

REPORT

A monthly report on transportation research, education, and information/outreach activities at the University of Minnesota

March 2000

CTS Research Conference Program Mailed This Month

The preliminary program (with registration form) for the CTS Eleventh Annual Transportation Research Conference will be mailed this month. Like last year, the conference will be held at Touchstone Energy@Place at RiverCentre in St. Paul.

The conference will begin on May 24 with a welcome by **Gerard McCullough**, director of CTS, and opening remarks by Commissioner **Elwyn Tinklenberg** of the Minnesota Department of Transportation (Mn/DOT). The opening plenary session will feature a discussion on "The Sprawl Debate." **Don Chen** from the Surface Transportation Policy Project (invited) and Dr. **Harry Richardson** from the School of Policy, Planning and Development at the University of California will offer their perspectives on what, if any, role transportation has played in the way metropolitan areas spread out. They will also talk about whether or not anything should be done to channel or redirect this growth.

Also on May 24, **Barbara M. Fraumeni**, chief economist of the Bureau of Economic Analysis, will give a luncheon presentation on "Productive Highway Capital Stock: Who Cares?" (see related article).

Following the May 24 luncheon, the CTS Transportation Safety and Traffic Flow Council is sponsoring a special "Meet the Authors" poster session. Attendees will have the opportunity to talk one-on-one with the researchers about their projects.

The second day of the conference has been restructured by the Center's Council Coordinating Committee to reflect feedback from attendees at previous conferences. The morning will begin with a breakfast plenary session on "Transportation Funding: Is Minnesota Headed in the Right Direction?" This panel discussion will talk about what transpired during the 2000 legislative session regarding funding for transportation and will look ahead to what further actions are needed in 2001. Panel members include Senator **Carol Flynn**, chair of the Senate Transportation Policy Committee (invited); Representative **Carol Molnau**, chair of the House Transportation Finance Division (invited); **Fred Corrigan**, executive vice president of the Minnesota Transportation Alliance; and **Mark Hoisser**, president of the Minnesota Public Transit Association.

Following the May 25 plenary will be concurrent sessions in

the safety and traffic flow track plus two half-day workshops: one on bridge infrastructure and the other on transportation and regional growth. During the growth workshop, researchers from the Transportation and Regional Growth Study will share results from the Study's six research projects. Scheduled panelists include

John Adams, Geography; **Gary Davis**, Civil Engineering; **Gary Barnes** and **David Anderson**, CTS; **Tom Stinson** and **Barry Ryan**, Applied Economics; **Lance Neckar**, Landscape Architecture; and **Tom Scott**, Center for Urban and Regional Affairs. In addition, **Deborah Pile** of the Minnesota Office of Planning and **Bill Byers** of the Metropolitan Council will present information on their agency initiatives related to growth statewide and in the Twin Cities. The bridge workshop will feature presentations by **Michael Grubb** of BSDI, Ltd.; **Joe Yura** of the University of Texas; and **Jerome Hajjar** of the University of Minnesota's Civil Engineering department.

For further information or extra programs call **Catherine Ploetz**, 612-625-4257. [CTS](#)

Conference highlights will include sessions on "The Sprawl Debate" and "Transportation Funding: Is Minnesota Headed in the Right Direction?"

Luncheon Speaker to Discuss Highway Capital Stock

Barbara M. Fraumeni will present "Productive Highway Capital Stock: Who Cares?" at the CTS annual research conference luncheon on May 24.

The presentation will take a light-hearted but informative look at the notion of productive highway capital stock. Most economists don't know what productive capital stock is, Fraumeni says. *Barbara Fraumeni* So, why did the Federal Highway Administration (FHWA) fund a project to estimate it? Why should you care about it? The answer to this and other mysteries of the economy that only national income accountants seem to understand will be posited in her address.

Fraumeni has served as chief economist of the Bureau of Economic Analysis since January of 1999. From 1982 through 1998, she was a professor of economics at Northeastern University. From 1988 through 1998, she was also a research fellow of the Program on Technology and Economic Policy, John F. Kennedy School of Government, Harvard University.

Her areas of expertise include measurement issues and national income accounting;



Fraumeni continued on next page

Fraumeni from page 1

her research interests include human and nonhuman capital, productivity, economic growth, market and nonmarket accounts, investment in education, and measurement of highway capital stock. She has a bachelor's from Wellesley College and a doctorate from Boston College, both in economics.

