

FEBRUARY REPORT

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

GUIDESTAR PROGRAM ANNOUNCED

The Minnesota Department of Transportation has joined the Center for Transportation Studies to form *GuideStar*, a joint research and development program to address the growing problems of traffic congestion and safety. The program will test and implement Intelligent Vehicle/Highway Systems (IVHS) technologies developed at the University on roadways in Minnesota. The *GuideStar* program will join a small number of IVHS research efforts in the United States (for example, the PATH program in California) to help build a national effort that so far has lagged behind extensive IVHS efforts in Europe and Japan. The U.S. Department of Transportation is expected to name IVHS as a research priority in its new strategic plan. Minnesota's *GuideStar* program was announced at the January annual meeting of the Transportation Research Board in Washington D.C., where Mn/DOT and the University hosted a booth for demonstrating *GuideStar* technology. If you would like a *GuideStar* brochure, please call the Center at (612) 626-1077.

GUIDESTAR IVHS PROGRAM ELEMENTS

The Minnesota *GuideStar* program emphasizes the use of new technology to continually collect and distribute traffic information to improve decisions made by traffic managers and motorists. Mn/DOT's current monitoring systems at its Traffic Management Center will be improved through the use of a machine vision technology, patented by the University and called AutoscopeTM, which will be implemented first in the I-394 corridor. AutoscopeTM will initially provide information for traffic managers, but ultimately advanced driver information systems will be developed, supplementing highway advisory radio and changeable message signs, to give drivers more information to make navigation decisions. Key people involved in *GuideStar* are Gene Ofstead, Dick Stehr, Bob Benke, and Dean Larson from Mn/DOT, and Dick Braun, Bob Johns, Panos Michalopoulos, and Yorgos Stephanedes from the University. Potential participation by private companies in the *GuideStar* program is under discussion.

ADVANCED TECHNOLOGY CONFERENCE TO BE HELD IN TWIN CITIES

The American Society of Civil Engineers (ASCE) will hold its Second International Conference on Applications of Advanced Technologies in Transportation Engineering in Minneapolis, August 18-21, 1991. The Minneapolis location is the result of efforts by state transportation leaders over the past two years to attract the conference to Minnesota, and also reflects recognition of Minnesota as a leader in advanced transportation technologies, such as the *GuideStar* program. Co-chaired by Professor Yorgos Stephanedes of Civil and Mineral Engineering, the conference will cover recent technological advancements and examine how emerging technologies can advance the design, construction, maintenance, and operation of surface transportation systems. A major effort will be made to examine how research ideas can be transferred into practice. The conference will also afford an opportunity to demonstrate the accomplishments of *GuideStar* after its initial year of testing. For further details, contact Professor Stephanedes at (612) 625-1305 or 625-5522.

FINAL PROPOSAL FOR ADVANCED TRANSPORTATION INSTITUTE SUBMITTED

The Center recently submitted a final proposal to the U.S. Department of Transportation for the creation of an Institute on Advanced Transportation Systems at the University of Minnesota. The Institute will involve education efforts within three disciplines at the University: engineering, public affairs, and management. The Center worked closely with representatives from the three schools--**Yorgos Stephanedes** of the Institute of Technology, **Bob Einsweiler** of the Humphrey Institute of Public Affairs, and **Donald Harper** of the Carlson School of Management--to plan the first year of the program. The program will emphasize interdisciplinary education by implementing new joint courses and workshops, marketing elective and coursework combinations among the three disciplines, and incorporating transportation into a new degree program, the master of science in management of technology. The proposal was strongly influenced by the needs for transportation education that were defined in meetings with **Doug Differt**, **Ed Cohoon**, and **Barbara Sundquist** of Mn/DOT, **Nacho Diaz** of the Metropolitan Council, and **Judy Hollander** of the Regional Transit Board.

FACULTY PRESENTATIONS AT TRB MEETING

The Department of Civil and Mineral Engineering was well-represented at the annual Transportation Research Board meeting in Washington, D.C. **Eil Kwon**, a post-doctoral student, and Professor **Yorgos Stephanedes** presented a paper they authored with Professor **Panos Michalopoulos** titled "On-line Diversion Protection for Dynamic Control and Vehicle Guidance in Freeway Corridors." Professor Michalopoulos presented a paper titled "Testing and Field Implementation of the Minnesota Video Detection System," which he wrote with **Blake Wolf** of CME and **Robert Benke** of Mn/DOT. Two papers co-written by Professor **David Newcomb** were presented: "Comparison of Dolomitic Versus Normally Hydrated Lime as an Anti-Stripping Additive," and "Characterization of Concrete Aggregate Using Fractal Dimension." Professor **Gary Davis** made two presentations, on "Adoptive Forecasting of Freeway Traffic Congestion," and "A Dynamic, Stochastic Model of Traffic Generation." In related news, Professor Davis recently submitted a proposal to the National Science Foundation on "Adoptive Rehabilitation of Transportation Infrastructure."

STUDENT RECEIVES TRB AWARD; CENTER SENDS STUDENTS TO TRB MEETING

The Transportation Research Board has awarded **Joseph Daniel**, a research assistant for Economics Professor **Herbert Mohring**, a fellowship to study "Price and Scheduling Competition Among Hub Airlines." Funded by the Federal Aviation Administration, the award is given to up to five students each year to develop a research paper on public-sector aviation issues. Daniel received a \$5,000 stipend plus travel expenses to attend TRB meetings in 1990 and 1991. Seven other University students also attended TRB with support from the Center. Each year the Center awards stipends to students based on criteria related to the students' research and coursework in transportation.

