



University to assist in sustainability initiatives

Minnesota has received two major grants to analyze and support sustainability, and the University will assist in both initiatives.

The U.S. Department of Housing and Urban Development (HUD) awarded a local consortium a \$5 million grant that supports planning along the region's growing network of transit corridors. The grant will help the Metropolitan Council and other stakeholders build on existing regional planning efforts to advance transit- and pedestrian-friendly development, provide access to jobs and housing, and promote environmental preservation and energy efficiency.

Ed Goetz, director of the University's Center for Urban and Regional Affairs (CURA), and **Laurie McGinnis**, director of CTS, will form and lead a data and evaluation team for the project. The team will work with

the policy board and staff at the Metropolitan Council to devise measures of sustainable development, identify data sources, and conduct baseline studies to demonstrate the impact of planning for sustainability in the region's transit corridors.

The Minnesota Center for Neighborhood Organizing (MCNO), a CURA program, will provide leadership on public engagement efforts for the initiative. MCNO staff will collaborate with organizations, individuals, and government agencies to increase participation in regional planning by immigrant communities, communities of color, and low-income communities.

In addition, **Yingling Fan**, an assistant professor in the Humphrey Institute of Public



Ed Goetz

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Distracted, drunk driving are topics at TZD conference

"I truly believe that no text message is worth dying for," said U.S. Senator **Amy Klobuchar** in her opening remarks at this year's Toward Zero Deaths (TZD) Conference.



Amy Klobuchar

The annual conference serves as a forum for sharing information on methods to reduce the number of injuries and fatalities on Minnesota roads. This year's event, held October 25 and 26 in St. Paul, drew more than 700 attendees.

Klobuchar emphasized the importance of partnerships and the need for a combination of new laws, enforcement, and education at both a national and local level to change driver behavior and reduce the number of crashes related to distracted driving.

"This is about the individual lives of the people," Klobuchar said.

Eliminating the dangers of distracted driving



Anne McCartt

also requires public awareness and support, said **Anne McCartt** in a plenary presentation. McCartt, senior vice president of research at the Insurance Institute for Highway Safety, said research consistently shows cell phone use and texting impair driving performance, yet many people choose to continue the risky behavior.

"A phone conversation is taking resources away from the brain power you need to drive safely," McCartt said, noting that research shows similar results for drivers talking on hand-held and hands-free phones.

Collision claims and crashes did not decline in states that banned hand-held phone use, McCartt added. One possible explanation is that the bans are difficult to enforce. In states banning all phone use by teens, for example, it can be difficult for a law enforcement official to determine a person's age, she explained.

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Winter luncheon: The end of drunk driving?

People may be unable or unwilling to eliminate drunk driving, but technology could do it for us.

Advanced in-vehicle technologies under development could be fitted in all vehicles to measure driver blood alcohol concentration



Susan A. Ferguson

(BAC) non-invasively. **Susan A. Ferguson**, program manager for a multi-million dollar research program investigating these technologies, will discuss this work at the CTS Winter Luncheon on February 15.

The Automotive Coalition for Traffic Safety (ACTS, a group funded by vehicle manufacturers) and the National Highway Traffic Safety Administration (NHTSA) launched a five-year cooperative agreement—titled Driver Alcohol Detection System for Safety (DADSS)—in February 2008 to explore the feasibility of, and the public policy challenges associated with, widespread use of in-vehicle alcohol-detection technology to prevent alcohol-impaired driving.

Two approaches have been identified that have considerable promise in measuring BAC

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Symposium looks at the carbon footprint of supply chains

Many firms are beginning to provide information about the carbon footprint of their products—all the way from sourcing through production, distribution, inventory, and end use. Little academic research has been done, however, to understand the impacts of supply-chain decisions on carbon emissions.

To stimulate research in this area and begin building a community of researchers interested in the topic, the National Science Foundation (NSF) hosted the “NSF Symposium on the Low Carbon Footprint Supply Chain” on October 14 and 15 at its headquarters in Virginia. The event brought together researchers with backgrounds in supply chain management, energy, the environment, economics, and public policy, among others, with representatives of government agencies, non-profit organizations, and industry.