Winter Luncheon Speaker: Combine Strategies to Address Transportation Problems

"The solution to our transportation problems is not going to be nearly as simple as some advocates on any side of the issues would like us to believe," said Dr. **Susan Handy** at the CTS winter luncheon on February 15. Handy, associate professor in the community and regional planning program at the University of Texas at Austin, presented "On the Road to Ruin or a Train Bound for Glory? Transportation Solutions for the 21st Century" at the event, which was held in cooperation with the Minnesota chapter of the Women's Transportation Seminar.

Transportation problems, Handy said, fall into two general categories: how to provide needed transportation infrastructure cheaply and quickly, and how to address the negative impacts of transportation.

As one negative impact—congestion—continues to expand, society needs to consider what to do about it. Handy doubted whether undoing congestion alone would solve the economic, environmental, and quality of life problems it creates—and doubted whether congestion could ever be eliminated entirely. Additionally, the opportunity costs of trying to do so may be too high.

Part of the problem with addressing congestion is that most travelers want and expect free flow conditions at all times, Handy said. Instead, she said that travelers need to adopt more realistic expectations and find an acceptable level of congestion that they would be willing to pay for.

Handy proposed an alternative definition of the transportation problem that balances the different competing problems and moves away from the "overwhelming focus on congestion." Instead, the focus should be on creating alternatives to congestion, she said.

Handy said that most current debates on transportation problems involve four distinct perspectives, those of 1) the builders, 2) the tolltakers, 3) the technologists, and 4) the "Retro Look" proponents. Builders believe that adding capacity (i.e., more highways) will reduce congestion and its impacts. However, growing evidence shows that more capacity leads to more traffic, thus offsetting the benefits gained from that capacity, Handy said.

Another approach centers on the idea that drivers pay significantly less for their trips than they should. Tolltakers believe that charging drivers directly for the full costs of their trips will lead to less driving. This pricing adjustment might be implemented through increased gas taxes, parking charges, congestion pricing, or more politically feasible methods such as parking cash-out programs and high-occupancy vehicle lanes. Handy cited evidence, however, that while pricing can change behavior, driving is relatively inelastic, meaning it would take huge pricing changes to

significantly influence travel. For example, some studies show that a 10 percent increase in gas prices could lead to only a 1 percent decrease in driving.

Technologists advocate solving transportation problems, especially congestion, safety, and air quality, with technological innovations. Some possibilities include intelligent transportation systems, e-commerce, and vehicle and fuel alternatives such as hybrid and fuel cell vehicles. Because of the many different strategies, and because experience with them is fairly limited at this point, short-term benefits have been realized but the long-term benefits are unclear, Handy said.

Retro Look proponents believe that designing communities more like those of the past can reduce auto dependence. That design includes walkable neighborhoods with a commercial center that are linked by a regional transit system. Although this strategy has shown positive results at the aggregate level—in terms of a correlation between higher densities and lower vehicle miles traveled—the effects at the household level are not as apparent.

Rather than recommend one particular solution, Handy proposed finding a way to effectively combine strategies. "There's not one solution to the variety of transportation problems we have," she said. "But not all of these things go together nicely, so we have to be careful about adopting strategies that work against each other instead of with each other."

Those working toward solving transportation problems need to agree on problem definitions and priorities, accept that some congestion is inevitable, and better understand human behavior and why people make the choices they do. "The better we understand behavior, the better job we can do of developing policies and anticipating their impacts," Handy said.

"The good news is, I think perspectives are changing as we come into this new century," she said. Whereas the old philosophy focused on making it easier to drive, the new one will focus on making it easier not to have to drive. "If we can do that, then everybody wins," she said. **CTS**



Whereas the old philosophy focused on making it easier to drive, the new one will focus on making it easier not to have to drive, said Susan Handy, the CTS winter luncheon speaker.

Annual Pavement Conference Offers Diverse, Practical Topics

What do overweight farm vehicles and recycled glass have in common? If you were among the nearly 300 participants at the Fourth Annual Minnesota Pavement Conference, you know that they were just two of the diverse topics on the agenda. The conference, held at the Earle Brown Center, was sponsored by



Left: George Cochran (behind podium) accepts the Minnesota Pavement Conference Service Award from Gerald Rohrbach. Right: Douglas Weiszhaar moderated the opening plenary session.



TRANSPORTATION & REGIONAL GROWTH STUDY

Spring Workshops Scheduled

Following are the dates and abstracts for the March and April workshops. A third workshop will be held on Wednesday, May 3; the presenter will be announced next month. All workshops will be held from 3:30–5:00 p.m. in 1-126 Carlson School of Management.

