



SPECIAL RESEARCH CONFERENCE ISSUE

This issue of the *CTS Report* features extended coverage of the 19th Annual CTS Transportation Research Conference, held May 20–21 in St. Paul. Coverage includes:

- An opening plenary session about the USDOT's Urban Partnership Agreement (UPA) and Congestion Reduction Demonstration (CRP) Programs, with a keynote presentation by **David Horner** (below) and panel discussion with

Bernie Arseneau and **Arlene McCarthy** (page 3).

- A luncheon presentation titled "Transportation Options in a Greenhouse: Alternative Strategies to Lowering Our Carbon Footprint" by **Stephen Schneider** of Stanford University (below).
- A sampling of concurrent sessions on topics such as rural safety, roundabouts, and cost estimation (pages 5–7). **CTS**

Opening session keynote:

UPA to prove merits of road pricing for national policy

U.S. surface transportation policies are an "alarming failure" because of a mistaken overall approach to funding, operations, and delivery, said **David Horner**, deputy assistant secretary of transportation policy with the U.S. Department of Transportation (USDOT). He discussed one aspect of the department's work to reform these policies: the Urban Partnership Agreement (UPA) and its successor, the Congestion Reduction Demonstration (CRD) Program.

Minneapolis is one of the cities selected in the UPA (see pages 3 and 5 for details).

Horner said the policy failure is not just due to lack of funds or poor execution. Federal funding for surface transportation doubled in the past 25 years while congestion in metro areas rose 160 percent. Transportation spending is exceeding Highway Trust Fund (HTF) revenue, and the fund is on track to go into deficit in 2009. "The bottom line,"

he said, "is that we cannot persist with the situation as it exists."

The sustainability of the gas tax that funds the HTF is another concern. There is bipartisan consensus to reduce gas consumption, yet the country depends on the gas tax to fund the majority of surface transportation programs. Relying on fossil fuels and an excise tax "is contrary to



David Horner

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Luncheon speaker:

Portfolio of strategies needed to lower transportation's carbon footprint

The globe will warm in coming years, but no one knows how much. If we're unlucky, said **Stephen Schneider**, the planet faces catastrophic results. Winning this "planetary gamble" will take a large portfolio of energy and transportation strategies, including performance mandates, cleaner technology, and international cooperation. "Let's have a learning-by-doing feeding frenzy," he urged.

Stephen
Schneider

Environmental Studies, professor of biological sciences, and senior fellow at the Woods Institute for the Environment at Stanford University. Since 1988 he has been involved with the U.N. Intergovernmental Panel on Climate Change (IPCC); he and four generations of IPCC authors received a collective Nobel Peace Prize for their joint efforts in 2007.

Several factors complicate the climate change debate. First is the difficulty in predicting the future. Scientists are analyzing data from the atmosphere, oceans, glaciers, and ice caps, but this "partly cloudy crystal ball" won't give definitive answers any time soon, Schneider said, and not before

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New commissioner shares vision for Mn/DOT

Commissioner **Tom Sorel** presented his vision for the Minnesota Department of Transportation (Mn/DOT) in comments preceding the luncheon presentation. Appointed to the post in April, Sorel was previously the Minnesota division administrator of the Federal Highway Administration. He is a member of the CTS Executive Committee and has also served on the boards of the Intelligent Transportation Systems (ITS) Institute and the Transportation Engineering Road Research Alliance (TERRA).



Tom Sorel

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national energy, environmental, and security objectives,” Horner said.

Horner also criticized the increased use of earmarking. Pitting special interests versus the public interest, earmarks rob states of the flexibility to focus on state and national priorities. “It’s a very wasteful practice, and we would like to see it end,” he said.

In response to these issues, the USDOT launched road-pricing programs designed to reduce congestion and achieve national energy, environmental, and security objectives. “According to economists, [pricing is] the single most viable approach to reducing congestion,” he said.