OVER 60 RESPOND TO CALL FOR PRESENTATIONS

The Center received over 60 abstracts in response to its Call for Presentations for the First Annual CTS Transportation Research Conference, to be held May 2-3 at the St. Paul Hotel. Approximately one-third of the submitted abstracts came from University faculty, and two-thirds from professionals working on transportation issues and problems in Minnesota and the Upper Midwest. The abstracts covered a wide variety of topics and modes. The conference planning committee, chaired by **Judy Hollander**, has organized the abstracts into six topic areas: transportation, socio-economic goals, and public policy; transportation systems planning; infrastructure design and rehabilitation; transportation systems management; logistics management; and human and organizational resources. A preliminary program will be available in March.

DICK BRAUN NAMED ENGINEER OF THE DECADE

The Minnesota Society of Professional Engineers (MSPE) recently named Center Director **Dick Braun** the engineer of the decade for the 1980s. MSPE chose an engineer of the decade for each of the last five decades, in honor of its 50th anniversary. Braun also was busy last month with outreach activities, addressing the following groups: the Minnesota Safety Council annual meeting; the Citizens League committee on financing and managing state and local programs; the American Public Works Association Institute for Transportation; the American Road and Transportation Builders Education Division; the Year 2000 Futures Group in Dakota County; and classes in the College of Architecture and Landscape Architecture.

CTS CONTINUES SEMINARS

The Center's first transportation faculty seminar of winter quarter was held on January 16 and featured Professor **David Newcomb** of Civil and Mineral Engineering. Newcomb is the University coordinator of the Minnesota Road Research Project, a \$5 million pavement test facility funded by the Minnesota Department of Transportation. Newcomb described the project and discussed plans for the coming year. The Center's transportation careers series opened on January 24 with **Peter Fausch**, senior vice president of Strgar-Roscoe-Fausch, who told students about career opportunities in transportation consulting. See the schedule below for upcoming events.

CENTER HAS NEW FAX NUMBER, VOICE MAIL, AND E-MAIL SYSTEMS

The Center has made several improvements to its communications systems. Last month the Center installed its own facsimile machine; the new fax number is (612) 625-6381. The Center also began using the University's voice mail system, which accepts phone messages when staff are unavailable (including evenings and weekends). The Center is also on E-Mail networks, at RCJUOM on the state's PROFS system, and RJOHNS@SARTHE.CME.UMN.EDU on the international BITNET system.

UPCOMING TRANSPORTATION EVENTS

If you have an event you would like publicized, please call the Center at (612) 626-1077.

- February 7 CTS Transportation Careers Series--transportation leaders speaking to U of M students on career opportunities. **Dick Hanson**, director of distribution, General Mills, 12:20-1:10 p.m., 255 Blegen Hall, University of Minnesota, Minneapolis. Contact CTS at (612) 625-3019.
- February 15 Center for Transportation Studies Winter Quarter Luncheon and Speech: **John DeGrove**, "Florida's Adventures in Linking Transportation to Land Use." Radisson University Hotel Ballroom, Minneapolis. Contact CTS at (612) 626-1077.
- February 15-17 State Bicycle Conference 1990, "The Bicycle: Onto the Public Agenda," Scanticon Minneapolis Conference Center, Minneapolis. Contact **Jim Dustrude** of Mn/DOT at (612) 297-1838.
- February 20 CTS Transportation Seminar: "Inelastic Rating of Steel Bridges," by Professor **Ted Galambos**, 3:30-4:40 p.m., 210 Civil and Mineral Engineering, University of Minnesota, Minneapolis. Open to the public. Contact CTS at (612) 625-3019.
- February 23 1990 Geogrid Soil Reinforcement Symposium: From Concept through Construction, Radisson University Hotel, Minneapolis. Contact: **Sheila Bailey** of Conwed Corporation, (612) 631-5727.

- February 28 CTS Transportation Careers Series--transportation leaders speaking to U of M students on career opportunities. **Vern Genzlinger**, director of public works, Hennepin County, 12:20-1:10 p.m., 205 Civil and Mineral Engineering, University of Minnesota, Minneapolis. Contact CTS at (612) 625-3019.
- March 6 CTS Transportation Seminar: "Alternative Airport and Airway Pricing Systems," by Professor **Herbert Mohring**, 3:30-4:40 p.m., 210 Civil and Mineral Engineering, University of Minnesota, Minneapolis. Open to the public. Contact CTS at (612) 625-3019.
- March 29-31 ASCE Student Chapter 46th Annual Midwest Regional Conference, Radisson University Hotel, Minneapolis. Contact **Joe Palo** of the ASCE Student Office at (612) 625-6638 or Professor **Kathy French** at (612) 625-3877.
- May 2-3 Center for Transportation Studies First Annual Transportation Research Conference, St. Paul Hotel, St. Paul, Minnesota. Contact CTS at (612) 625-3019.
- May 7-9 Second Midwest Regional Transit Conference and Expo, Minneapolis Hyatt Regency, Minneapolis. Contact **Jan Hennings** at (612) 338-7323.
- May 8 Minnesota Transit Laboratory International Workshop, Minneapolis Hyatt Regency, Minneapolis. Contact **Jan Hennings** at (612) 338-7323.



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