“The Incidence of Transportation Costs in the Twin Cities Region,” Dr. David Anderson, CTS Research Associate

Wednesday, March 15

ABSTRACT

This workshop will present preliminary estimates of the incidence of transportation costs in the Twin Cities Region for 1998 and 2020. Previous work calculated the full costs of transportation in the region. This study will determine who bears the costs (i.e., who pays for them or experiences them) and who causes the costs. Cost incidence will be determined based on location, income, and vehicle ownership. The work examines a wide range of costs associated with transportation, but this workshop will focus mainly on governmental costs and on external costs. The largest components of these costs are those of building and maintaining the road network for governmental costs, and those associated with congestion, air pollution, crashes, and oil consumption for external costs.

Details for events will be posted on the study's Web site: www.umn.edu/trg.

“Population Density and Travel in U.S. Cities”

Dr. Gary Barnes, CTS Research Associate

Wednesday, April 12

ABSTRACT

Long-term land use planning in the Twin Cities is focused on tactics such as urban infill and growth boundaries, which will have the effect of increasing densities, either at a local or regional level. While there are various reasons for desiring this outcome, one reason that appears to motivate many people is the belief that higher densities, by reducing the amount of auto travel, can reduce auto-related problems such as congestion and pollution. This workshop will discuss some evidence regarding whether and how this process might work.

In particular, it is unclear whether people in dense areas actually spend less time driving, or whether they drive fewer miles simply because they are not able to go very fast. Another issue is that people choose the neighborhoods they live in based in part on their transportation preferences. Dense areas with good transit service will attract people who are predisposed to use transit anyway. The more important question is whether higher densities or better transit service at a regional level will affect travel behavior in a more general sense.

This project addresses these questions by a detailed examination of travel behavior in a cross-section of large U.S. cities. Specific questions of interest include the effect of metropolitan density on mode choice, and whether higher density reduces travel times, as opposed to distance. The questions are addressed through a combination of aggregate analysis of metropolitan data and detailed study of individual cities of interest. **CTS**

Mn/DOT and the Minnesota T² Center and facilitated by CTS.

The conference provided practical information to practitioners and others in pavement design, construction, and maintenance. Other topics included cold in-place recycling, microsurfacing, chip seals, and gravel roads.

Doug Weiszhaar, deputy commissioner of Mn/DOT, gave the welcome and introduction in the opening general session, which featured presentations by **Gerald Huber** of Heritage Research and **Larry Cole** of the American Concrete Pavers Association. **George Cochran**, chair of the CTS Infrastructure Council, received the annual Minnesota Pavement Conference Service Award during this session.

University participants included **Gene Skok**, Civil Engineering (CE), who moderated the materials session, and **Rebecca Embacher**, also of CE, who presented “Life-Cycle Costs of AC and PCC Pavements in Olmsted County, Minnesota.” Associate Professor **Mark Snyder** and Skok served on the conference planning committee along with **Maria Hagen** of CTS and **Lori Graven** of Professional Development and Management (PDM), College of Continuing Education.

Another presenter was **Ann Johnson** of Professional Engineering Services, Ltd., chair of the CTS Education/Outreach Council. She distributed and reviewed the newly published *Best Practices Handbook on Asphalt Pavement Maintenance*.



Ann Johnson presented the Best Practices Handbook on Asphalt Pavement Maintenance, published by Mn/DOT and CTS.

Johnson prepared the handbook under contract to Minnesota T², which published the document in partnership with Mn/DOT. For a copy contact Mn/DOT's Office of Research and Strategic Services, 651-282-2274. **CTS**

Professionals Share Expertise with Students at Career Expo

The Center held its fifth annual Transportation Career Expo on February 29 in Minneapolis. Over 70 attendees listened to the program and viewed exhibits from 18 organizations involved in transportation. The event began with a general session on career preparation moderated by **Cheri Trenda** of CTS and featuring panelists **Charleen Zimmer** of SRF, **Jim Grube** of Hennepin County, and **Theresa Johnson** of Mn/DOT. Four concurrent sessions then followed on specific areas of transportation:

- Engineering/Technical Careers. Moderator: **Maria Hagen**, CTS. Panelists: **Gary Brown**, RLK-Kuusisto, Ltd.; **Jane Butzer**, Mn/DOT; **Julie Dresel**, city of North Branch
- Transportation Planning and Policy Careers. Moderator: **Connie Kozlak**, Met Council. Panelists: **Pat Bursaw**, Mn/DOT; **Chris Hiniker**, SEH; **Lezlie Vermillion**, Dakota County
- Intelligent Transportation Systems. Moderator: **Dawn Spanhake**, CTS. Panelists: **Linda Dolan**, ADDCO; **Tom Peters**, Mn/DOT; **Craig Shankwitz**, U of M Mechanical Engineering
- Transportation Logistics Careers. Moderator: **Scott Kavoukjian**, Fabcon

Expo continued on back



Students from various universities attended the Career Expo.