Announced in 2006, the UPA sought proposals from around the country for congestion reduction projects using the “four Ts”: tolling, transit, telecommuting, and technology/operations. “Tolling is first among equals in the program,” he said, “but transit is also an indispensable ingredient.” Last year the USDOT allocated \$848 million to 94 projects in four areas: Miami, San Francisco, Seattle, and Minneapolis (see page 5 for more about the University’s role in the Minnesota projects).

“Transportation officials of these jurisdictions were ready to think outside

“Congestion is not an unavoidable fact of modern life but a problem that can be reduced and eliminated by good policy decisions.”

—David Horner

the box and convince local leaders and elected officials to assume some political risk to advance a solution the USDOT was convinced would work,” Horner said. The goal, he explained, is to move pricing from discussion to implementation and persuade skeptics it will work.

In the CRD program, the USDOT and its urban partners negotiated a series of conditions for use of the funds. The principal condition, Horner said, is that the local recipient enacts legislation authorizing congestion pricing by a certain date. The Minnesota Legislature passed the needed authority for the I-35W lane in May.

Legislative authority is no small hurdle. New York City was initially slated to receive \$354 million under the UPA, Horner said, pending legal authority for a congestion pricing

cordon in Manhattan. The state legislature decided against taking any action, however, and forfeited the funds. The USDOT quickly reallocated the money to Chicago and Los Angeles, which it had vetted in case of such a problem.

Through these projects, the USDOT wants to demonstrate the power of road pricing and complementary transit for future policy. “Congestion is not an unavoidable fact of modern life but a problem that can be reduced and eliminated by good policy decisions,” he concluded. **CTS**

For more about the UPA and CRD, see www.upa.dot.gov.



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Sorel said he has two main goals for Mn/DOT: to regain the public trust and confidence lost with the bridge collapse and to regenerate a spirit of innovation and creativity. Regaining trust will require transparent communication and respect for public values. “It will be a journey,” he said. “It won’t happen overnight.”

Sorel called for Minnesota to build on its history of innovation and “take it to a new level.” A recent highlight in innovation was the Highway 36 reconstruction through St. Paul, which used innovative technology, contracting, and unique full closure, saving money and time. “This is a prime example of how we can use innovation in the state,” he said.

Innovation is also needed in

transportation finance, including a role for the private sector. “I’m not saying it’s a silver bullet,” Sorel said, “but we need to start looking at it and see how it fits.”

A key to innovation, Sorel said, is fostering partnerships such as TERRA, a structure that brings together government, industry, and academia. “I believe if we can all work as partners, there is a great future for transportation in Minnesota,” he said.

Sorel said he will continue to be very supportive of research and will work to achieve a program that balances basic and applied research. “We are fortunate to have both the University and CTS here as a resource,” he said, citing the work of the ITS Institute, Humphrey Institute of Public Affairs, and the Minnesota Local

Technical Assistance Program. He also noted the important role CTS plays in bringing key leaders together to solve transportation problems.

Sorel’s vision for Mn/DOT, he said, echoes what USDOT Secretary **Mary Peters** often calls for: 21st century solutions for 21st century problems. “We need to engineer the right solutions for today that will carry us into tomorrow,” he declared, by using the proper multimodal mix and the right combination of funds, solutions, and partners.

In closing, Sorel praised Mn/DOT’s “talented pool” of employees and asked audience members for their support in rebuilding public trust and confidence. “I am proud to serve Mn/DOT and am very optimistic for the future,” he said. **CTS**

Opening session panel:

Minnesota UPA project builds on previous success, partnerships

Following the keynote presentation by **David Horner**, two local leaders discussed the Minnesota UPA project: **Arlene McCarthy**, director of metropolitan transportation services with the Metropolitan Council, and **Bernie Arseneau**, director of Mn/DOT’s Office of Traffic, Safety and Operations.



Arlene McCarthy

“In general, UPA is going to be fabulous for Minnesota,” McCarthy said. The project implements a new approach—priced shoulder lanes—to squeeze capacity out of the right-of-way and deliver multimodal improvements. The project will receive \$133 million from the UPA along with \$50 million in local match funds from the state legislature and Met Council.

