



UNIVERSITY OF MINNESOTA
TWIN CITIES

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CENTER FOR TRANSPORTATION STUDIES AUGUST REPORT

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

CENTER ANNOUNCES \$1.1 MILLION RESEARCH PROGRAM FOR 1989-90

The Center has selected projects for its 1989-90 research program, as described in the enclosed summary. The Center's Executive Committee chose 17 projects for Center funding, using \$527,000 of the funds allocated to CTS by the 1988 legislature. The Center was able to "leverage" these funds by attracting an additional \$546,000 of matching funds from various organizations, including the Minnesota Department of Transportation, for a total research program of almost \$1.1 million. The projects address several of the research needs identified by the Center's Advisory Board, with projects in each of three broad research emphases: 1) Strategic Directions for Transportation in the Upper Midwest; 2) Improved Management of the Transportation System; and 3) Innovations in Transportation Technology. The projects are grouped under more specific research areas in the enclosed summary.

RESEARCH PROJECTS ADDRESS FIVE ISSUE AREAS

The five issue areas addressed by the research program are as follows: 1) **Transportation and Socio-Economic Goals**, which deals with how transportation can be used strategically to help Minnesota achieve its economic and social goals; 2) **Traffic Management**, which uses traffic engineering methods and new technologies to improve traffic control, particularly in congested urban areas; 3) **Air Transportation**, which deals with emerging issues in air transportation, including both management methods and economic impacts; 4) **Pavement Engineering**, which addresses critical issues in managing Minnesota's road infrastructure, particularly in dealing with the effects of a harsh climate; and 5) **Bridge Design**, which deals with new methods of improving and preserving bridges as an essential part of the transportation infrastructure, including both local road and highway bridges.

CTS RESEARCH PANELS WILL BE ESTABLISHED

The Center will sponsor several technology transfer activities for the research projects so that the findings can be shared, discussed, and used by Minnesota's transportation practitioners and policymakers. The Center will establish **CTS Research Panels** for each project, which will meet as needed with the principal investigator and receive special project reports. If you or a member of your staff would like to be on a CTS Research Panel, please complete and return the enclosed form, indicating which project interests you. Center staff will notify panel members of the first meetings, most likely to be held this fall. In the future, the Center will announce other technology transfer activities, including seminars, newsletter articles, and an annual conference.

JOINT RESEARCH CONTRACT ESTABLISHED WITH REGIONAL TRANSIT BOARD

The Regional Transit Board recently approved a joint research contract with CTS. The agreement calls for the Center and RTB to cooperate in identifying and supporting transit research projects at the University. The Board will use the Center's Request for Proposal process to identify and select projects, similar to the partnership that has evolved between the Center and Mn/DOT. The agreement also calls for joint sponsorship of transit-related seminars, workshops, and other participative events. The Center worked with RTB staff **Judy Hollander** and **Greg Andrews** in developing the contract for Board approval.

UNIVERSITY WILL PARTICIPATE IN MINNESOTA ROAD RESEARCH PROJECT

Three studies have been initiated at the University related to Mn/DOT's Minnesota Road Research Project (MRRP), previously named the Cold Regions Pavement Research Test Facility. Professors **David Newcomb** and **Joe Labuz** of the Department of Civil and Mineral Engineering (CME) will investigate the durability of pavement response instrumentation, which will be placed in the roadways for periods ranging from three to ten years. **Newcomb** and Professor **Roberto Leon**, also of CME, will plan the types, quantities, and locations of the sensors in the pavement sections. Finally, **Newcomb** and Professors **Marius Poliac** and **James Slagle** of the Computer Science Department will design simulation software needed to process the data. This project is included as part of the Center's 1989-90 research program.

MINNESOTA TO ESTABLISH AVIATION EDUCATION PROGRAMS

The FAA-Minnesota Partnership was established last year by Governor **Rudy Perpich** and Federal Aviation Administrator **T. Allen McArtor** to explore joint programs that would benefit aviation at both the state and federal level. An outgrowth of this partnership was the formation of the Mid-America Aviation Resource Consortium (MARC). The mission of MARC is to coordinate the education and training needs of government and the aviation industry with post high school education systems in the state. Recently, Representative **Martin Sabo** helped secure \$360,000 of federal funds for MARC to use for starting an air traffic controller training program at a new Twin Cities facility. **Dick Keinz** and **Ken Patz** of MARC will be working with educational institutions to develop this program. Additional aviation educational programs will be considered in the future by MARC, which will work closely with **Edward Foster**, U of M Associate Vice-President of Academic Affairs, and Center staff to define the University's role.

