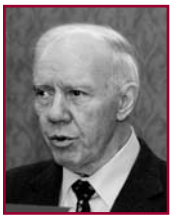
University of Minnesota
CTS
Center for Transportation Studies
REPORT
A monthly report on transportation research, education, and outreach activities at the University of Minnesota
May 2008

Oberstar Forum participants seek transformation of nation's transportation policy

The current law defining the federal role for the nation's surface transportation systems expires next year. Many are seeking to transform federal transportation policy rather than just reauthorize this legislation, known as SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users). State and national transportation policymakers, professionals, and research leaders joined U.S. Rep. **James L. Oberstar** on April 6 and 7 to consider policy options for the successor to SAFETEA-LU.


James Oberstar


Tim Walz

This was the seventh meeting of the transportation policy and technology forum named in honor of Oberstar, who became chairman of the House Transportation and Infrastructure Committee last year. The forum was again hosted by CTS.

Much of the discussion at the forum centered around the recent National Surface Transportation Policy and Revenue Study Commission report *Transportation for Tomorrow*, which recommends dramatic institutional reform and revamping of federal transportation programs and policy.

"We're at a serious crossroads," Oberstar said, stressing the urgency of addressing the nation's transportation problems. "Either we make sound decisions or we fall back."

Oberstar also discussed details of his legislative priorities for the coming months. "We have to look at every option and every alternative and then we have to craft a new transportation policy for the future of America," he said.

Speakers at the public portion of the forum included U.S. Rep. **Tim Walz**, a member of Oberstar's House transportation committee, as well as a panel with National Commission vice

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Researcher announces ethanol findings; 'Greenhouse Gas Emissions' seminar highlights health effects

The results of a 13-month study led by **David Kittelson**, a professor in the Department of Mechanical Engineering, show that E20—a blend of fuel containing 80 percent gasoline and 20 percent ethanol—has no negative impact on the drivability and maintenance of late-model cars and trucks.

"The study did not reveal any difference that might be associated with the use of E20 on normal on-road vehicles," said Kittelson, a lead investigator in the "Reducing Greenhouse Gas Emissions (GHG) in Minnesota" study. "This should prove helpful for the state's interest in changing fuel regulations."

The more commonly used fuel blend of ethanol and gasoline in the United States is E10, which contains 10 percent ethanol and 90 percent gasoline. Minnesota has requested a waiver


David Kittelson

to allow E20 to be used in the state.

Results of the study will now be presented to the U.S. Environmental Protection Agency to officially determine E20's suitability for on-road vehicles. The Minnesota Department of Agriculture, the Council of Great Lakes Governors, the Minnesota Corn Growers Association, and the Renewable Fuels Association sponsored the study. Work was done in collaboration with the Minnesota Pollution Control Agency and the Minnesota Department of Commerce. The University of Minnesota's Fleet Services provided all cars for the study.

In other news, the GHG study held its third seminar on April 16. The study is investigating

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Lane-conversion 'webinar' draws wide audience

A CTS seminar broadcast over the Web on March 20 attracted 48 remote participants interested in three-lane conversions. Participants logged in from Virginia, Florida, Michigan, South Dakota, Ohio, Louisiana, Wisconsin, and Iowa, and another 10 attended the event on the Minneapolis campus.


Keith Knapp

This was the second time that **Keith Knapp**, research manager for the Center for Excellence in Rural Safety (CERS), presented this topic at a CTS Research Seminar. The first time was at the February meeting of the CTS Safety and Traffic Flow Council, which drew nearly 40 attendees. News of the first seminar spread through a national e-mail list of traffic engineers, which led to the decision to host a second seminar—or in this case, "webinar."

"Keith graciously agreed to present the same topic twice," says **Linda Preisen**, CTS research administration director. "He shared a wealth of information."

Four-lane undivided highways passing through small towns

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chair **Jack Schenendorf**, commissioner **Steve Heminger**, and USDOT deputy assistant secretary for transportation policy **David Horner**. A second panel featured **Pete Ruane**, president and CEO of the American Road and Transportation Builders Association, **John Horsley**, executive director of the American Association of State Highway and Transportation Officials, and **William W. Millar**, president of the American Public Transportation Association. CTS director **Robert Johns** moderated the event.

Jack Schenendorf, Steve Heminger, David Horner

John Horsley, William W. Millar, Pete Ruane

Steve Lockwood

Larry Jacobs

Lee Munnich

Walz, serving in his first term representing the First District in southeastern Minnesota, said elected congressional officials must convey to federal officials the importance of local transportation issues. "The problem lies when ideology drives the policy instead of the policies and facts driving the legislation," he said.

The first panel then gave an inside look at the commission's report. Schenendorf described policy reforms necessary to repair existing systems while building new capacity, which will require an outlay of at least $225 billion annually from all sources for the next 25 years. "These are national problems that need national solutions," he said, reiterating Oberstar's sense of urgency. "If we don't get started now, we'll fall so far behind that we'll never catch up."

Heminger emphasized the commission's support for significant policy reform and restructuring of programs. "We do not recommend reauthorizing the program in its current form," he said, noting there are currently more than 100 spending categories. "We believe it's fundamental before we invest in new funding that we reform the program."