“This is an unprecedented effort at the federal level,” McCarthy explained. “They set policies and goals, and then left it to the locals. The decision-making process was difficult and competitive, which prompted risk taking and creativity.”

Earlier projects that received federal support—the I-394 MnPASS toll lane and the Hiawatha light-rail transit line—demonstrated that Minnesota was up to the task, McCarthy said. The partnerships forged for those projects and others were a key factor in the selection. For example, today there are more than 250 miles of bus shoulder lanes in the Twin Cities thanks to “the visionary thinking years ago of Mn/DOT, Metro Transit, the State Patrol, and the legislature,” she said. The UPA proposal blends those two concepts—tolling and shoulder lanes—and “takes them to the next generation of shoulder pricing,” she concluded.

Arseneau echoed McCarthy’s emphasis on partnerships. The project is “founded on Minnesota’s history of working through partnerships to deliver challenging initiatives,” he said. Many agencies played a role in shaping Minnesota’s UPA plan, including transit, counties, cities, the University of Minnesota, the Federal



Bernie Arseneau

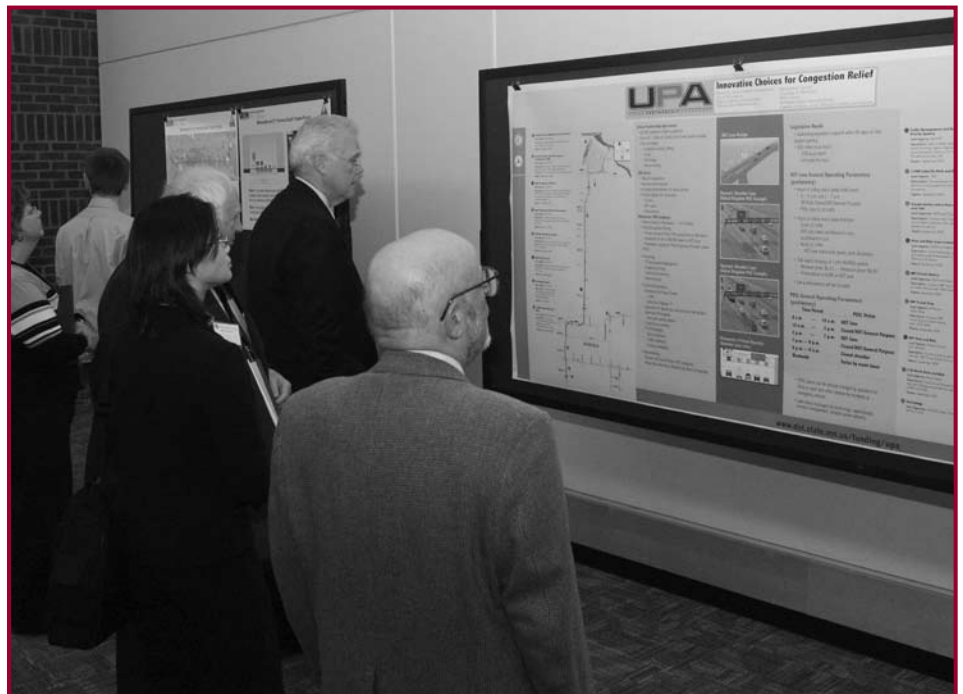
Highway Administration local division, and the private sector. Partners came together at two workshops (facilitated by CTS) to brainstorm and identify candidates for a proposal. In the end, the partners selected the I-35W corridor north and south of Minneapolis in order to have a project scope suitable to obtain measurable data. Both sections will receive transit enhancements while the southern stretch will also include congestion pricing, creating an in-field lab to measure the effects of both. Work is moving forward at a “great pace” to meet the September 30, 2009, completion date, he said.

