility of baby boomers?

**Kathleen Harder**, director of the College of Design’s Center for Design in Health, conducted two research projects investigating how older adults, between ages 55 and 65, are able to read and comprehend changeable road signs.



Kathleen Harder

In the first study, sponsored by CTS, the College of Design, and Mn/DOT, researchers simulated an “Amber Alert” sign that displayed information about an abductor’s car make and license plate number. The study revealed no statistically significant difference in how drivers of different ages reacted to the signs. All ages slowed down, but without a large decrease in speed.

The second project, funded by

Mn/DOT, simulated the I-494 corridor next to Minneapolis-St. Paul International Airport. The signs listed all the airlines for the Lindbergh and Humphrey Terminals, but the terminals were numbered rather than named. Participants were asked to find the appropriate terminal for a given airline.

Older drivers did worse at this task than any other age group, with 1 out of 10 picking the wrong terminal and slowing

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## Innovative communications strategies explored at conference

Two related sessions on innovative communications strategies explored ways transportation agencies and the University are using social media and other tactics to communicate and provide access to transportation research and information. **Gina Baas**, CTS assistant director of education and outreach, moderated both sessions.

Mn/DOT's **Linda Dahlen** said social media and collaboration tools offer both rewards and risks for government agencies. Mn/DOT began developing policies around the use of Web 2.0 tools last year by taking "baby steps," she said.

The benefits of social networks include the ability to communicate emergency information to a broad audience quickly, such as notifications about flooding or traffic, and the opportunity to educate and communicate more directly with the general public. But social media also pose some unique questions and challenges for Mn/DOT and other government agencies, Dahlen said. Among them:

- Who can speak for the agency, and is what an employee posts legally binding?
  - Which employees can use social media, and should they have training?
  - If a member of the public posts something inappropriate on a government site and the agency wants to remove it, is that censorship?
  - How long do Twitter and Facebook posts need to be kept under Minnesota's Data Practices Act?
- Working together, Mn/DOT's



John S. Adams, Lee Munnich, Phil Barnes, Shannon Tyree

communications and IT staff have now developed two separate policies, Dahlen says—a more restrictive one for outward-facing technologies like Facebook, and a second policy guiding the use of collaboration tools.

**Arlene Mathison** of CTS and Mn/DOT Library director **Shelia Hatchell** gave a presentation on a collaborative effort to use traditional and emerging technologies to make transportation-related information resources accessible across the state.

**Bob Filipczak** of Mn/DOT said differences between generations affect how research results are—and should be—communicated. One example is that public safety announcements are more likely to be effective with the millennial generation than with boomers or Gen Xers. (Filipczak is co-author of *Generations at Work: Managing the Clash of Veterans, Boomers, Xers, and Nexters in Your Workplace*, available from major booksellers.)



Arlene Mathison



Shelia Hatchell

implementation of the new national plan. The second would carefully examine the metrics by which projects and proposals are evaluated and establish performance measures to provide real, reliable data. The public should have transparent access to this data, he added.

High-speed rail in America requires clear vision and strong leadership—"leadership that begins and eventually ends with local decision makers," Peterson said.

For more about the Alliance, see [www.americanhsra.org](http://www.americanhsra.org). **CTS**

**Shannon Tyree** of the City of St. Paul Public Works Department said she has been using Twitter for communicating public works information with city residents and responding to citizen comments and complaints. "Our social media numbers let me know that I reach people who want information from the City of St. Paul," she said.

**Lee Munnich** of the Humphrey Institute of Public Affairs talked about Facebook and Twitter, as well as how **SafeRoadMaps.org**—a tool developed by the University that identifies the location of fatal crashes through an online, searchable map—is a good way to communicate safety messages with the media.

**John S. Adams** of the University Metropolitan Consortium discussed open-access publishing, one of the trends affecting access to University research. Works placed in open-access archives have five times greater numbers of retrieval than those that are not, he said.

**Phil Barnes** from Mn/DOT discussed Mn/DOT's "e-magination jams" for generating collaborative innovation at the agency.

Baas presented Gridlock Buster, the innovative online game designed to allow students to experience what it's like to be a transportation manager. Gridlock Buster, developed by the Intelligent Transportation Systems Institute at CTS, has been played more than 1.9 million times since it launched in June 2009. (Try it yourself at [www.its.umn.edu/GridlockBuster](http://www.its.umn.edu/GridlockBuster).) **CTS**

### Rail from page 2

a national rail plan. "Without one, we run the risk of funding a bunch of projects and never get a system," he said. Late last year the Federal Railroad Administration issued a preliminary national rail plan, and it issued a Request for Comment April 5.

