



Transitway Impacts Research Program forum connects research results, future directions

Looking toward the future of public transportation in the Twin Cities region, researchers and policymakers came together on the University of Minnesota campus March 26 to discuss the impacts of transitways and prospects for future development.

The forum, hosted by CTS, allowed participants to learn about the initial findings of the Transitway Impacts Research Program (TIRP), engage in active-learning discussions, and hear about potential impacts of research findings on future transitway developments.

TIRP was launched in 2006 as a partnership between the University and Hennepin County. The program has since expanded to include a wide range of stakeholders representing regional organizations, local governments,



Jim McDonough



Mark Fuhrman

and regulatory agencies. TIRP is intended to improve decision making for transitway expansion by creating new knowledge, educating stakeholders, and fostering collaboration between government and academia.

Dawn Spanhake, CTS assistant director of program and financial management, served as moderator. Ramsey County commissioner **Jim McDonough** opened the forum by highlighting the significance of changes in the transit landscape and the importance of stakeholder discussion in planning. He was followed by **Mark**

Fuhrman of Twin Cities transit agency Metro Transit, who reviewed recent changes in the regulatory system and in the ways agencies and the public think about transit and associated

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Leaders and students honored at awards luncheon

CTS presented the following awards at its Annual Meeting and Awards Luncheon on April 7 in Minneapolis.

Laurie McGinnis, CTS acting director, moderated the presentation of the distinguished service awards. She also opened the event with a review of CTS accomplishments over the past year and a look at plans for the coming one.

Richard P. Braun Distinguished Service Award: Former CTS director **Richard Braun** presented the award to **Lee Munnich**, director

of the State and Local Policy Program and the Center for Excellence in Rural Safety, both within the Hubert H. Humphrey Institute of Public Affairs. Munnich said he was honored to receive the award named for Braun and called CTS a “great partner” in strengthening the Humphrey Institute’s transportation research program.

Ray L. Lappegaard Distinguished Service Award: McGinnis announced that **Ferrol Robinson**, former principal of transportation planning and studies at SRF Consulting Group



Richard Braun, Lee Munnich, Laurie McGinnis



Laurie McGinnis, Ferrol Robinson

and currently a part-time fellow at the Humphrey Institute, is this year’s recipient. Robinson, who spent more than 30 years as a consultant working primarily for

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Research Partnership Award: Automated deicing

An automated system to reduce the unnecessary use of roadway deicing chemicals received this year’s CTS Research Partnership Award. **Dawn Spanhake**, CTS assistant director for program and financial management, presented the award at the CTS Annual Meeting and Awards Luncheon held April 7. The annual award recognizes research projects within the CTS program that have resulted in significant impacts on transportation and rewards teams of individuals who have drawn on the strengths of their diverse partnerships to achieve those results.

This year’s award winner is “Automated Friction Measurement, Data Recording, and Applicator Control for Winter Road Maintenance.” The purpose of the project was to develop a tire-road friction measurement system for snowplows and a closed-loop control system that uses these friction measurements for automatic applicator control. By measuring friction, only spots on the road that are indicated as icy are treated with deicing chemicals, which reduces unnecessary use of chemicals and reduces cost. The equipment uses a GPS system to provide quantitative data on winter maintenance operations—data that could be

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public sector clients, was unable to attend the luncheon.

William K. Smith Distinguished Service Award: **John Hausladen**, president of the Minnesota Trucking Association and the 2007 recipient, presented the 2010 award to **Dan Murray**, vice president of research at the American Transportation Research Institute. Hausladen praised Murray as an imaginative and lifelong learner who is not just “book-smart” but who is also perceptive of underlying issues. Murray thanked the leaders in the room who have “made his job immensely rewarding.”

Distinguished Public Leadership Award:

Steve Murphy, chair of the Minnesota Senate’s Transportation Committee, received this year’s award. Murphy was responsible for securing funds for transit and road infrastructure and authored several initiatives to make roads and drivers safer. **Margaret Donahoe**, executive director of the Minnesota Transportation Alliance, gave brief remarks about Murphy, who was unable to attend. “His work will have



Steve Murphy

a lasting impact on transportation for many years to come,” she said.

Gina Baas, CTS assistant director for education and outreach, then presented the education awards.

Matthew J. Huber Award (given to students in engineering, science, and technology fields): Two students received awards.

Adam Ragatz is a master’s candidate in mechanical engineering with an expected graduation in May. His most recent research was a project sponsored by Honeywell involving the development of sensors to detect the failure of the particle filters used on 2007 and newer trucks and buses.

Ragatz is advised by Professor **David Kittelson**. “He’s the kind of student we all dream of having,” Kittelson said. “He can make anything work...I’ve never seen anything like it.”

Xinkai Wu is a doctoral candidate in civil engineering with an expected graduation in May. His research contributed to the development of a patent-pending arterial performance measurement system named SMART-Signal (Systematic Monitoring of Arterial Road Traffic and Signals).

Wu’s advisor is Assistant Professor **Henry Liu**. Wu “is constantly learning and growing,” Liu said. “He was a major force

for the development of SMART-Signal and has a real passion for his work.”

