



McKnight Foundation awards grant for Access to Destinations Study outreach

The board of The McKnight Foundation has awarded CTS a three-year grant of \$225,000 to develop and conduct outreach programs that make available research findings from the Access to Destinations Study.

McKnight is a private, Minnesota-based philanthropic organization. The foundation's diverse programs include support for strategies to increase alternative transportation options in the Twin Cities region (www.McKnight.org).

The purpose of these outreach activities will be to provide useful research-based information to groups investigating closer linkages between transportation and land use, says **Robert Johns**, CTS director, and to serve as a catalyst for

reframing current planning efforts and policy discussions.

"The McKnight Foundation is pleased to invest in CTS's work," says **Peg Birk**, McKnight's interim president. "The Center's increased outreach will help build alliances and make valuable transportation research available to key organizations, policymakers, and the public."

The grant is also intended to foster relationships between University researchers and other organizations, such as Transit for Livable Communities and the Minnesota Center for Environmental Advocacy (MCEA). Representatives from these organizations will

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Toward Zero Deaths Conference: a family's story

In the fall of 2004, brothers **Matthew, Jacob, and Justin Backstrom** were killed when their car was hit by a drunk driver near Farmington, Minnesota. At the 2005 Toward Zero Deaths Conference, held November 16 and 17 in St. Cloud, the boys' mother, **Connie**, and their father, **Nathan**, with their younger sons **Charles and Ryan** in



Portraits of Matthew, Jacob, and Justin Backstrom alongside the clothes they wore the night they died served as a poignant reminder of the consequences of drinking and driving.

attendance, recounted the details of their lives immediately after learning of their sons' deaths and of their lives since.

Each year, around 600 people die on Minnesota's roadways. "Maybe, by sharing the brothers' story, it will make a difference," Connie Backstrom told the audience. "We will never know if someone will make better choices because they hear the brothers' story. But we have to try...by talking to people and by putting real faces with those numbers, by trying to make them more aware of how deadly drinking and driving is even for those who are not drinking."

Minnesota Department of Public Safety, Minnesota State Patrol, Federal Highway Administration (FHWA), and CTS. The conference was hosted by CTS and sponsored by Mn/DOT, the Department of Public Safety, and the Minnesota TZD program. It included the Minnesota Department of Public Safety *Safe and Sober* and *Child Passenger Safety* Conferences.

The Backstroms' poignant presentation, which opened the conference, included a video consisting of family photos, video from the boys' funeral, and photos of their crashed car.

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Speakers offer ideas to spur transit in HOT lanes

Techniques for spurring transit use in tollway corridors—such as joint billing for transponders and smart bus cards—



Martin Sabo

were the focus of a special MnPASS Transit Advantage Workshop November 29. The State and Local Policy Program (SLPP) at the University's Humphrey Institute of Public Affairs hosted the event.

The purpose of the workshop was to develop options for creating "transit advantage" in conjunction with the I-394 MnPASS project—Minnesota's first high-occupancy toll (HOT) lane—and to explore strategies for integrating transit in future MnPASS projects.

The day-long workshop began with an update of the I-394 project at the Mn/DOT Regional Traffic Management Center, followed by a bus tour of the corridor, a luncheon featuring Congressman **Martin Olav Sabo** at Metro Transit, and a discussion of policy alternatives at Mn/DOT.

In his remarks, Sabo urged creative solutions and funding for Minnesota's transportation challenges. He recognized the early success of the MnPASS

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Roundtable features managed lanes, Texas-style

Recent legislation passed in Texas has given its department of transportation an array of tolling and pricing options for managing congestion and, increasingly, for financing roads. As a result, state agencies are partnering with each other and private industry to try innovative approaches to meet the state's transportation demands.

Key players in these efforts spoke at a roundtable session October 17 titled "Traffic, Tolling, and the Trans-Texas Corridor," one in a series of transportation finance roundtables sponsored by CTS and the Humphrey Institute's State and Local Policy Program (SLPP) with the Minnesota Department of Transportation.

CTS director **Robert Johns** opened the session by noting that for those watching trends in transportation financing, "all eyes are on Texas." That's because the Texas Department of Transportation (TxDOT) "has more license from its governor and its legislature to plan and implement tolls than any other state DOT in the country," Johns said.

Lee Munnich, SLPP director and the roundtable moderator, noted the mutual interest among those gathered in Texas's managed lane projects and Minnesota's I-394 MnPass project. MnPass evaluation results may be available in early 2006, he said.

Katie Turnball, associate director of the Texas Transportation Institute (TTI), began by giving an overview of what's happening in Texas. TTI is nationally recognized for its measures of urban congestion and research on critical transportation issues. Recently, in keeping with interest at both the state and national levels, that research

has included managed links—those managed not only by occupancy levels or vehicle type, but also by access or pricing, Turnball said.