Two other major initiatives are intended to lend greater credibility and objectivity to developing a national high-speed rail network, he said. One would be for the administration to establish a Cabinet-level working group that includes the heads of various departments and agencies to coordinate the

### Conferencing with 2.0 tools

Twitter played a role in this year's CTS Research Conference, with staff, attendees, and presenters tweeting highlights from the sessions and adding links to relevant resources in real-time. Participating in Twitter provided a way for attendees to see what was going on in sessions they weren't attending and helped to publicize the event and CTS to transportation-related groups outside of Minnesota. **CTS**

## eWorkPlace finds benefits, implications of a telecommuting workforce

**Adeel Lari**, director of innovative financing in the State and Local Policy Program at the Hubert H. Humphrey Institute of Public Affairs, spoke on the wide-ranging benefits of eWorkPlace, a state-sponsored program for metro-area employers who are interested in implementing a telework business strategy to achieve cost reductions. Lari said eWorkPlace is “a smart business strategy because it helps productivity, creates innovation, and is a very efficient method of doing work.”



Adeel Lari

In 2007, Mn/DOT and the Twin Cities Metropolitan Council were selected as one of the federal Urban Partnership Agreement’s (UPA) Urban Partners to work toward reducing traffic congestion through a variety of methods including tolling, transit, telework, and technology and operations. eWorkplace addresses the telework element of the agreement by promoting increased use of teleworking and flexible work scheduling.

eWorkPlace partnered with Culture Rx (which works to implement results-only work environments, most notably at Best Buy) and other transportation management organizations to help organize and implement the program. Together they identified target employers, recruited them through education and marketing efforts, migrated them to the program, and then evaluated and measured their findings.

eWorkPlace defines teleworking as the ability to work from home or another remote location at least one day a week, connecting to the office via a computer, Internet connection, and phone. To date, 30 companies and 2,500 employees have participated in the initiative. Participants range from very small organizations to Fortune 500 companies.

Lari called teleworking a “win-win-win” situation for employers, employees, and communities alike, citing numerous advantages for each. The benefits tend to build on each other. Employers gain increased employee motivation, morale, resilience, and work quality, while reducing overhead costs and improving productivity. Employees

eWorkPlace is “a smart business strategy because it helps productivity, creates innovation, and is a very efficient method of doing work.”

—Adeel Lari

save time and money and enjoy greater productivity and enhanced work-life balance. Additionally, teleworking provides economic opportunity for lower-income households and persons with disabilities. By moving people away from peak commuting periods, teleworking also ensures that transportation infrastructure is used more efficiently, conserves energy, improves highway safety and air quality, and reduces congestion.

Commuting is responsible for 98 percent of an employee’s carbon footprint, Lari said, and a full one-third of the country’s carbon footprint is made up by transportation. Congestion causes 4.2 billion hours of delay and 2.8 billion gallons of wasted fuel every year, resulting in a cost of \$200 billion across all modes. Even a 1 percent increase in teleworkers would equal 390,000 fewer pounds of CO<sub>2</sub> released every day.

“Congestion hurts family and civic life,” Lari said. “It affects where people live, work, shop, and how much they pay for goods and services.”

In 2008, U.S. traffic congestion fell by historic amounts due to the recession. Urban congestion dropped by 30

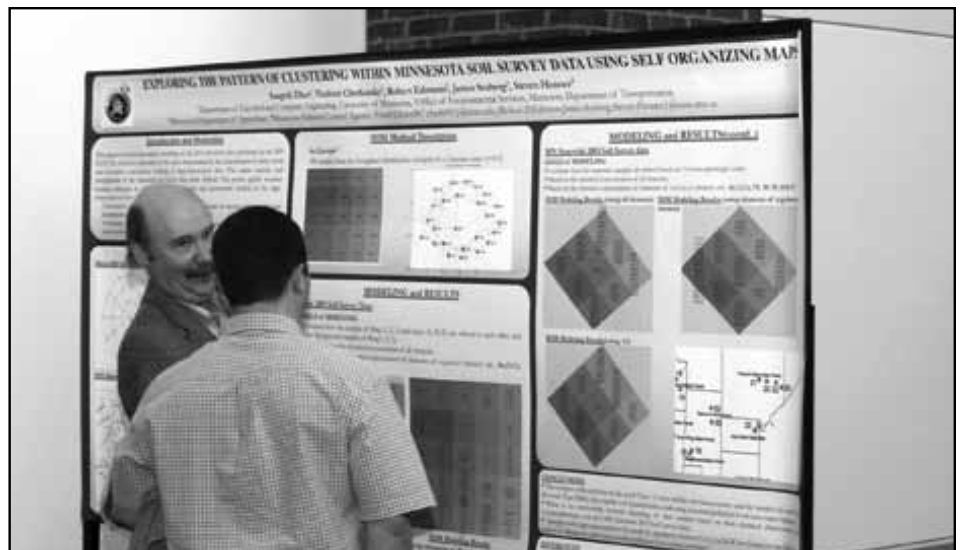
percent overall and improved universally across all large metro areas, and total vehicle-miles traveled (VMT) declined by 3 percent compared to 2007—all of which points to the fact that shifting more employees to teleworking could have huge implications for reducing congestion. Lari noted a study performed by George Mason University that found every 1 percent of the D.C. population that telecommuted resulted in a 3 percent drop in traffic delays.

eWorkPlace’s initial evaluations, conducted three months into the experiment, found that compared to non-teleworkers, employees who teleworked:

- reduced their daily VMT by 46.7 percent,
- reduced their commuting VMT by 38 percent,
- took 26 percent fewer daily trips overall, and
- took 30 percent fewer daily trips during peak hours.

