



## CTS to lead nonmotorized transportation program's research, evaluation, and outreach

CTS has been selected to lead the overall program evaluation of the Nonmotorized Transportation Pilot Program (NTPP), which was authorized by Congress in the 2005 transportation bill. The work consists of the data-collection and analysis phases as well as several outreach activities.



Kevin Krizek

The pilot program provides funding to four communities—Columbia, Missouri; Minneapolis, Minnesota; Marin County, California; and Sheboygan County, Wisconsin—to construct a network of nonmotorized transportation facilities. It also affords a unique learning opportunity for researchers and other communities.

CTS submitted a proposal for the work in response to a Federal Highway Administration (FHWA) request for proposals. The FHWA, along with other members of the program working group—the four communities, the Volpe National Transportation Systems Center, the Rails-to-Trails Conservancy, and the Safe



Ann Forsyth

Routes to Schools National Partnership—reviewed the proposals received, and the pilot communities then selected CTS for the \$330,000 grant.

**Robert Johns**, director of CTS, will provide interdisciplinary leadership and overall coordination for this effort. The technical aspects will be led by two faculty leaders at the University of Minnesota: **Kevin Krizek**, associate professor of urban planning and public affairs in the Humphrey Institute of Public Affairs, and **Ann Forsyth**, professor and director of the Metropolitan Design Center in the College of Architecture and Landscape Architecture. They will be advised by **Susan Handy**, associate professor at the University of California at Davis, and **Kelly Clifton**, assistant professor at the University of Maryland. Johns, Krizek, and Forsyth will be assisted by **Laurie McGinnis**, associate director of CTS, who will provide project coordination, liaison, and reporting to

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## Politics and Freeways report published

*Politics and Freeways*, a new publication that reports on a study of the changing politics and participants in Twin Cities-area interstate decision making since the 1950s, is now available.

The project was jointly sponsored by the Center for Urban and Regional Affairs (CURA) and CTS, and was advised by an expert committee including former Minnesota Department of Transportation (Mn/DOT) commissioner and CTS director **Richard Braun** and former Mn/DOT officials **Peter**

**Fausch** and **Jim Newland**.

The report was written by **Patricia Cavanaugh**, a Ph.D. candidate in the Department of Political Science and a research assistant at CURA.

“Transportation systems cannot be planned, developed, or implemented without contending with the politics in which they are always embedded,” Cavanaugh noted during a presentation of her findings at the CTS Seventeenth Annual Transportation Research Conference, held May 24–25 in St. Paul.

Cavanaugh examined local

cases representing different eras in the history of the interstate program. The era that launched the interstate in the 1950s was a period of great optimism and public support; the protest era of the 1960s and 1970s, in contrast, saw the rise of citizen opposition and environmental advocacy. The Minnesota Legislature also became more involved in major transportation project decisions during this time. The next—and current—era is known by many as the “era of falling behind.”

Cavanaugh focused on

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## Access to Destinations: Web site, research report

The Access to Destinations study, coordinated by CTS, launched a Web site and published its first research report.



David Levinson

The interdisciplinary study aims to understand how transportation, land use, and other factors work together to shape the Twin Cities region.

Located at [www.cts.umn.edu/access-study](http://www.cts.umn.edu/access-study), the site includes general information on research goals and methods used in the study, research results, publications, and information on news and events. The site also includes links to resources at the state, national, and international levels.

CTS director of communications and outreach **Gina Baas** said the site offers a convenient way to find out about the different research initiatives that make up the study and to learn about issues of transportation and land use.

The study also recently published *Access to Destinations: Development of Accessibility Measures*, the first in a series of research reports. **David**

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# Hybrids: hype or hope?

Record oil prices over the past few years have prompted a renewed interest in alternatives for cheaper energy. According to University applied economics professor



Alfred Marcus

**Alfred Marcus**, hybrid vehicles offer an opportunity to greatly reduce oil consumption, but the technology alone will not provide a suitable solution.