Because TxDOT has a toll division—the Texas Tolling Authority (TTA)—within it, the department can move forward on its own with tolling projects. In addition to creating the TTA Division, the 2003 legislation specifies regional mobility

Currently 10 urban areas in Texas are considering some form of managed lanes.

authorities, comprehensive development agreements, bonding authority, pass-through tolls/financing, public-private partnerships, and flexibility on tolling TxDOT facilities.

"There is a whole host of tools that are available and are starting to be used by the department," Turnball said, as well as many research opportunities to look at the changes and the effects they're having.

Next, **Ginger Goodin**, TTI's Austin office manager, spoke on what she called "managed lanes—Texas-style." Many different types of facilities fall under the heading of managed lanes: HOV lanes, express toll lanes, high-occupancy toll (HOT) lanes, exclusive transitways, and exclusive truck lanes, Goodin noted. And lanes may operate one way or another at different times of the day.

"What distinguishes managed lanes from other forms of lane management is this idea of active management, where you use strategies such as eligibility, access con-

trol, or pricing to continually manage the operation of the facility to meet the performance expectations you've set up ahead of time," she said.

Currently 10 urban areas in Texas are considering some form of managed lanes. One example, the LBJ expansion project in Dallas, is trying to accelerate completion by pooling and leveraging funding. "Again, more of the emphasis is on revenue generation than you might have seen in the past," Goodin said.

Next, **Carlos Lopez**, TxDOT director of operations, discussed the Trans-Texas Corridor, a proposed multi-use, statewide network of transportation routes in Texas that will incorporate new and existing highways, railways, and utility right-of-ways. The corridor as envisioned would have separate car and truck lanes, separate lines for freight, high-speed commuter railways, and infrastructure for utilities (including telecommunication services). While TxDOT will oversee planning, construction, and ongoing maintenance, private vendors will handle most daily operations.

At this point, Lopez said, "everything is conceptual." The corridor is a 50-year project, with some near-, mid-, and long-term goals. Although conventional funding could be used, tolling would shorten the timeline for getting projects completed. "That's been our best approach to presenting the tolling solution," Lopez said.

"We wouldn't find many people in our legislature who would support a 50- to 75-cent gas tax increase," he added. "We're welcoming the private sector with open arms." **CTS**

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technology and noted that he has long been aware of the potential for improving transit advantage along I-394.

"Intelligent transportation solutions like MnPASS are increasingly important to lessen congestion and improve traffic flow," Sabo said.

Next, **Michael Replogle**, transportation director of Environmental Defense in Washington, D.C., identified keys to successful transit in HOT lanes: frequent and dependable transit service, ample access for bicyclists and pedestrians, strong sys-



tem identity, and an effective service plan.

"As a possible transit option," he added, "successful bus rapid transit (BRT) requires

a flexible, permanently integrated, high-performance system with a quality image and strong identity."

Specifically, this entails high-capacity, comfortable vehicles with easy multi-door boarding; frequent, reliable, high-speed service with priority/dedicated lanes; weather-protected stations with platforms offering easy vehicle entry; and efficient

operations, passenger information, and fare payment systems.

Improved HOT-lane transit could cut traffic, congestion, and pollution, Replogle said. He warned, however, that HOT lanes can contribute to suburban sprawl, and this impact must be considered in future planning. "The best HOT-lane transit links current and planned transit-oriented development centers, ensures attractive bicycle and pedestrian access, and facilitates transit connections," he said. In addition, smart HOT-lane design and toll management of existing capacity can ensure funds for HOT transit.

Preparing for the unexpected builds supply-chain resiliency

As if the September 11 terrorist attacks or Hurricane Katrina weren't enough, now there's a deadly bird flu inducing a new wave of worry around the globe. What can be done to respond effectively to such grave threats?

Yossi Sheffi, author of *The Resilient Enterprise: Overcoming Vulnerability for Competitive Advantage* (MIT Press, 2005), hasn't found a way to stop natural disasters or pandemics, prevent accidents, or predict acts of terrorism, but the international expert in supply-chain management does have a common-sense prescription to ease the pain of resulting major business disruptions: plan ahead.

Sheffi is director of the Center for Transportation and Logistics and a professor in the Civil and Environmental Engineering and Engineering Systems Division at the Massachusetts Institute of Technology. During a lecture and book signing October 27 at the University's Carlson School of Management, he discussed the importance of preparing for the unexpected. The event was sponsored by the Operations and Management Science Department and CTS.