Horner, representing U.S. Secretary of Transportation **Mary Peters**, who chaired the commission, said there is great support across the country and across the political spectrum for the commission's recommendations. Horner also put forth the commission's minority view. "The commission's report is too much of the past and not of the future," he said. Instead, he proposed higher levels of state innovation to address the transportation crisis.

The next panel discussed the likelihood of policy transformation. Horsley said the group supports the commission's findings. "Now, the challenge to us in the industry is to craft recommendations to Congress that resonate with the American people, in sync with what the commission has recommended," he said.

Millar, citing recent increases in the use of public transit, including intercity rail and bus transit, said the commission's recommendations support a multimodal approach. "We are going to need all the transportation capacity in a variety of modes," he said. "We appreciate some big issues they [the commission] didn't duck, like getting America to catch up with the rest of the world in passenger rail transportation or figuring out how we can encourage the freight railroads to be more active participants in this and improve transit investment."

Ruane, representing the private sector that builds and designs much of the nation's roads and ports, said policy transformation at all government levels is imperative. He underscored earlier comments about public safety and the high number of U.S. highway fatalities, noting that legislators have ignored programs to improve safety, including design and modernization of roads. "We face a 40 percent cut in the federal highway program if this problem isn't addressed in the coming weeks or months," he said.

The public portion of the forum followed a series of presentations and discussions for invited leaders, which began with an introductory report on national transportation policy options from **Steve Lockwood** of PB Consult. According to Lockwood, the scope and scale of new transportation policy could range from a diminished role for the federal government to far greater involvement if programs are expanded. "We need to confirm the acceptability of tax increases, as well as other kinds of finance, with the public to support this kind of program if we're going to move it forward," Lockwood said.

In addition, a panel of University of Minnesota researchers moderated by CTS associate director **Laurie McGinnis** provided insight into two significant aspects of the national transportation policy debate. **Larry Jacobs**, professor at the University's Humphrey Institute of Public Affairs, discussed the national political environment on transportation policy, noting that transportation still ranks low on the list of the most important problems to Minnesotans despite the recent I-35W bridge collapse. **Lee Munnich**, senior fellow and director of the State and Local Policy Program at the Humphrey Institute, presented an overview of transportation finance and congestion pricing initiatives in the United States and other countries.

To close the forum, which attracted more than 200, Oberstar reiterated National Commission support for continued federal involvement in transportation policy and funding. "We will set to the task for the balance of this year and going into next year on building a world-class transportation system that will move America forward, create jobs here at home, keep us at the forefront of the world economy, and build a greater future for America," he concluded.

More information about the seventh James L. Oberstar Forum for Transportation Policy and Technology is online at www.cts.umn.edu/oberstarforum. A detailed report summarizing the forum will be available next month. **CTS**

Minnesota LTAP honors 'Roads Scholars' at maintenance expo

The Minnesota Local Technical Assistance Program (LTAP), housed at CTS, honored 15 graduates of its "Roads Scholars" Program at the annual Minnesota Spring Maintenance Training Expo. More than 550 maintenance workers and supervisors attended the event April 15 and 16 in St. Cloud.

Jim Grothaus, director of Minnesota LTAP, gave the expo welcome and opening remarks. He and **Mindy Carlson**, Minnesota LTAP training coordinator, then presented the Roads Scholar certificates in a general-session ceremony. Nearly 1,800 students across the state are enrolled in the Roads Scholar Program, which combines training options such as maintenance expos and LTAP workshops into a structured curriculum. Graduates earn a valuable professional development credential. (See www.mnltap.umn.edu/About/Programs/RoadsScholar.)

The expo showcases the latest experiences and technology in maintenance operations in Minnesota. Grothaus presented an update on trash harvesters and other maintenance research, and Mn/DOT's **Kathleen Schaefer** led a session on work-zone safety flagger training. Schaefer is the instructor of the Circuit Training and Assistance Program (CTAP), the mobile arm of Minnesota LTAP. The flagger training is one of the modules offered by CTAP, which uses a fully equipped van to provide on-site technical assistance and training throughout Minnesota.

Jim Grothaus (bottom row, far left) and Mindy Carlson (top row, far right) with 2008 Roads Scholars

Other expo educational sessions touched on topics ranging from roadside vegetation to bridge maintenance. Fifty-eight exhibitors also displayed their wares.

Expo sponsors are Minnesota LTAP, the Minnesota Local Road Research Board, the Minnesota Department of Transportation, the Minnesota Street Superintendents Association, and the Minnesota Public Works Association.

Grothaus, Carlson, and Schaefer served on the expo planning committee. The University's College of Continuing Education facilitated the expo. **CTS**

CTS shares safety efforts with international officials

Officials from the country of Georgia visited CTS in April as part of the U.S. State Department's International Visitor Leadership Program. The officials, who are developing a traffic safety program in Georgia, also visited with Mn/DOT staff and experts in other U.S. cities.

Gina Baas, CTS director of communications and outreach, provided an overview of CTS safety-related research and outreach activities within the Intelligent Transportation Systems Institute, the Center for Excellence in Rural Safety, and the Toward Zero Deaths program.