The symposium was sponsored by the NSF, the Industrial and Systems Engineering Program (ISyE) at the

University of Minnesota, the Department of Industrial and Operations Engineering (IOE) at the University of Michigan, and CTS. It was organized by **Saif Benjaafar**, professor and ISyE director, and **Mark Daskin**, Clyde W. Johnson Collegiate Professor and chair of the IOE department at the University of Michigan.

The symposium focused on the impact of operational changes within and across firms in the entire chain. For example, just-in-time shipments may reduce the energy impact of keeping inventory, particularly for perishable goods, but such shipments often rely on small, energy-inefficient vehicles making many trips.

In one symposium session, Benjaafar presented a paper he co-authored with Daskin and **Yanzhi Li** of the University of Minnesota that analyzed carbon footprint and the management of supply



Saif Benjaafar

chains. Benjaafar described a lot-sizing model that accounts for carbon emissions under various regulatory policies, including strict carbon caps, a carbon tax, cap and trade, and cap and offset. The model also can be extended to multiple firms to examine the impacts of coordination across the supply chain.

Echoing other presenters, Benjaafar suggested that operational adjustments in the supply chain can reduce emissions without significantly increasing cost. He also showed that when subjected to carbon constraints, firms within the same supply chain can increase value through collaboration.

Benjaafar and Daskin also prepared the symposium final report, which recommends research into areas such as the supply chain network structure, life-cycle analysis tools, regulatory approaches, and consumer behavior. The report is on the symposium website: www.isye.umn.edu/NSFsymposium. **CTS**

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Affairs, will explore the potential of transitways to promote regional competitiveness and equity. The research will focus on labor supply and cross-town commuting.

Lee Munnich, senior fellow at the Humphrey Institute, will serve as co-investigator on the project.

The grant was awarded to the Metropolitan Council on behalf of a regional consortium that also includes Hennepin County, Ramsey County, the Counties Transit Improvement Board, the City of Minneapolis, the City of Saint Paul, the Minnesota Housing Finance Agency, and the McKnight Foundation, with support from the Central Corridor Funders Collaborative and the Ford Foundation. Work will be conducted in 2011–2013.

The grant is one of the first initiatives to emerge from the Obama administration’s \$100 million Partnership for Sustainable Communities, an inter-agency collaboration between the U.S.



Yingling Fan

Department of Housing and Urban Development, U.S. Environmental Protection Agency, and U.S. Department of Transportation intended to coordinate federal housing, transportation, and other infrastructure investments. For more information about the initiative, visit www.epa.gov/smartgrowth/partnership/index.html.

The second grant coming to Minnesota was awarded to the Region Five Development Commission, which serves communities, organizations, and individuals in Cass, Crow Wing, Morrison, Todd, and Wadena Counties of central Minnesota, through the HUD 2010 Sustainable Communities Regional Planning Grant program.

A consortium representing the counties, guided by the commission and in partnership with the University of Minnesota’s Regional Sustainable Development Partnership, collaborated to develop the grant application.

Kathy Draeger, statewide director of the Regional Sustainable Development Partnership, and **Virajita Singh**, senior research fellow/adjunct assistant professor

at the Center for Sustainable Building Research in the College of Design, were part of the grant-writing team.

The grant will support multi-jurisdictional planning efforts that incorporate housing, land use, transportation, and economic development. The University will provide research support and asset-mapping assistance to the rural region. CTS will coordinate a University–community partnership to address sustainable transportation issues that arise during the planning process.

“We are grateful to have the depth of expertise in transportation research available to projects such as this in Minnesota,” says Draeger, the project program director for the University’s involvement in the grant. “Having a world-class center dedicated to transportation issues and engaged in real-world work in Greater Minnesota is an incredible asset to this HUD sustainable regional planning effort.” **CTS**

Panel examines logistics issues for biofuels

A panel of experts chaired by **Jerry Fruin**, professor of applied economics and a CTS Faculty Scholar, has examined the harvest, transportation, and storage of cellulosic material for biofuels.



