

# AUGUST REPORT

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

## EXECUTIVE COMMITTEE APPROVES STRATEGIC PLAN

The Center's Executive Committee, led by Ray Lappegaard, approved a five-year strategic plan for the Center at its July meeting. Updated annually, the strategic plan is documented in the report *Center Directions*, which was presented and discussed at the Center's annual Advisory Board meeting in May. This year's plan was developed with input from the six CTS Councils and will serve as a guide for council and staff activities in the coming year. The Executive Committee also held a wide-ranging discussion on future directions for the Center, given the base funding obtained from this year's legislative session. Executive Committee members stressed that the Center now needs to increase its emphasis on transferring research results into practice, using publications, forums, information services, and other mechanisms for involving both public and private organizations. Another key point made by the Executive Committee was the need for the Center to position itself to increase federal and private sector funding for its activities. Past Executive Committee members Doug Carlson and Dennis Cavanaugh took part in this discussion, given the important role they played in the initial development of the Center. Center staff will develop a spending plan for Executive Committee approval that reflects the Center's strategic plans and directions.

## THIRD ANNUAL RESEARCH CONFERENCE ANNOUNCED FOR MAY 5-6

The Center's Third Annual Transportation Research Conference has been scheduled for May 5-6, 1992, at the Radisson Hotel Saint Paul. This year the Center will work closely with the six CTS Councils in developing the conference structure and content. Like its predecessors, the third conference will serve as a forum for transportation researchers and practitioners from Minnesota and the Upper Midwest, and will feature general and concurrent sessions as well as the Center's spring luncheon presentation. The conference will be preceded by meetings of the Center's Advisory Board and Councils on May 4. A Call for Presentations will be issued in the *September Report*.

## MONTHLY REPORT MAILING LIST UPDATE

This month marks the third anniversary of the *Monthly Report*, which is now sent to nearly 2,000 persons. The Center uses the *Monthly Report* mailing list to distribute a variety of other publications such as brochures, reports, and calls for presentations. Once again we ask that you complete and return the enclosed pre-stamped, pre-addressed card so that we may update our mailing list and keep you informed of our activities.

## EXECUTIVE MANAGEMENT COURSE PLANNED FOR 1992

The Center has begun working with William Scheurer and Sue Holmes of the Carlson School Executive Development Center to plan an Executive Management Course for transportation executives. The course, to be held in September of 1992, will be aimed at senior level managers and will address transportation issues from a global perspective. The course will look at how a rapidly changing world is affecting transportation, and how transportation managers deal with these changes in terms of their role and the role of their organizations. The Center is also working with Barbara Sundquist and Sue Muehlbach of Mn/DOT to coordinate this course with

Mn/DOT's Management Academy, which will take place this fall and spring. The Executive Management course, which will be open to participants from a variety of organizations, will supplement the Mn/DOT management training. The federal University Transportation Center program is providing partial funding for the planning and implementation of the courses.

### **PUBLIC/PRIVATE PARTNERSHIP TO FUND HIGH-STRENGTH CONCRETE RESEARCH**

This spring, Professors **Cathy French** and **Roberto Leon** of Civil and Mineral Engineering submitted a proposal to investigate a number of issues associated with the use of high-strength concrete, including its durability and applications in bridge decks. The proposal was well received by members of the Center's Transportation Infrastructure Research Council and was selected for funding by Mn/DOT. After meetings with the Center and Mn/DOT, the Minnesota Prestress Association (MnPA), led by **John Shamp**, president of Bladholm Company, also offered to contribute funding to this project. Shamp and **Dan Dorgan**, **Terry Zoller**, and **Dave Dahlberg** of Mn/DOT are working with French and Leon to further define the interests and objectives of both groups. The Center will work to create additional public/private partnerships such as this to leverage resources and expand the scope of research efforts.