Sheffi provided several chilling examples of just how wrong things can go for companies that are unprepared. Consider how competitors Ericsson and Nokia fared (not well) in response to a fire in

2000 at the manufacturer from which each obtained a critical supply of microchips. Or how Land Rover endured the bankruptcy of a key part supplier in 2001. Ponder why Dell continued to grow and Apple lost ground in 1999 when a modem part was held up due to an earthquake in Taiwan.

Sheffi also offered insight on how companies can build in flexibility throughout their supply chains—based on proven design principles and the right culture—balancing security, redundancy, and short-term profits.

To plan for a possible business disruption, Sheffi suggests first asking how likely it is to happen and how bad it will be. He also proposes planning for potential wild cards, such as the public fear factor, government overreaction, and other unexpected connections and consequences.

Sheffi pointed to the 2001 foot-and-mouth disease outbreak in the UK as an instance of agricultural losses leading to significant and avoidable losses in tourism because of an over-reaction by the authorities. "In many cases, government reaction can make things worse," he said, explaining that such a reaction should be expected and planned for.

Of course, Sheffi advocates for a realistic approach to reduce the likelihood of trouble, acknowledging that intentional

disruptions like industrial actions, sabotage, and terrorism can be deterred with preparations while natural disasters cannot.

With that proactive approach in mind, Sheffi outlined several steps to build resiliency within an organization. Mechanisms such as statistical process control (SPC) help to detect patterns, facts, or evidence of an attack or problem in advance. In addition, creating a culture that values practice, training, and drilling sets the stage for coping with the unexpected. A layered, balanced organization that encourages collaboration also preserves its flexibility—the key to coping with catastrophe.

Sheffi also cited redundancy (in capacity, inventories, and facilities) and agility (interchangeability and concurrency) as ways to build resiliency. "If everything is unique to a certain purpose," he said, "then we cannot move stuff around."

Finally, Sheffi emphasized organizational basics, such as customer service, continuous communication, quality, distributed power, and passion for the work and the mission, as other key components in building a culture of resiliency within an organization.

For more information about resiliency and overcoming vulnerability, visit Sheffi's Web site: web.mit.edu/sheffi. **CTS**

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The afternoon discussion of policy alternatives produced a number of ideas for improving transit advantage with the I-394 MnPASS project. Among these was the notion of common transponders and smart cards that would yield value-added billing convenience, and free or reduced fares for MnPASS users of Minneapolis TAD (I-394 Third Avenue Distributor) parking garages or downtown transit services.

"We must continue to identify, analyze, and recommend strategies for enhancing transit advantage in current and next-phase I-394 MnPASS lanes," said **Lee Munnich**, senior fellow and director of SLPP, in his closing remarks. "In addition, we need to adopt approaches for integrating transit improvements in future MnPASS corridors." **CTS**

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serve on the advisory panel for the study. The interdisciplinary Access to Destinations research program (see www.cts.umn.edu/access-study) began last fall with the initiation of five projects:

- **Development of Accessibility Measures, David Levinson**, Civil Engineering (CE). Sponsor: Mn/DOT.
- **Refining Methods for Calculating Non-Auto Travel Times, Kevin Krizek**, Humphrey Institute of Public Affairs. Sponsors: Hennepin County and Mn/DOT.
- **Estimation of Arterial Travel Times, Gary Davis**, CE. Sponsor: Mn/DOT.
- **Generation of Travel-Time Data for the Metro Freeway Network, Taek Kwon**, University of Minnesota Duluth (UMD), and **Eil Kwon**, Mn/DOT. Sponsor: Mn/DOT.

- **Twin Cities Metrowide Traffic Microsimulation: Feasibility Investigation, Panos Michalopoulos**, CE. Sponsors: Mn/DOT and Hennepin County.

With the McKnight grant, CTS will disseminate results of these and other research projects through workshops, policy summaries, an electronic newsletter, a Web site, and other means.

The study follows the national "Access to Destinations" conference that CTS sponsored in November 2004 (see www.cts.umn.edu/publications to download the proceedings). The conference was part of University of Minnesota President **Robert Bruininks's** 21st Century Interdisciplinary Conference Series. **CTS**

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“As we would find out later, the boys hadn’t done anything wrong. They were going the speed limit, they had their seat belts on, they were on the right side of the road. But one young man chose to drink too much, he chose to drive too fast, and he chose to talk on his cell phone,” Connie Backstrom said.

Every time a police officer pulls over a drunk driver, that officer may be saving a life and consequently, sparing other families the heartache her family experienced, Backstrom added.

“Individually, the task of reaching zero deaths on Minnesota roads is impossible. But, if each of us does all that we can, we will be a whole lot closer to reaching that goal.”

Nathan Backstrom urged attendees to change their behavior for their kids and for the influence it could have on others. “When our kids see us at a bar, restaurant, or ball game having a few drinks and then getting in a car and driving home, what are

they learning?”