Lari cited studies that found that up to 40 percent of the workforce hold jobs that could become telework—meaning there is “major market potential.”

“There is a big difference between where we are and where we can be,” Lari said, adding that at this time in Minnesota, only between 5 and 9 percent of workers telecommute. “But as we move more to a knowledge-based economy, an even higher percentage of jobs will be able to do telecommuting.” **CTS**



Attendees viewed poster presentations between conference sessions.

## Center develops design concepts for LRT station

**Ignacio San Martin**, director of the University of Minnesota's Metropolitan Design Center, spoke about his center's role in developing new alternative design concepts for the West Bank light-rail station, to be built on Cedar Avenue near the University's west bank campus.



*Ignacio San Martin*

The Design Center developed concepts for a station located where Cedar Avenue passes over Washington Avenue,

in an area sometimes referred to as the "Washington Avenue Trench." The design concepts displayed by San Martin involve a two-level station structure, with pedestrian access to and from Cedar Avenue on the upper level and LRT trains running along Washington Avenue below.

Among the issues considered by the Design Center, San Martin said, were the need to integrate the station into the surrounding area and creating a safe and secure environment for transit users and pedestrians.

The designers also looked at a variety of possible enclosure systems for the station, including full and partial enclosure. San Martin presented a variety of examples from other public transit systems to illustrate the different approaches.

San Martin also discussed the potential impacts of different street design typologies in terms of integrating automobiles, transit services, and pedestrian/bicycle traffic. He showed how paving and street marking could be used to improve the usability of streets and pedestrian malls around the proposed station. **CTS**

### Aging from page 5

down an average of five miles per hour. "The older drivers slowed way down, and did less well," Harder said. "They failed to take the exit relative to the middle-aged and younger drivers."

Future research, Harder concluded, could explore how to change information design to improve the performance of older drivers.

**Catherine Sullivan**, an occupational therapist and developmental psychology professor at St. Catherine's University, discussed safety training for older drivers

and ways to reduce their road use. Rates of general crashes and life-threatening crashes increase for drivers age 70 and up, she said, and increase drastically for drivers 80 years and older.

Her study revealed that older drivers self-regulate due to worsening vision rates, motor function, and cognition. It also showed that almost all older drivers who decided to stop driving said they did it on their own terms.

Sullivan suggested seniors could be provided with information on how to

drive longer yet safely. A few techniques to assist older drivers are increasing their physical activity, visiting a car-fit workshop (a program that helps elders adjust seat and steering wheel controls), and training with software to aid visual cognition while driving. Seniors also need to be informed about public transportation alternatives.

"The last 7 to 10 years of your life will be carless," Sullivan concluded. "We need to plan for that—transportation after cessation." **CTS**

## Upcoming events *To see other events or publicize yours, visit [www.cts.umn.edu/Events](http://www.cts.umn.edu/Events).*

June 27–29	Annual Meeting of the Institute of Transportation Engineers Midwestern District, Minneapolis. See <a href="http://www.2010mwite.org">www.2010mwite.org</a> .	Sept. 14–16	Global Sustainable Bioenergy, Minneapolis. See <a href="http://environment.umn.edu/gsb/index.html">http://environment.umn.edu/gsb/index.html</a> .
July 11–14	TRB Joint Summer Meeting: Planning and Performance Measurement for All Modes, Minneapolis. See <a href="http://www.trb.org/Calendar">www.trb.org/Calendar</a> .	Sept. 13–15	Minnesota Public Transit Conference, Rochester, Minn. See <a href="http://www.mpta-transit.org">www.mpta-transit.org</a> .
July 22–23	4th International Symposium on Transportation Network Reliability, Minneapolis. See <a href="http://www.instr.org">www.instr.org</a> .	Sept. 22–24	2010 American Planning Association Upper Midwest Planning Conference, Mankato, Minn. See <a href="http://www.plannersconference.com">www.plannersconference.com</a> .
Aug. 19–20	Mid-Continent Transportation Research Symposium, Madison, Wis. See <a href="http://www.mrutc.org/midcon">www.mrutc.org/midcon</a> .	Oct. 6–7	Minnesota Fall Maintenance Expo, St. Cloud, Minn. See <a href="http://www.mnltap.umn.edu/Events">www.mnltap.umn.edu/Events</a> .
Aug. 20	TERRA Innovation Series event, Madison, Wis. See <a href="http://www.terraroadalliance.org/events">www.terraroadalliance.org/events</a> .	Oct. 7–8	AirTAP Fall Forum, Alexandria, Minn. See <a href="http://www.airtap.umn.edu">www.airtap.umn.edu</a> .
Sept. 12–16	National States Geographic Information Council, Minneapolis. See <a href="http://www.nsgic.org/events/2010_conference.cfm">www.nsgic.org/events/2010_conference.cfm</a> .	Oct. 25–26	Toward Zero Deaths Conference, St. Paul. See <a href="http://www.minnesotazd.org">www.minnesotazd.org</a> . <b>CTS</b>