### **LOGISTICS MANAGEMENT BROCHURE IS AVAILABLE**

A brochure describing the University's Marketing and Logistics Management program is now available for prospective students. The brochure describes the field of logistics management, the undergraduate and graduate degree programs offered at the University, and potential career opportunities. Inquiries concerning the logistics management program should be directed to Professors **Donald Harper** (624-5833) or **Frederick Beier** (625-0352). The brochure was funded through the University Transportation Center's Advanced Institute program.

### **LICENSING AGREEMENT REACHED FOR AUTOSCOPE**

An exclusive licensing agreement was reached in June for the production and sale of **AUTOSCOPE<sup>TM</sup>**, the advanced video detection technology developed by Professor **Panos Michalopoulos** of Civil and Mineral Engineering and patented by the University. **AUTOSCOPE** is a major component of the *GuideStar* IVHS program and has been installed and tested on Twin Cities freeways. Under the agreement, Econolite Control Products, Inc., will manufacture and sell **AUTOSCOPE**, while Image Sensing Systems, Inc. (ISS), of St. Paul, the co-developer of the system, retains worldwide rights under an exclusive license from the University. ISS and the University will share royalties. **AUTOSCOPE** evaluation units are now available from Econolite for use in controlled environments, and production units are expected in early 1992.

### **FACULTY CONDUCT SHORT COURSE FOR MN/DOT ENGINEERS**

Professor **David Newcomb** of Civil and Mineral Engineering recently conducted the initial presentation of a three-day short course on the back-calculation of elastic moduli for pavement structures from deflection data. **Duane Young**, **Joe Korzilius**, and **Lonnie Cowherd** of Mn/DOT helped arrange the course, which was attended by 25 Mn/DOT engineers from around the state. Other instructors included **Joe Mahoney** of the University of Washington and **Newton Jackson** of the Washington DOT. The short course was developed with funding from the Federal Highway Administration through a contract with the University of Washington, and will be given on a national level this September in Reno, Nev. Plans are being developed for additional presentations in other states.

## RESEARCH REPORT ON RURAL ROADS INCLUDES SIMULATION SOFTWARE

A report by Professor Jerry Fruin and D. Walter Halbach of Agricultural and Applied Economics was published in June that serves as a user manual for persons interested in using transportation modeling software to simulate rural road settings. The report is titled *A Guide to Transportation Modeling Using TRANPLAN for Computer Simulation of Strategies for Managing the Rural Road Infrastructure*. A diskette accompanying the report contains TRANPLAN version 6.20 (a copyrighted product of the Urban Analysis Group, Danville, Calif.) as well as the files needed to study an example problem described in the report. The research project was sponsored by the Mountain-Plains Consortium, the Agricultural Experiment Station, and CTS. The Center is currently developing a distribution system for this and other research publications; please see future issues of the *Report* for details.

## MN/ROAD SECOND ANNUAL MEETING

The second annual meeting of the Minnesota Road Research Project (Mn/ROAD) was held on July 25. Organized by Mn/ROAD project coordinator Nelrae Succio, the meeting featured presentations covering the history of Mn/ROAD, current efforts, and future research plans. Center Director Dick Braun, a member of the Mn/ROAD executive committee, spoke on the collaboration between the University of Minnesota and Mn/DOT in conducting pavement research. Professor David Newcomb of Civil and Mineral Engineering, the University coordinator for Mn/ROAD, gave a review of Mn/ROAD research projects. Mn/ROAD is progressing well despite heavy rains in 1990 and 1991, with the low volume road expected to be in place in 1992 and the main line test road following in 1993.

## CME PROFESSOR MEETS WITH EUROPEAN IVHS ORGANIZATIONS

Professor Yorgos Stephanedes of Civil and Mineral Engineering recently participated in several meetings with European officials involved in Intelligent Vehicle/Highway Systems (IVHS) activities. In Paris he visited the National Institute for Research in Transport and Safety (INRETS) to discuss possible future cooperation. Meetings took place at two departments: the Department of Analysis and Regulation of Traffic and the Department of Applied Mathematics and Artificial Intelligence. Stephanedes also made two invited presentations while in Europe. The first was in May at the 24th International Symposium on Automotive Technology and Automation (ISATA), in Florence, Italy. The presentation, in the area of road transport informatics, was titled: "Dynamic Diversion Prediction for Real-Time Control of Freeway Traffic Flow in IVHS Networks." In June he made a presentation at the Department of Electrical Engineering at the University of Munich, Germany, titled "Demand-Responsive Freeway Ramp Metering Control."