Expo from page 3

The CTS Education / Outreach Council offered the event in cooperation with the Women's Transportation Seminar, the Minnesota Local Road Research Board, Minnesota T², and the ITS Institute. **ITS**

T² Center Holds New Workshop on Contract Management

The Minnesota T² Center's newly developed workshop on Construction Contract Claims Avoidance and Mitigation was held on February 9 in St. Paul and on February 10 in Duluth. The primary objective of the course is to provide information and instruction to local government personnel on practical, day-to-day methods that can be used to avoid claims whenever possible as well as for planning for and dealing with any claims that may occur on a construction project.

The instructors for the course were **Polly Scott-Showalter** of the University of Missouri-Rolla and **Linda Phillips** of Michigan Technological University. Participants were divided into small groups and, using real contract dispute cases, discussed the elements of the dispute and brainstormed possible solutions. Many participants responded favorably to this alternative learning format. The workshop will be offered again in the spring of 2001.

Minnesota T² also held two workshops specifically for Hennepin County Department of Public Works technicians on Hydraulic Design of Culverts in early February. This was a new effort for the T² Center in that the workshop was requested and organized for one agency, unlike the typical workshops, which are held at two or three selected sites around the state. The instructors for the course were Dr. **Larry Woodbury** and **Jim Jacques** of Houston Engineering. **Kent Ebeltoft**, Hennepin County, was instrumental in bringing this training to the Public Works staff. **Maria Hagen** of CTS/T² is continuing to work with Hennepin County staff to develop other training opportunities. **ITS**

Upcoming Transportation and Related Events

To publicize an event, call CTS at 612-626-1077; fax 612-625-6381; e-mail snopl001@tc.umn.edu. Visit the CTS Web site—www.umn.edu/cts—for more comprehensive event information.

- Mar. 20–21 Municipal Utilities Inspector's School, Earle Brown Center, St. Paul. Sponsor: Minnesota Public Works Association. Call **Kathy Warren**, 651-351-7432.
- Mar. 29 "What's Really Happening Outside the Seven-County Area?" Sponsor: Sensible Land Use Coalition. Call 612-474-3302; fax 612-474-3993.
- Mar. 30 "Safety Training for Controlling and Abating Hazards in Highway Construction," Minnesota Safety Council, St. Paul. Call 800-444-9150; 651-228-7319.
- Mar. 31–Apr. 1 "Raising the Bar," 2000 Minnesota State Bicycle Conference, St. Cloud Civic Center. Call 651-296-1058 or visit www.dot.state.mn.us/trim/ats/sbac/.
- Apr. 4–May 2 League of Minnesota Cities 2000 Safety and Loss Control Workshops, various cities and dates. Call **Ellen Longfellow**, 651-281-1269, 800-925-1122, or visit www.lmnc.org.
- Apr. 18–20 "Airports R Us," Minnesota Airport Symposium 2000, Duluth Entertainment & Convention Center. Call Minnesota Coalition of Airports, 218-828-5049.
- May 1–4 ITS America Tenth Annual Meeting and Exposition, Boston. Call **Katrina Mayo**, 202-484-4549, or visit www.itsa.org.
- May 10–12 2000 Minnesota Safety & Health Conference, Minneapolis Convention Center. Sponsor: Minnesota Safety Council. Call **Carol Wicks**, 651-228-7319.
- May 24–25 CTS Eleventh Annual Transportation Research Conference, RiverCentre, St. Paul. Call **Catherine Ploetz**, 612-625-4257; e-mail cploetz@cce.umn.edu.
- July 9–11 2000 Midwest Regional & Shortline Railroad Annual Conference, Arrowwood Resort, Alexandria, Minn. Sponsor: Minnesota Regional Railroads Association. Call **Amber Larsen Backhaus**, 651-228-9757. **ITS**

Minnesota T² Center Workshops

The Minnesota Technology Transfer (T²) Center, housed within CTS, has scheduled the following workshops. Unless otherwise noted, to register call **Bev Ringsak**, 612-624-3720; e-mail bringsak@cce.umn.edu.

Minnesota Spring Maintenance Expo
Apr. 10–11 St. Cloud

MN, Inc., Mn/DOT, 3M, and Minnesota Public Works Association.

Work Zone Traffic Control & Road Marking Seminar
Sponsored by Warning Lites of

For dates and locations call Warning Lites, 612-521-4200; 800-766-5483. **ITS**