The centerpiece of the project is a priced dynamic shoulder lane—the first in the world. “The project is using real estate that is already there...to move as much traffic as we can,” Arseneau said. Changeable message signs above all five lanes will provide real-time information to warn motorists of incidents, provide access for emergency vehicles, and help

clear crashes more quickly. “If there is a crash,” he said, “we have a safer situation than on a multilane road with shoulders.” Although the work is focused on I-35W, the plan is to apply findings from the project to other areas of the Twin Cities. “That’s why the evaluation data are so important,” Arseneau concluded.

A lively question-and-answer session followed, moderated by **Robert Johns**, CTS director. **Brian Lamb**, general manager of Metro Transit and a member of the CTS Executive Committee, rose to offer final comments. A unique feature of Minnesota’s project is that the shoulder lane and transit fares will be priced dynamically in the corridor, thus using “the total transportation system to influence behavior in a way that hasn’t been done before,” Lamb said. “We’re in a great experiment, one we will succeed in and that will pay great dividends...as we move forward in the next generation of transportation in the ever-growing metro area.” **CTS**

For more about the Minnesota project, see www.dot.state.mn.us/funding/upa.



Attendees view research posters during a break between conference sessions.

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major impacts are felt.

Second is the challenge of translating the science for politicians and the media. Citizens must understand the nature of system science to participate meaningfully in the debate, Schneider said, but the issue is not an easy one for the media to present. “All climate issues are global and long term,” he added. “All politics is local and short term.”

One thing is well established: the global warming of the past century and a half. A 2007 IPCC report used “unusually strong language,” Schneider said, to declare the evidence is now “unequivocal” that humans are causing global warming. The report also stated it is “very likely” that human activities have caused most of the global temperature rise observed since the mid-20th century.

Scientists now have “very high confidence”—at least a 9 out of 10 chance of being correct—in their understanding of how human activities are causing the world to warm, Schneider continued, due to major advances in climate modeling and the collection and analysis of data. For North America, warming will trigger effects such as more droughts and wildfires; smoggier cities and related harm to public health; and stronger coastal storms.

The problem is no longer just technical—it is ideological, too. California has been able to escape the “partisan trap,” Schneider said, because everyone agreed warming is not good for the state. “There is no such thing as a Democratic flood and a Republican wildfire,” he said.

Schneider advised taking a risk management approach that models the future, estimates risk, and proposes possible actions to decision makers. For the transportation sector, this means a portfolio of options including higher fuel-economy standards, hybrid vehicles, cellulosic biofuels, cap-and-trade arrangements or a carbon tax, and smart growth and other land use changes. Technology will be a big part of the solution.

“There is no such thing as a Democratic flood and a Republican wildfire.”

—Stephen Schneider

Gauging the carbon benefits of these strategies requires a life-cycle analysis: looking at what it takes to build and junk vehicles, for example, or grow and store biofuels. The first 20,000 miles of a hybrid provides less carbon benefit than a non-hybrid because of current battery technology, Schneider noted, while the carbon footprint of plug-in hybrids will depend on how electricity is generated. Likewise, biofuels made from cellulosic or waste products give real benefit, but destroying primary forests to grow biofuels wipes out gains “for a hundred years,” he said.

Schneider also raised the need for “egalitarian sharing and technology development” with countries like India and China. As citizens in developing

countries become more affluent, he said, “they want what we want”—a vehicle. “How do we find development pathways that allow growth and some individual choice but don’t lead to a train wreck?” His answer is a risk management approach in which nongovernmental organizations, the private sector, and governments negotiate and create partnerships. Options might include patent arrangements that let countries leapfrog straight to cleaner technologies like plug-in hybrids and solar or geothermal power. “A solution is needed at a planetary scale,” he stressed.

California, which has the lowest CO₂ emissions and energy use per capita in the country, may offer a path forward. Its energy commission reviews all

products—cars, windows, light bulbs—to determine the payback of buying greener, and then determines whether to set mandates. For example, after setting standards for refrigerators, the appliances grew larger and cheaper—and cut electricity use twice that of the potential energy of the Arctic National Wildlife Reserve, Schneider said. California’s vehicle emissions mandate wouldn’t have passed if the commission and state DOT hadn’t concluded it would be cost-effective, he added. California also is banning inefficient air conditioners.