“Technological innovations are critical for solving our energy problems,” Marcus explained, “but they are just a means to an end. What we’re really trying to do is solve energy problems. We have to use in this society less carbon-based energy for a variety of very important reasons.”

Marcus, describing his hybrids research at a September meeting of the CTS Transportation and the Economy Research Council, identified the main reasons for addressing our growing energy problems. These include concerns for the environment, the economy, and national security. His presentation,



titled “Hybrids: Hype or Hope?” was part of the CTS Research Seminar Series for students, faculty, and practitioners ([www.cts.umn.edu/education/seminars](http://www.cts.umn.edu/education/seminars)) about transportation research at the University of Minnesota.

In Marcus’s view, national energy policy and consumer behavior figure more into the solution than any specific technology. In particular, gains made as the result of technological innovation have been foiled by increased consumption. The real challenge, he said, is to lower consumption without lowering the utility derived from transportation.

“Hybrids give us the illusion that we have attacked and achieved something with regard to this issue with less reliance on carbon-based energy,” he said.

Applying the “snapback” theory of consumer psychology, though, Marcus likened hybrid vehicles to low-calorie

foods, to which dieters often respond by eating more because the calories don’t add up so fast. Similarly, the improved energy efficiency and lower operating costs

derived from hybrid technology have prompted consumers to drive more miles and drive more large vehicles, thus diluting the benefits of these improvements. The same snapback dynamic appears to be at issue, too, when drivers exploit new technologies by taking more risks like choosing not to wear safety belts or speeding on rural roads, Marcus added.

Marcus described the two basic types of hybrids. One is a “mild” hybrid for which the primary engine is gasoline and an electric motor is used for hills, acceleration, and high-demand situations. A “full hybrid,” technology that is owned exclusively by Toyota, uses an electric engine for low speeds and gas for high-way driving and acceleration. The greater efficiency of hybrids is due to three major features: regenerative braking, which captures, stores, and converts energy from deceleration that is wasted in conventional vehicles; automatic start and shutdown, which prevents idling waste; and the use of lighter materials.

Still, Marcus pointed out that hybrids, while 45 percent efficient compared with conventional vehicles at 25 percent, account for a lot of wasted energy. In addition, whether they are really worth the investment yet depends on the specific situation of each buyer. Marcus illustrated through a variety of feature and price comparisons that payback is modest when comparing models in different classes. For instance, if gas costs \$5 per gallon, switching from a Toyota Corolla to a Prius would take nine years to recover the extra initial cost. However, switching from a Camry to a Prius would yield almost immediate savings.

“I personally really like the technology and I don’t currently drive one,” Marcus said. “But when I purchase my next car, I would buy the hybrid.”

But the most important factor for reducing consumption of carbon-based energy, Marcus stressed, is changing the mindset of consumers to favor smaller vehicles. To accomplish that, he said, supportive public policies are necessary. While higher gas taxes and changes to the Clean Air Act mandating higher fuel efficiency standards may be untenable, Marcus proposed what he felt are more viable options, including a new government agency, grants and subsidies, and investments. **CTS**

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the pilot communities and the FHWA.

The pilot communities will provide a living laboratory for research often called for, but rarely conducted, in policy circles: a before-and-after investigation to demonstrate to other communities across the country the specific merits of investing in nonmotorized infrastructure. “Of immeasurable importance to the effort,” says Krizek, “is the creation of a careful protocol that will collect data, analyze such data, and communicate the findings from all four communities in a consistent manner, in order to cast a clear and compelling message to policymakers, analysts, and the public.”

The four communities, found in tremendously varied settings, include a University-dominated town, a string of 11 smaller communities, an entire county, and the largest city in the Upper Midwest. Furthermore, the “interventions” these communities are likely to invest in will be wide-ranging, including substantial “hard”

measures such as entire paths as well as “soft” measures such as education and wayfinding.

In conjunction with the FHWA, the project team will draft a final report for submission to the United States Congress, focusing on changes that took place over a four-year period and describing lessons learned.