## MINNESOTANS INVOLVED IN PLANNING IVHS IMPLEMENTATION IN ATLANTA

Several Minnesotans attended a two-day meeting in Atlanta the week of July 15 to discuss potential Intelligent Vehicle/Highway System (IVHS) applications for that city, which will host the 1996 summer Olympics. Gene Ofstead, assistant commissioner of the Minnesota Department of Transportation, and Dick Braun, CTS director, attended the brainstorming session organized by Mike Meyer, director of Georgia Tech's transportation center. The meeting also provided an opportunity for the Minnesotans to see how another metropolitan area the size of the Twin Cities intends to implement various IVHS technologies.

## REGISTRATION FOR FALL QUARTER TRANSPORTATION COURSES BEGINS THIS MONTH

Mail-in registration for fall quarter classes at the University of Minnesota will be held August 12-September 11, and in-person registration will run from September 3-11. One of the four courses established through the Institute on Advanced Transportation Systems, "Transportation Policy and Planning" (PA 5291), is being held

on Thursday evenings at the Humphrey Center. The instructor will be **David Rafter**, currently a professor of urban planning at Mankato State University. Other transportation-related courses available this fall through Extension include a course on pavement design and another dealing with highway traffic. Please contact the Extension Office at (612) 625-3333 for further details.

## PAVEMENT RESEARCH REPORTS PUBLISHED

A report by Professor **David Newcomb** and **Jong Ryeol Kim**, titled *Low Volume Road Pavement Design: A Review of Practice in the Upper Midwest*, was published in June. The project was sponsored by CTS and the Mountain-Plains Consortium. Mn/DOT recently published two research reports by Professor **Theodor Krauthammer** of Civil and Mineral Engineering. The first, co-authored with **Amir Koubaa**, is titled *Numerical Assessment of Three-Dimensional Rigid Pavement Joints Under Impact Loads*. The second, co-authored with **Lucio Palmieri**, is titled *Vibration Spectroscopy for Rigid Pavement Joint Assessment*. The goal of both studies was to gain knowledge on the behavior of joints in concrete pavements, and to explore the feasibility of developing a nondestructive testing technique based on the frequency response of dynamically loaded joints.

## JULY REPORT DISTRIBUTION

It has come to our attention that some of our readers may not have received the July issue of the *Monthly Report*. If you did not receive the July issue and would still like to obtain a copy, please call the Center at (612) 626-1077. We regret any inconvenience this may have caused.

## UPCOMING TRANSPORTATION EVENTS

If you have an event you would like publicized, please call **Pam Snopl** of the Center at (612) 624-0841. For other Center information, please call (612) 626-1077.

- Aug. 15-17      Transportation Research Board Midyear Meeting, Radisson Hotel Metrodome, Minneapolis. Contact **Jim Scott** or **Freda Morgan** at (202) 334-2965.
- Aug. 18-21      Second International Conference on Applications of Advanced Technologies in Transportation Engineering, Radisson Hotel Metrodome, Minneapolis. Sponsored by the American Society of Civil Engineers. Contact **Lori Graven** at (612) 625-9023 or FAX (612) 626-1632.
- Sept. 11-13      Association for Commuter Transportation National Conference, Marriott Hotel City Center, Minneapolis. Contact **Marcia Diers** at (612) 349-7535.
- Oct. 9-11      "Transportation Solutions for Small- and Medium-Sized Areas," Third National Conference of the TRB Committee on Issues for Small- and Medium-Sized Communities, Sheraton Burlington Hotel and Conference Center, Burlington, Vermont. Contact **Kathy Briscoe** of Mn/DOT at (612) 296-1614.