States, especially large ones like California, can make a difference. “Good ideas get copied,” Schneider said. Still, he believes performance standards must be national as part of an overall energy policy.

In closing, Schneider repeated his call for ideas: “Let 50 alternatives bloom. Let’s capture the low-hanging fruit. Let’s do as much as we can as fast as we can as cost-effectively as we can as fairly as we can.” **CTS**

The August *CTS Report* will feature results of a study conducted by CTS that identifies ways Minnesota can reduce GHG emissions from transportation. To read about the study, see www.cts.umn.edu/Research/GreenhouseGas.



Minnesota UPA project to feature priced shoulder lane, telecommuting

In a continuation of the opening session with **David Horner**, this session presented specifics of Minnesota's Urban Partnership Agreement (UPA).

Nick Thompson, UPA project manager for Mn/DOT, said the "truly innovative piece of the work is the priced dynamic shoulder lane" on northbound I-35W into Minneapolis that will be open during peak hours. Signage will be posted frequently above all five lanes to adjust speeds and warn drivers of incidents. "Because of reduced congestion, traffic will move more safely than if nothing is done," he said. Construction will start later this summer and is scheduled for completion by September 30, 2009, except for downtown Minneapolis (December 31, 2009) and the I-35W/Crosstown (fall 2010).

Craig Lamothe, UPA project manager with the Metropolitan Council, reviewed 13 UPA transit projects aimed at providing "an attractive alternative to paying congestion prices or sitting in traffic." Objectives are to improve transit speed and reliability, increase its capacity, and enhance its appeal and convenience. For example, dynamic fare pricing—charging *lower* fares during peak hours—will be used to encourage people to take the bus. Highway tolls will fund rebates to transit users, with amounts depending on congestion levels and toll revenue. "The HOT lane will have a huge benefit to transit," he said.

Adeel Lari, senior fellow with the Humphrey Institute of Public Affairs, described telecommuting research he is conducting as part of the UPA. Telecommuting is the most cost-effective approach for reducing congestion during peak periods, he said. "Only 2.9 percent of the Minneapolis workforce telecommutes, so there is a large market," Lari noted.

There are two telecommuting options for working at home: flexible work arrangements, in which employer policies and guidelines apply, versus results-only work environments (ROWE), which allow workers to decide where and when to work. "ROWE is a completely changing paradigm with a significant impact on business culture," Lari said.

ROWE allows all workers to participate regardless of job duty or level. At Best Buy headquarters in Richfield, 75 percent of employees work under ROWE—resulting in a 35 percent increase in productivity, Lari said, along with increased employee retention.

Telecommuting offers a number of benefits. For society, the approach conserves energy, preserves the environment, and enhances safety. Employers save money from less office overhead, increased productivity and motivation, and employee retention. Workers spend less on gas and may have a better work/life balance, less stress, and more time for health and wellness, Lari said.



Adeel Lari

Barriers to greater use are no longer technological but lie in corporate culture. Employers need to switch from management by observation to management by objective, with clearly defined results. "It's not for everyone," Lari explained, such as those with poor personal motivation or young workers. Still, telecommuting is expected to become a viable planning element. "It is an opportunity for sustainable change," he said.

For the UPA, Lari will work with local companies to identify and recruit new telecommuters from the I-35W corridor, offering both ROWE and flexible work arrangements. His project also includes marketing, education, measurement, and evaluation. **CTS**

For more about the Minnesota project, see www.dot.state.mn.us/funding/upa.

University involved in Minnesota UPA project

The University is contributing to the Minnesota Urban Partnership Agreement (UPA) in several ways.

Robert Johns, CTS director, represents CTS on Minnesota's UPA steering committee, which meets monthly.

Lee Munnich, director of the State and Local Policy Program at the Humphrey Institute of Public Affairs, is a member of the evaluation team, led by Battelle. Munnich and **Gina Baas**, CTS communications and outreach director, serve on the project communications committee. CTS and the Humphrey Institute are also planning outreach activities to share lessons learned from the project.