The project team will also work with the NTPP Working Group to synthesize the research findings into a high-quality communications product appropriate for elected officials, policymakers, planners, and other audiences. This product will make a direct connection between the research and the NTPP legislation, a critical first step in moving from the project team’s technical evaluation to implementing the lessons learned from the NTPP. The synthesis, which will be published by CTS in the spring of 2011, will draw from the findings in all four communities. **CTS**

## Freight and logistics symposium goes green

“Greening the Supply Chain: Environmental Innovations” is the title of the Tenth Annual Freight and Logistics Symposium, to be held December 1 in Minneapolis. Representatives from the business community, academia, and the public sector will describe environmentally sensitive approaches currently in use as well as discuss new directions and trends within the industry for “greening” the supply chain.

Opening remarks will be given by **Robert Johns**, CTS director; **Rebecca Jasper**, president of the Council of Supply Chain Management Professionals; and **Ron Have**, chair of the Minnesota Freight Advisory Council.

**Larry Lair**, general manager of 3M’s Traffic Safety Division, will make the keynote presentation, focusing on how 3M’s small changes in packaging methods and

freight transport have had a major impact on the environment. He will be introduced by **Doug Differt**, Mn/DOT deputy commissioner.

The symposium will then turn to two panel sessions. The first, “Current Directions in Industry,” will be moderated by **John Hausladen**, with panelists **Jeannie Becket**, senior director of inland transportation at the Port of Tacoma; **Roger Poyer**, manager of hub and facility operations with BNSF; and **Buddy Polovick**, chief shipper coordinator with the U.S. Environmental Protection Agency.

The second panel, “Freight and the Environment: Future Scenarios,” will be moderated by **Cecil Selness**, director of Mn/DOT’s Office of Freight and Commercial Vehicle Operations. Panelists will be **Jerry Nagel**, president

of Northern Great Plains, Inc.; **David Kittelson**, professor in the Department of Mechanical Engineering at the University of Minnesota; **Alfred Marcus**, professor in the U of M Carlson School of Management; (invited); and **Bob Clarke**, Truck Manufacturing Association.

The symposium is sponsored by CTS in cooperation with the Minnesota Department of Transportation, the Minnesota Freight Advisory Committee, the Council of Supply Chain Management Professionals, the Metropolitan Council, and the Transportation Club.

The symposium brochure is enclosed. For additional information, contact **Electra Sylva**, 612-624-3708, [conferences5@cce.umn.edu](mailto:conferences5@cce.umn.edu). You may also register online at [www.cts.umn.edu/events/logsymposium](http://www.cts.umn.edu/events/logsymposium). **CTS**

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seven case studies spanning five decades, from which she identified three areas of political tension. First, major projects take decades, but citizens and elected officials operate under a shorter outlook. Second, state DOTs look at a broader geographic area than do cities and neighborhoods. And third, citizens may define a problem in terms of social or moral aspects whereas Mn/DOT defines it in terms of reducing congestion.



For more coverage of Cavanaugh’s presentation and the panel discussion that followed, see the July issue of the *CTS*

*Report* at [www.cts.umn.edu/news/report/2006/07/index.html](http://www.cts.umn.edu/news/report/2006/07/index.html).

*Politics and Freeways: Building the Twin Cities Interstate System* was jointly published by CURA and CTS. The report is available online at [www.cts.umn.edu/publications/reports](http://www.cts.umn.edu/publications/reports). A limited number of print copies are also available from CURA. **CTS**

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**Levinson**, a lead researcher and associate professor of civil engineering, authored the report with **Ahmed El-Geneidy**, post-doctoral fellow at the Humphrey Institute of Public Affairs. The report is available for download from the Access to Destinations study Web site.

The report details the development of a new measure of people’s ability to access the destinations they need to reach. Known as “place rank,” the measure was developed to more accurately characterize the ways in which residents of an area interact with systems of transportation and land use. This is a key goal of the study, and will ultimately lead to the creation of “accessibility matrices” that capture the ability of residents to access various types of destinations using different modes of transportation.