The International Visitor Leadership Program is a national initiative facilitated in Minnesota by the nonprofit Minnesota International Center (www.micglobe.org). Visitors are invited by the U.S. Department of State to come to this country for approximately three weeks to meet with their professional counterparts and experience American culture without publicity or protocol. U.S. ambassadors have rated this program the most useful public diplomacy tool of all State Department programs. **CTS**

Gina Baas (third from right) with visitors from Georgia

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public policy and technology options for reducing greenhouse gases emitted from the transportation sector in Minnesota. CTS received an appropriation from the legislature last summer to conduct the study. (See www.cts.umn.edu/Research/Featured/GreenhouseGas/index.html.)

Mark Jacobson, a professor of civil and environmental engineering at Stanford University, reported on the connection between global warming and increased pollution-related deaths. He advocated combining different types of renewable power to create a sizeable pool of safe energy for the world to draw from. For example, he predicted using wind-battery and electric vehicles could cut U.S. CO_2 levels 25.5 percent, and solar-battery electric vehicles could reduce levels another 23.4 percent. He estimated that the use of battery-electric and hydrogen-fuel-cell vehicles powered by clean renewables would eliminate 10,000 to 20,000 U.S. air pollution deaths each year.

The final study seminar will be held May 20, serving double duty as the CTS Spring Luncheon at the 19th Annual CTS Transportation Research Conference. **CTS**

(Ethanol findings from the University of Minnesota *eNews*, April 17, 2008.)

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Fluid Power Center's work airs on cable television

Discovering Fluid Power, a documentary produced by the University's Center for Compact and Efficient Fluid Power in partnership with Twin Cities Public Television, aired April 6 and May 10 on cable television in Minneapolis.

The research center, led by Professor **Kim Stelson** of the Department of Mechanical Engineering, received a five-year, $17.5 million grant from the National Science Foundation in 2006.

The goals of the center are to dramatically improve the efficiency of fluid power in current applications, migrate fluid power into the transportation sector by developing the hydraulic hybrid passenger vehicle, and develop the next generation of human-scale compact fluid power devices. In addition to research, the center has extensive education and outreach activities.

The center has seven university members, with Minnesota the lead. The other members are Illinois, Georgia Tech, the Milwaukee School of Engineering, North Carolina A&T, Purdue, and Vanderbilt. Non-university members are the National Fluid Power Association, Project Lead the Way, and the Science Museum of Minnesota. The center also has 60 industry members, which have together contributed more than $3 million to the endowment.

Researchers at the University of Minnesota include **Tom Chase, Will Durfee, David Kittelson, Barney Klamecki, Perry Li,** and **Sue Mantell**, all of Mechanical Engineering. Their activities center on the hydraulic hybrid passenger vehicle, which will have significantly higher fuel efficiency than existing passenger vehicles, Stelson says. Energy is saved by operating the engine under its most efficient conditions, turning the engine off when not needed, and capturing and reusing braking energy using hydraulics. The center is developing new technology that includes compact energy storage and high-speed digital on-off control.

For more information, visit www.ccefp.org. **CTS**

New CTS Web page describes CTS services

In addition to contributing to the University of Minnesota's land-grant mission of research, education, and outreach, CTS works with transportation-related organizations to implement research. A new Web page describes these services and gives sample projects and contact information.

The services are grouped in five categories:

- Information Products and Services
- Event Services
- Training and Development
- Transfer to Practice
- Program Development and Management

Visitors can view all active and completed projects within each category. View the page at www.cts.umn.edu/About/Services.

For more information, contact **Gina Baas**, 612-626-7331. **CTS**

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often have poor safety records, characterized by collisions between left-turning vehicles and oncoming traffic in the opposite lanes. Converting to three lanes with a central two-way turn lane is one solution frequently considered by transportation agencies. But while conversion to three lanes can provide advantages to local stakeholders, Knapp cautioned that careful planning is necessary to carry out a successful conversion.

Throughout his presentation, Knapp drew a distinction between feasibility and desirability. While a conversion may be feasible in many locations, he said, careful analysis is required to determine whether a three-lane cross-section is really desirable in the context of local traffic needs.

CERS, which was established by the 2005 federal transportation act, is a program led by **Lee Munnich** of the University of Minnesota's Hubert H. Humphrey Institute of Public Affairs in cooperation with CTS (www.ruralsafety.umn.edu).

A video recording of "Four-Lane to Three-Lane Conversion Case Study: State Highway Through a Small Town," presented by Knapp, is available on the CTS Web site (www.cts.umn.edu/Events/ResearchSeminars/2008/Spring.html) along with the PowerPoint presentation. **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.

May 20	CTS Spring Luncheon: "Alternative Strategies to Lowering Our Carbon Footprint," St. Paul. Contact **Sara Van Essendelft**, 612-624-3708, cceconf5@umn.edu.	May 20–21	CTS 19th Annual Transportation Research Conference, St. Paul. Contact **Sara Van Essendelft**, 612-624-3708, cceconf5@umn.edu.	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**