On the research side, two labs of the Intelligent Transportation Systems (ITS) Institute, which is housed at CTS, will lend their expertise to the effort. The Intelligent Vehicles Lab, led by **Craig Shankwitz**, will deploy lane-guidance technology on 10 Minnesota Valley Transit Authority (MVTA) buses. The system will help drivers navigate narrow shoulder lanes on Cedar Avenue, the Crosstown Freeway, and I-35W, both

into and out of downtown Minneapolis. The IV Lab developed and tested the technology in earlier research for Metro Transit. "This project represents the first time that a comprehensive technology-based lane-assist system will be put into operational service," Shankwitz says.

The HumanFIRST Program, led by **Mike Manser**, will help the MVTA procure and prepare a driver training simulator and develop the training protocol. Because lane assistance represents a significant change for bus drivers and because of the short deployment timeline, the simulation approach was chosen to guarantee a pool of trained drivers when the system goes live on September 30, 2009. The IV Lab will optimize the driver interfaces based on driver experiences gained during both the simulator and on-road training sessions identified by the HumanFIRST Program.

Another research element is a study of the telecommuting component by **Adeel Lari**, research associate with the Humphrey Institute (see article above).

CTS

Researchers seek ways to save more lives on rural roads

Tom Horan, research director for the Center for Excellence in Rural Safety (CERS), along with CERS research manager **Keith Knapp**, **Howard Preston** of CH2MHill, **Kate Garwood** of Anoka County, and **Robert Weinholzer** of Mn/DOT participated on a panel about rural safety issues. CERS director **Lee Munnich** served as moderator.

Horan gave an overview of his latest research about rural health, safety, and emergency response, focusing on the role information can play in improving the timeliness and the quality of emergency response in rural areas.

In rural areas, the average emergency response time is 52 minutes, compared to 30 minutes in urban areas. According to Horan, this may partially explain why rural crashes are more likely to be fatal crashes, with 60 percent of all U.S. traffic fatalities occurring on rural roads, though only about 20 percent of the population lives in rural areas. Survivability for trauma patients is significantly improved if arrival to a hospital occurs in less than 30 minutes.

In 2007, Horan and CERS established a partnership with the Mayo Clinic in Rochester, Minnesota, to develop a best-practices model for responding to emergencies in rural areas. The clinic, in addition to having a state-of-the-art emergency care and emergency communications department, owns the local ambulance

provider as well as helicopter and air medical transport services. Representatives of every phase of emergency response participated in focus groups with Horan and research associate **Ben Schooley** to determine where gaps in information existed and how information technologies might address those gaps. The researchers also were given access to information about crashes and medical response for the year 2006.

Horan and Schooley envision an integrated statewide crash trauma information network that will serve as a prototype “Crash Help” system. Horan stressed the need to track a patient in real time from end-to-end—from the time of a 9-1-1 notification through a patient’s treatment and discharge from the hospital (and rehabilitation)—to ensure the best possible care.

Prior to Horan’s presentation, Knapp provided an update about other CERS activities as well as some basic rural crash facts and ways to prevent rural crashes through engineering and enforcement measures. He emphasized the importance of collaboration and empowering local organizations to make the changes necessary to improve rural traffic safety.

With a goal of helping reduce crashes in Minnesota, Preston and Garwood



discussed strategic highway safety planning at the county level using the Minnesota strategic highway safety plan (SHSP) as a starting point. To illustrate, they presented details from plans developed in Anoka and Freeborn Counties. Both Preston and Garwood described how low-cost, data-driven strategies have contributed to improvements.