John S. Adams Award (given to students in policy and planning fields): Two students received awards.

Zhiyi Xu is a master’s candidate in urban and regional planning with an expected graduation in May. His current research is looking at the impacts of online shopping on traditional store shopping.

Xu’s advisor is Assistant Professor **Jason Cao**, who noted Wu has also been awarded a Ford Fellowship for his Ph.D. work. “He will have an exemplary career,” Cao said.

Shanjiang Zhu is a doctoral candidate in civil engineering and a master’s of science candidate in applied economics with an expected graduation in May. His research examined the route choice behavior of individual travelers before and after the reopening of the I-35W bridge.

Zhu’s advisor is Associate Professor **David Levinson**. Levinson said Zhu was the “single hardest-working grad student” he has advised in his years at the University.

ITS Institute Student of the Year Award:

The U.S. Department of Transportation’s Research and Innovative Technology Administration presents an outstanding student of the year award to each of its University Transportation Centers (UTCs). The recipient of the 2009 award at the Intelligent Transportation Systems (ITS) Institute, a UTC housed at CTS, is **Fay Cleaveland**, a recent graduate with a master’s degree in urban and regional planning. **Max Donath**, the director of the Institute, presented the award.

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Gina Baas, Arthur Huang, Shanjiang Zhu, Cole Hiniker, Jason Borah, Jason Junge, Nicholas Flanders



John Hausladen, Dan Murray, Laurie McGinnis



Gina Baas, Xinkai Wu, Henry Liu



John S. Adams, Shanjiang Zhu, David Levinson



Gina Baas, Adam Ragatz, David Kittelson



Jason Cao, Zhiyi Xu, John S. Adams



Max Donath, Fay Cleaveland, Frank Douma

CTS Scholar receives grant for biofuel project

The Initiative for Renewable Energy and the Environment (IREE) recently awarded more than \$3.7 million to nine renewable energy projects at the University of Minnesota. The multi-year projects focus on a wide range of topics.

One of the recipients is Professor **David Kittelson** of the Department of Mechanical Engineering. Kittelson, a CTS Scholar, will investigate the performance and emissions of a second-generation biofuel (dimethyl ether). CTS helped him secure letters of support from the Minnesota Department of Transportation, Metro Transit, and Hennepin County.

The call for pre-proposals attracted a pool of projects involving more than 140 investigators requesting a total of over \$15 million. IREE invited 16 full proposals back for a highly competitive review process conducted by a panel of external experts; nine research projects were ultimately selected.

The Initiative for Renewable Energy and the Environment (IREE) is a signature program of the Institute on the Environment. For more information on IREE and to view the complete project database, please visit www.environment.umn.edu/iree. **CTS**

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Cleaveland's work included research on e-shopping and its effect on traffic conditions, bicycle facilities, and public policy. Since graduating from the Humphrey Institute, Cleaveland has begun a career as a transportation planner at the Minnesota Department of Transportation.

Frank Douma, a Humphrey Institute research fellow, was her advisor. Douma praised Cleaveland's work, including her publication in a national journal.

Graduate Certificate in Transportation Studies. Baas also announced that nine students completed their graduate certificate in transportation studies this spring: **Jason Borah, Nicholas Flanders, Cole Hiniker, Feili Hong, Arthur Huang, Jason Junge, Pavithra Parthasarathi, Nebiyou Tilahun, and Shanjiang Zhu.**

The ceremony concluded with the presentation of the Research Partnership Award (see page 1). **CTS**

Researchers, TPT produce documentary

Twin Cities Public Television (TPT) and the University Metropolitan Consortium co-produced *Shaping the Urban Environment*, a documentary that illuminates the tensions between metropolitan development in a world of limited resources and people who want to live comfortably and where they choose.

The program reveals the real impact of past, current, and future urban development on scarce resources and the environment. It has aired several times on TPT (www.tpt.org).

The University Metropolitan Consortium links the centers, programs, and faculty and staff at the University engaged in teaching, research, and outreach concerned with understanding metropolitan change and development. CTS

Scholar **Ed Goetz** and geography and urban studies professor **Judith Martin** co-direct the consortium.

Researchers featured in the program include Professor **Deb Swackhamer** (Humphrey Institute and Water Resources), Dean **Tom Fisher** (College of Design), Professor Emeritus **John S. Adams** (former UMC co-director), and Martin.

The program is also available on DVD as a resource for classrooms (urban studies, planning, geography, history, design), community groups discussing and debating growth options for the state and for local areas, and all others interested in metropolitan areas.

To obtain a copy, please contact Martin at 612-625-1551, jmartin@umn.edu. **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 January through March 2010. **CTS**

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disseminated as public information on travel routes.

The technology is being prepared for limited deployment in two snowplows and one pick-up truck. The friction-measurement-based applicator control system has been featured on KSTP-TV, in the *Minnesota Daily*, and as a lead news item on the University of Minnesota Web site. (Read more about the system in the February 2010 CTS *Research E-News*: www.cts.umn.edu/Publications.)