FAA-MINNESOTA PARTNERSHIP BEGINS JOINT RESEARCH PROJECTS

The research team of the FAA-Minnesota Partnership recently selected two projects for a cooperative undertaking. One will deal with pavement research for airport runways and will use Mn/DOT's Minnesota Road Research Project facility (described above) to examine frost heave, freeze-thaw conditions, and the durability of markers, sensors, and de-icers in cold climates. **Gene Wong** of FAA recently announced that FAA will contract with CTS for this pavement research in the near future. The second project will share the results of FAA research on a new airport surveillance system with Minnesota. Staff of the Metropolitan Airports Commission will visit the Raleigh-Durham Airport to gain first-hand knowledge of this new airport radar system. Minnesota representatives on the research team include **David Nybakken**, **Rich Wolters**, and **Gabe Bodoczy** of Mn/DOT; **Bob Huber** of the local FAA office; and **Kurt Richards** and **Bob Johns** of the U of M.

USDOT REVIEWS MOUNTAINS-PLAINS CONSORTIUM WORK PROGRAM

Gene Griffin, director of the Mountains-Plains Consortium (MPC) of six universities, and executive committee members Bill Pollard and Dick Braun, recently made a presentation in Washington describing the consortium's 1988-1989 program accomplishments. Eleven representatives from the Office of the Secretary, Federal Highway Administration, and Urban Mass Transportation Administration heard about the consortium's current projects and its plans for new projects and technology transfer activities in the upcoming year. The reviewers were pleased with the consortium's work and the potential for applying project results across the Midwest. The consortium is one of ten federal University Transportation Centers established by the U.S. Department of Transportation.

TRB COMMITTEES HEAR PLANS FOR NATIONAL TRANSPORTATION POLICY

The transportation planning and administration committees of the Transportation Research Board met recently in Colorado to discuss current issues and plan sessions for the 1990 annual TRB meeting. A major topic of discussion was the current effort by Transportation Secretary Samuel Skinner to develop a national transportation policy. Tom Larson, the nominee to head the Federal Highway Administration, and other USDOT staff described the effort. The plan will recommend how transportation should support national goals, what role the federal government should play, and what approaches Congress should take in the major reauthorizations due for federal highway, transit, and aviation funding. The policy documents are being prepared for a critical review at the annual TRB meeting in January 1990. Representing Minnesota on these committees were Randy Halvorson of Mn/DOT (Intergovernmental Relations and Local Transportation Finance Committees) and Bob Johns of CTS (Strategic Management and Citizen Participation Committees).

REPORT ON THE TRANSPORTATION OF ENERGY IN MINNESOTA COMPLETED

Donald V. Harper, professor of marketing and logistics management, recently completed a report titled *Transportation of Energy in Minnesota: Review and Analysis*. The study deals with the statewide transportation of petroleum products, natural gas, and coal. In the report, Harper describes and evaluates the energy transportation system and recommends possible changes in state policy. The Center for Transportation Studies supported the study using funds from the Exxon oil overcharge allocation. Copies of the report are available by calling the Center at 626-1077.

TRANSPORTATION STUDENTS DISTRIBUTE TRAFFIC SURVEY

Transportation engineering students at the University of Minnesota were hired this summer to distribute a traffic survey to commuters on Washington Avenue. The purpose of the survey, which was sponsored by Hennepin County and conducted by a Minneapolis consulting firm, was to find the origin and destination of vehicles using Washington Avenue at the University. This information is needed to plan routes for diverting traffic if, in the future, a light rail transit system is constructed on Washington Avenue. Harvey Turner, assistant director of planning at the University, is working closely with Hennepin County to analyze the survey results.

PROFESSOR MEETS WITH GEOGRAPHERS IN POLAND

Professor Russell Adams of the Department of Geography recently met with transportation geographers in Lublin and Warsaw, Poland, and obtained data about Polish intercity rail passenger service. Professor Adams has done extensive research on intercity passenger travel and other transportation issues.

UPCOMING TRANSPORTATION EVENTS

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

- August 6-10 URISA '89, Urban and Regional Information Systems Association Conference, "Charting the 90s: New Visions for Urban Technology." The Boston Marriott Copley Place. Contact: **Tom Palmerlee** of URISA, (202) 543-7141.
- August 13-16 1989 Highway Users Midwest Transportation Conference, Madden's Resort, Brainerd. Contact: **Carol Lovro** of Highway Users Federation, 290-0025.
- September 19-21 "Great Lakes Ports in a Changing Economy," Holiday Star Plaza, Merrillville, Indiana. Sponsored by Minnesota Sea Grant Extension Program, Burns International Harbor, the Indiana Regional Economic Development Institute, and the Great Lakes Commission. Contact: **Barbara Liukkonen** of Minnesota Sea Grant, (218) 726-8106.
- September 21-22 Minnesota Native Timber Bridge Design, Fabrication and Construction Workshop. Moose Lodge, Baudette Minnesota. Contact: **Terry Weber**, Headwaters Resource Construction & Development, (218) 751-0061, or **Eric Giesler**, Minnesota Department of Natural Resources, (612) 297-3509.