To close the session, Weinholzer reviewed the increasing problem of deer-vehicle collisions (DVCs). Besides citing the latest state and national statistics, he summarized reasons for the increase in DVCs and preventive measures in use. In particular, Weinholzer focused on a promising new deer detection and avoidance system in development. Tests of the equipment along Camden State Park on Minnesota Trunk Highway 23 showed a 57 percent reduction in deer carcass counts during the past year. **CTS**

Talking in circles: roundabouts in Minnesota

Anyone who has ever visited Europe has probably driven through a roundabout, but are Minnesotans ready for them? Two sessions addressed the challenges and implications of using roundabouts in the United States, and more specifically, in Minnesota.

Transportation experts from Minnesota and Iowa shared case studies, statistics, and educational tools related to roundabouts. In the earlier session, **Shauna Hallmark** from the Center for Transportation Research and Education at Iowa State discussed the use of roundabouts along corridor systems in states

such as Iowa and Colorado. Hallmark focused specifically on the concerns many transportation officials have with roundabouts, such as safety for pedestrians, the impact on emergency response time, and the ability to accommodate farm vehicles.

Tony Heppelman and **Chuck Rickart** from WSB and Associates were on hand to discuss safety and public awareness issues created by roundabouts. Heppelman shared crash data gathered from the roundabout located on 66th Street and Portland Avenue in Minneapolis; Rickart and **Wayne Houle** from the City of Edina detailed the plan

they followed while constructing a series of roundabouts on West 70th Street in Edina. Their five-step plan included identifying the problem, increasing public involvement, creating a detailed design, construction, and public education.

Rickart and Houle said the objectives of the Edina roundabouts have been achieved, partly because of the cooperation of the public. “Reaching a consensus with stakeholders is extremely important,” Rickart said. “The improvements we made have been accepted by businesses and the public.”

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Mn/DOT project to improve cost estimating, cost management

In this session, speakers discussed national trends in highway project cost estimation and cost management, as well as Minnesota's leading role in changing practice through Mn/DOT's Cost Estimation Process Improvement and Organizational Integration Project. The project, managed by CTS, includes changes in policy, internal and external communications, and cost-estimating and cost-management tools.

Jennifer Shane of Iowa State University set the stage for the panel, noting that cost increases are a national problem for both large and small agencies. She described a National Cooperative Highway Research Program (NCHRP) report that recommends solutions. The report—*Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction*—served as the foundation for Mn/DOT's project.

Mike Ginnaty, project manager for Mn/DOT's initiative, said several factors are driving the need to change cost-

estimating processes, such as environmental and historical preservation laws and the rising costs of bituminous and fuel. Mn/DOT's project, begun in 2006, includes four phases: gathering data, creating desired solutions and an implementation plan, developing a reference manual, and conducting training.

Pat Hughes of Parsons Brinckerhoff, technical consultant on the CTS team, said the project resulted in five policy recommendations, each with many guidelines. The first recommendation, regarding cost estimating, calls for all project-related costs to be expressed as a Total Project Cost Estimate. "Before, costs were chiefly construction costs," Hughes said, but the new policy calls for all elements to be considered, such as detours, utilities, landscaping, traffic management, and environmental clean-up. The other four recommendations cover uncertainty, risk, and contingency; cost estimate communication; project cost management; and program management.

The project also involves significant

training and outreach components, Hughes said. A technical reference manual is being created and pilot training will be held this fall. (CTS is coordinating the training and outreach.)

Laurie McGinnis, CTS project manager, said the key to the project is successful integration into the department. One way to do so is communicating key project messages internally, to help staff understand the changes, and externally, to bring agencies, contractors, and consultants on board. The project is using communications expertise to increase awareness of cost estimating and cost management issues, promote understanding of the project, and develop shared understanding of language and terms. Tactics include workshops, articles in Mn/DOT's newsletter, and a Web site. The ultimate goal, she said, is to restore public trust by better matching delivery to promise. **CTS**



Laurie McGinnis

Roundabouts from page 6

Public involvement and education was the focus of the second roundabout session. Much of the discussion revolved around the roundabout located at Trunk Highway 61 and Jamaica Avenue in Cottage Grove, Minn. **Tom Fidler** from Bonestroo and **Jennifer Levitt** from the City of Cottage Grove shared their tips for keeping the public involved in the construction process. "Public involvement is extremely critical, but also extremely challenging," said Levitt. "The public didn't come to us, we had to go to them."