Jerry Fruin

In September Fruin summarized the panel's findings at two invited presentations in Washington, D.C., for the U.S. Department of Agriculture and the National Coalition for Food and Agricultural Research.

The research is the fourth installment in the Council for Agricultural Science

and Technology (CAST) biofuels series exploring the convergence of agriculture and energy. CAST is an international consortium of 32 scientific and professional societies.

Fruin's task force focused on the difficulties and issues of U.S. logistics systems for collecting, transporting, and storing cellulosic biomass (corn cobs, corn stover, switchgrass, straw, etc.). His team used data and case studies to look at possible solutions for the planning, design, management, and operation of the biomass infrastructure. The resulting paper, *Infrastructure Considerations for Biomass Harvest, Transportation, and Storage*,

focuses on the logistics needed to make biofuels a success.

According to the report, expanding the role of biomass as an energy source in the United States will require new methods and systems to routinely and reliably harvest, handle, store, and transport large quantities of bulky materials of varying characteristics. These needs contrast with the well-developed logistics, grading, and marketing systems for grain biofuel feedstocks and fossil fuels.

CAST reports are online at www.cast-science.org. **CTS**

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Research also indicates that drivers who text are 23 times more likely to drift out of the driving lane or experience a near crash. Still, texting bans can be even more challenging to enforce, McCartt said. Texting may be hard to distinguish from dialing a phone, which is not prohibited, and it can be more difficult to detect than a phone at a driver's ear.

In states with texting bans, research actually found an increase in collisions following the ban's implementation. One hypothesis, McCartt said, is that many people are still texting; they may now simply hold the phone down toward their lap to avoid detection. This action takes their eyes further from the road, often for a longer period of time, and can make texting even more dangerous, she added.

Several new technologies may prove effective in reducing drivers' use of cell phones, McCartt suggested. Technology that can limit or block calls and texts while driving has especially high potential for teen drivers, vehicle fleets, or drivers who want to limit their own phone use. The biggest challenge, McCartt predicted, will be getting drivers to change their behavior.

Drunk driving was the topic of another plenary session. Former CEO of Mothers Against Drunk Driving **Chuck Hurley** began by noting the importance of factors such as the economy when considering drunk driving data. As much as half of

the recent decrease in drunk driving-related fatalities could be the result of the economic downturn. People are driving fewer discretionary miles, he said, which often translates into "less late-night bar traffic."

Advanced technology now in development could prevent cars from being driven above the legal limit within 10 years, Hurley said. This technology could help bring about a world without drunk driving, cutting fatality rates by 30 percent and insurance rates by 18 percents. But public support is necessary for success.

"We literally have the level of drunk driving in this country that we choose to have," Hurley stated. "We could make it zero...but it will only happen if the public wants it to happen."

Three University of Minnesota researchers gave presentations in concurrent sessions:

- **Mike Manser**, director of the HumanFIRST program, "Age and Driving Behavior: What Can We Do About It?"
- **Craig Shankwitz**, director of the Intelligent Vehicles Lab, "Rural ITS Safety"
- **Lee Munnich**, director of the Center for Excellence in Rural Safety, "Political Dimensions of Traffic Safety"



Chuck Hurley

Following the TZD conference, more than 100 people attended a seminar about Sweden's Vision Zero Initiative. A world leader in traffic safety, Sweden sends experts around the world to talk about its vision of a safer road system and help other governments adopt their own "vision zero." At the seminar, high-level safety advocates and transportation officials discussed how Sweden has changed the culture of traffic safety, how roads can be built cost-effectively and still minimize the fallout from driver error, and how Sweden's approach to impaired driving differs from that of Minnesota.