In accepting the award for the team members, Professor **Rajesh Rajamani** of the Department of Mechanical Engineering said the total cost of the components is less than \$1,500. He thanked Mn/DOT

for sponsoring the research, the ITS Institute for providing initial funds, and the Technical Advisory Panel members and Mn/DOT staff who were involved.

Project Partners:

University of Minnesota: **Gurkan Erdogan, Lee Alexander, Rajesh Rajamani**

Mn/DOT: **Gabe Guevara** (now with the Federal Highway Administration), **Dan Warzala, Curtis Gobeli, Farideh Amiri, Mark Panek, Roger Hille, Thomas Zimmerman, Sue Lodahl**

SRF Consulting Group, Inc.: **Brian Scott**

Hennepin County: **Dharam Bobra** **CTS**



Dan Warzala, Farideh Amiri, Curtis Gobeli, Dharam Bobra, Brian Scott, Rajesh Rajamani, Lee Alexander, Dawn Spanhake

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environmental issues.

The first panel of the day featured a discussion of the implications of TIRP research findings and the potential benefits of transitways to state and local governments. Anoka County multimodal transportation manager **Kate Garwood** highlighted the evolution of the Twin Cities transit system from a bus-only paradigm to an increasingly multimodal approach that requires agencies to solve new, complex problems. **Mike Schadauer**, director of Mn/DOT's Office of Transit, emphasized his agency's commitment to multimodal transportation, as shown by current planning efforts to expand rail service and provide new options outside the seven-county metropolitan area. Metropolitan Council director of planning and growth management **Mark Vander Schaaf** spoke about the place of transit in the Council's regional planning cycle and praised the development of a new regional planning model for the Twin Cities that integrates transportation and land use.

CTS acting director **Laurie McGinnis** moderated the active-learning presentations, which focused on the Hiawatha LRT line. **Jason Cao** and **Yingling Fan**, assistant professors in the Hubert H. Humphrey Institute of Public Affairs, presented findings from their research on the line. Cao said the Hiawatha Line attracts riders from across the metropolitan region and has facilitated the growth of a true multimodal

transit network. Fan showed that the line has improved access to employment for low-wage workers and increased the number of jobs near station areas. And in a presentation via video link, Professor **Ed Goetz**, director of the Center for Urban and Regional Affairs, discussed the impact of the line on property values in Minneapolis.

Research briefs on the researchers' findings are available on the TIRP Web site: www.cts.umn.edu/Research/Featured/Transitways.

The final panel discussion was moderated by emeritus professor of geography **John Adams**. Metro Transit general manager **Brian Lamb** noted that the Twin Cities' relationship with transit began more than a century ago as the urban area was shaped by its streetcar system; the emerging LRT network, he said, will also transform the city by attracting development and generating economic growth. St. Paul council member **Russ Stark** said TIRP findings are important because the program focuses on the Twin Cities, rather than basing its results on the experiences of other cities, and he emphasized the importance



Yingling Fan



Kate Garwood



Peter McLaughlin

of continuing "home-grown" research.

Minnesota state representative **Alice Hausman** challenged the University to become a more active partner in developing regional transit solutions. She pointed out that disparities in services and amenities need to be addressed by coordinating transportation and land use planning. Metropolitan Council commissioner **Peter McLaughlin** traced many of these inequities to investment patterns of the 1970s and 1980s, concluding that the success of the Hiawatha LRT line was spurring the state government to integrate planning for transit and land use.

The event ended with a luncheon and participant discussion devoted to future opportunities for TIRP, moderated by **Jan Lucke**, CTS manager of research administration. **CTS**

Correction

In the April *CTS Report*, the article titled "Research explores automated traffic enforcement for Minnesota" included a photo of an enforcement light—but not an automated enforcement light. The type of light shown turns blue as the traffic light turns red, allowing nearby police officers to observe violators and issue citations more effectively. No automated enforcement lights are in use in Minnesota. CTS regrets the error. **CTS**

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

June 8–10	APWA Sustainability in Public Works Conference, Minneapolis. See http://sites.apwa.net/sustainability/2010/home.aspx .	Aug. 20	TERRA Innovation Series event, Madison, WI. See www.terreroadalliance.org/events .
June 27–29	Annual Meeting of the Institute of Transportation Engineers Midwestern District, Minneapolis. See www.2010mwite.org .	Sept. 13–15	Minnesota Public Transit Conference, Rochester, MN. See www.mpta-transit.org .
July 11–14	TRB Joint Summer Meeting: Planning and Performance Measurement for All Modes, Minneapolis. See www.trb.org/Calendar .	Sept. 22–24	2010 American Planning Association Upper Midwest Planning Conference, Mankato. See www.plannersconference.com .
July 22–23	4th International Symposium on Transportation Network Reliability, Minneapolis. See www.instr.org .	Oct. 6–7	Minnesota Fall Maintenance Expo, St. Cloud. See www.mnltap.umn.edu/Events .
Aug. 19–20	Mid-Continent Transportation Research Symposium, Madison, WI. See www.mrutc.org/midcon .	Oct. 7–8	AirTAP Fall Forum, Alexandria. See www.airtap.umn.edu .
		Oct. 25–26	Toward Zero Deaths Conference, St. Paul. See www.minnesotatzd.org . CTS