Ted Schoenecker from Washington County and **Cassandra Isackson** from Mn/DOT were also panelists, and the group led a Q & A session with participants that addressed communication and common problems and challenges faced when teaching the public about roundabouts.

Schoenecker shared the communication plan called "Roundabout U" that Washington County officials used to

educate the public. The plan included DVDs, matchbox car models of the roundabout, and a "magic carpet" that allowed people to walk through the roundabout as if they were driving.

Panelists emphasized the importance of public awareness and communication

and noted that Washington County officials are willing to share materials and ideas with other cities that are considering the development of a roundabout. "The Internet is an extremely powerful tool for sharing information such as this," Schoenecker added. **CTS**



A new roundabout in Cottage Grove, Minnesota

TERRA to host MnROAD open house

The Transportation Engineering and Road Research Alliance (TERRA) is hosting a behind-the-scenes look at how materials and pavement engineering innovations are developed, tested, and implemented on Minnesota roads at the Minnesota Road Research Project (MnROAD) facility near Albertville. The event, Engineering Better Roads Through Dynamic Research Partnerships, is part of the TERRA Innovation Series started last year. It will take place on July 30 from 10 a.m. to 3:30 p.m.

Representatives from TERRA, Mn/DOT, local government, and industry will be on hand to discuss TERRA-initiated research under way as part of the MnROAD Phase Two Research Initiative as well as the latest innovations



A tour bus will loop through the MnROAD pavement facility during the July 30 open house.

Web coordinator hired

CTS welcomed a new Web coordinator, **Toni Prekker**, in June.

Prekker has extensive experience in the University's Office of Human Resources (first as a student and then as a full-time employee from 1997–2006) and in the private sector. She brings a wide range of technical skills and expertise to CTS.

Prekker replaces **Charlie Grussing-Neitzel**. **CTS**

in transportation engineering. A tour bus will run a continuous loop through the MnROAD facility, making stops at various project locations. Researchers will be at project sites to discuss details.

Potential featured projects include full-depth reclamation, pervious pavement, fly ash, and warm-mix asphalt. Poster sessions and equipment demonstrations will share the latest innovations in the industry. In addition, forum discussions and presentations will focus on topics relevant to construction, local government, and researchers, consultants, and practitioners.

Visitors may participate as their schedules allow, either for a brief stay or for the entire day. During lunch, which will be

provided, various TERRA, Mn/DOT, and industry leaders will speak and a TERRA appreciation award will be presented.

There is no cost to attend the open house but registration is required. A complete program is on the TERRA Web site at www.terreroadalliance.org. To register, please contact **Stephanie Malinoff** at malinoff@cts.umn.edu or 612-624-8398.

This is the second event in the TERRA Innovation Series, which features transportation engineering and road research. The TERRA Innovation Series was created to communicate TERRA activities, innovations, and products through knowledge transfer, exchange, and demonstration. **CTS**

Upcoming events

To publicize your event, call CTS at 612-626-1077, fax 612-625-6381, or e-mail snopl001@cts.umn.edu. Visit the CTS Web site—www.cts.umn.edu—for more comprehensive event information.

July 30	TERRA Innovation Series: MnROAD Open House, Albertville, Minn. Contact Stephanie Malinoff , malinoff@cts.umn.edu , 612-624-8398, or see www.terreroadalliance.org .	Sept. 29–Oct. 1	Minnesota Public Transit Association Conference, St. Paul. See www.mpta-transit.org .	Oct. 7–8	Toward Zero Deaths Conference, Rochester, Minn. Contact Shirley Mueffelman , 612-624-4754, cceconf2@umn.edu .
		Oct. 1–2	Fall Maintenance Expo, St. Cloud, Minn. Contact Kathy Warren , 651-351-7432, kwarren@usinternet.com .	Oct. 14–15	2008 AirTAP Fall Forum, Breezy Point, Minn. CTS