Toward Zero Deaths is a Minnesota partnership led by the Departments of Public Safety, Transportation, and Health, in cooperation with the Minnesota State Patrol, the Federal Highway Administration, Minnesota county engineers, and CTS. The conference was hosted by CTS and sponsored by Mn/DOT, the DPS, and the Minnesota TZD program. **CTS**

New research reports available

The enclosed insert lists research reports written by University researchers and published by CTS, Mn/DOT, the Minnesota Local Road Research Board, and other sponsors from August through October 2010. **CTS**

First transport and land use meeting in July

The inaugural meeting of the World Symposium on Transport and Land Use Research (WSTLUR) will be held in Whistler, British Columbia, July 28–30, 2011. The conference will bring together academics and practitioners at the intersection of economics, planning, and engineering in the fields of transport and land use.

WSTLUR follows on the successful Access to Destinations conferences (www.cts.umn.edu/access-study) sponsored by CTS in 2004 and 2007.

The Call for Papers, seeking original and interdisciplinary research addressing the interaction of transport and land use, is open for submission until December 31, 2010.

CTS is organizing the conference with support from these contributing partners: the Georgia Transportation Institute at

Georgia Tech University, the University of California Transportation Center at the University of California Berkeley, the Sustainable Transportation Center at UC–Davis, the Center for Livable Transportation Systems at the University of Connecticut, and the University of Vermont Transportation Research Center.

The organizing committee is chaired by **Kevin Krizek**, assistant professor in the Department of Planning and Design at the University of Colorado (formerly with the Humphrey Institute of Public Affairs). The committee also includes Braun/CTS Chair **David Levinson** of the Department of Civil Engineering and three representatives from CTS: **Laurie McGinnis**, director; **Gina Baas**, assistant director of education and outreach; and **Stephanie Malinoff**, manager of events and outreach services. **CTS**

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non-invasively: 1) tissue spectrometry, a touch-based approach allowing estimation of alcohol in tissue, and 2) distant spectrometry, which assesses alcohol concentration in the subject's exhaled breath. Prototype devices have been developed and tested, and in 2011, Phase II will begin to develop a research vehicle that will demonstrate these technologies. Ferguson will provide an update of progress and efforts under way to gauge public reaction to such technology.

Ferguson is the president of Ferguson International LLC, a highway safety research consulting company. She formerly was the senior vice president for research at the Insurance Institute for Highway Safety.

A registration form is enclosed. For more information, contact **Nicole Freese**, 612-624-3708, cceconf5@umn.edu, or visit www.cts.umn.edu/events. **CTS**

Exhibitors sought for career expo

The 2011 Transportation Career Expo will be held March 1 from 4:30 to 7:15 p.m. at Coffman Memorial Union on the Minneapolis campus.

The expo allows companies and agencies to network with students and recent

graduates and tell them about their organizations and job opportunities. It also offers an opportunity for professional organizations to reach out to students as potential members.

A Call for Exhibitors is enclosed with

this *Report*. If your organization would like to set up an exhibit at the expo, please register online by January 31.

For more information, contact **Shawn Haag** at 612-625-5608, haag0025@umn.edu. **CTS**

Upcoming events *To see other events or publicize yours, visit www.cts.umn.edu/Events.*

Feb. 10	15th Annual TERRA Pavement Conference, St. Paul. See www.terraroadalliance.org/events .	May 24–25	22nd Annual CTS Transportation Research Conference, Crowne Plaza, St. Paul. See www.cts.umn.edu/Events/ResearchConf .
Feb. 15	CTS Winter Luncheon with Susan Ferguson (see related article), Minneapolis. See www.cts.umn.edu/Events/Luncheon .	July 28–30	World Symposium on Transport and Land Use Research, Whistler, British Columbia. See www.wstlur.org . CTS
March 2	55th Annual Asphalt Contractors' Workshop / Quality Initiative Workshop, Brooklyn Center, Minn. E-mail info@mnapa.org .		
Apr. 17–21	National Association of County Engineers Annual Conference, Minneapolis. See www.countyengineers.org .		
Apr. 27–29	Minnesota Alcohol Traffic Safety Association Conference, St. Cloud. See www.matsa.us .		

Submit or view transportation-related jobs:

CTS Web site: www.cts.umn.edu/Education/Careers/JobPostings

LinkedIn: www.linkedin.com/groups?gid=2316997&trk=hb_side_g