As planners and policymakers become more familiar with the concept of accessibility, Levinson and El-Geneidy argue that it will become a useful tool for monitoring development patterns and changes in transportation networks, as well as assessing the benefits of these changes.

To keep abreast of new research results and other news related to the Access to Destinations Study, Baas recommends subscribing to the *Access to Destinations E-News*—a periodic electronic newsletter published by CTS. A subscription form is available on the study’s Web site. **CTS**

## Call for Presentations: 2007 research conference

CTS has issued a Call for Presentations for its Eighteenth Annual Transportation Research Conference. Enclosed with this newsletter, the call invites all interested individuals to submit a one-page abstract for a presentation (or poster) at the conference, to be held May 1–2, 2007, at RiverCentre in St. Paul.

If you or your organization would like to share the results of your efforts in transportation-related fields, please submit an abstract by November 15.

All abstracts must be submitted electronically. Go to the CTS Web site at [www.cts.umn.edu/events/rescon](http://www.cts.umn.edu/events/rescon) and follow the instructions to submit your abstract.

For further information, contact **Electra Sylva** at [conferences5@cce.umn.edu](mailto:conferences5@cce.umn.edu) or 612-624-3708.

CTS Councils will meet this winter to review abstracts and finalize the conference sessions. **CTS**

## Sehlin Lecture: Incorporating sustainability into infrastructure

The current approach to development is unsustainable, and we are consuming the earth's natural resources beyond its capability to regenerate them. Sustainable development, along with security and stability, are the most critical issues facing the civil engineering profession and the societies it serves. These are the findings of the "Protocol for Engineering a Sustainable Future for the Planet," a plan recently issued by the American Society of Civil Engineers (ASCE), the Canadian Society of Civil Engineers, and the Institution of Civil Engineers in the United Kingdom.

**Richard N. Wright** will discuss a U.S. initiative for improving infrastructure sus-

tainability at the 21st Annual **Katherine and Arthur Sehlin** Lecture, November 8 from 3:30 to 4:30 p.m. in the Civil Engineering Building, Minneapolis east bank campus. Wright is currently a guest researcher and was the founding director of the Building and Fire Research Laboratory at the National Institute of Standards and Technology of the U.S. Department of Commerce.

ASCE and 14 other national infrastructure societies and organizations are developing the Practice, Education, and Research for Sustainable Infrastructure (PERSI) initiative. Wright will talk about this initiative, which is designed to pro-

mote the advancement and incorporation of concepts and knowledge of sustainability into the standards and practices used throughout the life cycle of infrastructure systems. Infrastructure includes all modes of transportation, buildings, communications, energy generation and distribution, water resources, and waste treatment.

A reception in the rotunda of the CE Building follows the public lecture. For more information, contact **Cass Erickson** of CE at 612-626-7549, [erick242@umn.edu](mailto:erick242@umn.edu). **CTS**