Other conference sessions addressed more challenges to traffic safety—impaired driving, underage drinking, speeding, poor judgment, the aging population—and new approaches to counteract them. For example, one successful initiative is targeting the adults who provide alcohol to minors; another is engaging liquor providers as partners in preventing DWIs. A statewide speed management program is putting pressure on drivers to obey the posted limit and increase safety on state roadways as a result. And the use of new tools such as cable median barriers and clearer, more uniform traffic signing are showing promise for reducing crashes.

Several University of Minnesota researchers were among the presenters. **Ken Winters**, Department of Psychiatry, was the keynote speaker at the first day’s luncheon. The adolescent brain, he explained, is not fully developed until the early to mid-20s, and that may explain

why teens have the highest crash risk of any age group on the road.

Professor **Max Donath**, director of the ITS Institute, described innovative education programs to coax teens into driving more safely, and in-vehicle technologies to prevent them from driving if they don’t buckle up or are intoxicated.

Researcher **Mick Rakauskas** of the University’s HumanFIRST Program discussed a recent study that showed that sober drivers talking on a cell phone or operating in-vehicle controls such as the radio or fan performed worse than drivers who were intoxicated.

The conference’s closing session revisited the Backstrom family crash from the perspective of five individuals who worked on some aspect of the incident and its aftermath: the first responder, the coroner, a Mn/DOT engineer, a Minnesota State Patrol officer, and the attorney who prosecuted the drunk driver. That attorney, Jim Backstrom (no relation to the Backstrom family), said the greatest tragedy of this case was that the driver should never have been behind the wheel of a car, having been previously cited for five alcohol-related driving offenses in five years with no significant consequences or jail time. In this case, Backstrom asked for a 12-year sentence; the defendant pleaded guilty to criminal vehicular homicide and was sentenced to eight years in prison.

A proceedings of the conference will be published early this year. To receive a copy, call CTS at 612-626-1077 or visit www.cts.umn.edu/publications. **CTS**

CTS hires Web coordinator

Charlie Grussing-Neitzel joined CTS in December. In the new position of Web coordinator, **Grussing-Neitzel** will provide technical support for the development and management of multiple program



Charlie Grussing-Neitzel

Web sites. He previously was the district webmaster for the Osseo Area Schools Education Service Center, and taught technology education classes at North View Junior High in the Osseo district. **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.

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| Jan. 25–27 | City Engineers Association of Minnesota Annual Conference, Brooklyn Park. Contact Oona Besse , 612-624-3492, conferences3@cce.umn.edu . | March 16–17 | Annual Concrete Paving Workshop, Duluth. Call the Concrete Paving Association of Minnesota, 651-762-0402. |
| Feb. 9 | CTS Winter Luncheon with Leonard Evans , Minneapolis. Contact Julie Grazier , 612-624-3708, conferences5@cce.umn.edu . | March 22–23 | Mn/DOT Environmental Stewardship and Streamlining Workshop, Brooklyn Park. Contact Julie Grazier , 612-624-3708, conferences5@cce.umn.edu . |
| Feb. 16 | 10th Annual Minnesota Pavement Conference, St. Paul. Contact Shirley Mueffelman , 612-624-4754, conferences2@cce.umn.edu . | Apr. 5 | 5th Annual Road Salt Symposium, St. Cloud. Contact Jeanne Prok , 952-472-3540, jeanne@freshwater.org . |
| Feb. 21 | Minnesota Surveyors & Engineers Society Annual Meeting/Luncheon, Minneapolis. Contact Ann Manthey , 651-457-2347, ann@mses.org . | Apr. 11–12 | Spring Maintenance Training Expo. Contact Shirley Mueffelman , 612-624-4754, conferences2@cce.umn.edu . |
| Feb. 22 | “Eminent Domain: Ailment or Cure?” Sponsor: Sensible Land Use Coalition. Contact Pat Arnst , 952-474-3302, PFArnst@aol.com . | May 10–12 | Minnesota Public Works Association Spring 2006 Conference, Grandview Lodge. Contact Oona Besse , 612-624-3492, conferences3@cce.umn.edu . |
| March 2 | Transportation Career Expo, Minneapolis. Contact Mindy Carlson , 612-625-1813, jones154@cts.umn.edu . | May 24–25 | CTS Seventeenth Annual Transportation Research Conference, St. Paul. Contact Julie Grazier , 612-624-3708, conferences5@cce.umn.edu . |
| March 8 | 12th Annual ITS Minnesota Spring Meeting & Information Exchange Forum, St. Paul. Contact Heather Dorr , 612-625-5267, conferences5@cce.umn.edu . | June 4–7 | North American Travel Monitoring Exhibition and Conference, Minneapolis. Visit www.trb.org/conferences/natmec . CTS |