### Upcoming events

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

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| Oct. 23    | ITS Minnesota Fall Industry Forum, St. Paul. Contact <b>Electra Sylva</b> , 612-624-3708, <a href="mailto:conferences5@cce.umn.edu">conferences5@cce.umn.edu</a> .   | Nov. 16    | Northland Advanced Transportation Systems Research Laboratories (NATSRL) Research Day, Duluth. Contact <b>Carol Wolosz</b> , 218-726-7446, <a href="mailto:cwolosz@d.umn.edu">cwolosz@d.umn.edu</a> . | Jan. 16–19 | 62nd Annual Minnesota County Engineers Conference, Brainerd, Minnesota. Contact <b>Oona Besse</b> , 612-624-3492, <a href="mailto:conferences3@cce.umn.edu">conferences3@cce.umn.edu</a> .                          |
| Oct. 23    | Rethinking Transportation Finance Roundtable, Minneapolis. Contact <b>Marit Enerson</b> , 612-625-8575, <a href="mailto:eners001@umn.edu">eners001@umn.edu</a> .   | Nov. 16–17 | Minnesota Public Works Association Fall Conference, Brooklyn Center. Contact <b>Oona Besse</b> , 612-624-3492, <a href="mailto:conferences3@cce.umn.edu">conferences3@cce.umn.edu</a> .               | Feb. 8     | CTS Winter Luncheon with <b>Bruce Simons-Morton</b> , Radisson University Hotel, Minneapolis. Contact <b>Electra Sylva</b> , 612-624-3708, <a href="mailto:conferences5@cce.umn.edu">conferences5@cce.umn.edu</a> . |
| Oct. 24–25 | Minnesota Water 2006 and Annual Water Resources Joint Conference, Brooklyn Center. Contact <b>Electra Sylva</b> , 612-624-3708, <a href="mailto:conferences5@cce.umn.edu">conferences5@cce.umn.edu</a> .   | Nov. 29    | "At 50: Economic Issues Facing an Aging Interstate System," Minneapolis. Contact <b>Stephanie Jackson</b> , 612-624-8398, <a href="mailto:sjackson@cts.umn.edu">sjackson@cts.umn.edu</a> .            | Feb. 15    | 11th Annual Minnesota Pavement Conference, St. Paul. Contact <b>Shirley Mueffelman</b> , 612-624-4754, <a href="mailto:conferences2@cce.umn.edu">conferences2@cce.umn.edu</a> .                                     |
| Nov. 2–3   | Toward Zero Deaths Conference, Duluth. Contact <b>Shirley Mueffelman</b> , 612-624-4754, <a href="mailto:conferences2@cce.umn.edu">conferences2@cce.umn.edu</a> .  | Dec. 1     | CTS Freight and Logistics Symposium, Minneapolis. Contact <b>Electra Sylva</b> , 612-624-3708, <a href="mailto:conferences5@cce.umn.edu">conferences5@cce.umn.edu</a> .                               | March 1    | Transportation Career Expo, Minneapolis. Contact <b>Mindy Carlson</b> , 612-625-1813, <a href="mailto:carlson@cts.umn.edu">carlson@cts.umn.edu</a> .  |
| Nov. 8     | Sehlin Lecture: "Sustainable Infrastructure," Minneapolis, 3:30–4:30 p.m. Contact <b>Cass Erickson</b> , 612-626-7549, <a href="mailto:erick242@umn.edu">erick242@umn.edu</a> .                            | Dec. 6     | Minnesota Association of Asphalt Paving Technologists 53rd Annual Asphalt Conference, Brooklyn Park. Contact <b>Tim Mueller</b> , 612-221-0428.   | Apr. 10–11 | Spring Maintenance Training Expo, St. Cloud. Contact <b>Shirley Mueffelman</b> , 612-624-4754, <a href="mailto:conferences2@cce.umn.edu">conferences2@cce.umn.edu</a> .   |
| Nov. 14    | CTS Fall Luncheon with <b>Nigel Wilson</b> , Radisson University Hotel, Minneapolis. Contact <b>Electra Sylva</b> , 612-624-3708, <a href="mailto:conferences5@cce.umn.edu">conferences5@cce.umn.edu</a> . | Dec. 7     | 56th Annual Concrete Conference, St. Paul. Contact <b>Kay Syme</b> , 612-624-4938, <a href="mailto:ksyme@cce.umn.edu">ksyme@cce.umn.edu</a> .   | May 1–2    | CTS Eighteenth Annual Transportation Research Conference, Saint Paul RiverCentre. Contact <b>Electra Sylva</b> , 612-624-3708, <a href="mailto:conferences5@cce.umn.edu">conferences5@cce.umn.edu</a> . <b>CTS</b>  |
| Nov. 14–17 | American Institute of Architects 72nd Annual Convention & Exposition, Minneapolis. See <a href="http://www.aia-mn.org/convention">www.aia-mn.org/convention</a> .  |            |   |            |   |