University of Minnesota
CTS
Center for Transportation Studies
REPORT
A monthly report on transportation research, education, and outreach activities at the University of Minnesota
November 2004

Synergies seen for bus rapid transit, road pricing

Policymakers, researchers, and community leaders came together at the University of Minnesota October 8 to share information about bus rapid transit (BRT) and road pricing. The event featured presentations by three experts in BRT and road pricing issues, followed by a panel discussion with lively audience participation.

Former state senator **Carol Flynn** served as moderator for the event, which was sponsored by CTS, the State and Local Policy Program at the Humphrey Institute of Public Affairs, and the Minnesota Department of Transportation (Mn/DOT).

David Schumacher, Ed Regan, and Robert Poole

Robert W. Poole Jr., director of transportation studies for the Los Angeles-based Reason Public Policy Institute, was the first speaker. His presentation highlighted recent Reason Institute research on the potential benefits to transit users and drivers of high-occupancy toll (HOT) networks, in which drivers pay a market-priced toll.

To test the merits of this approach, Reason modeled transportation networks in eight highly congested U.S. cities, including existing and planned high-occupancy vehicle (HOV) lanes and connectors, then added connecting links to create a complete system like the one Poole described. Based on estimates of capital costs and revenues, the researchers concluded that such networks represented a "win-win proposition" for transit providers, motorists, and transit users.

Ed Regan, senior vice president at Wilbur Smith Associates, focused on new financing opportunities for BRT/managed-lane systems. Regan singled out value pricing as the "key ingredient" for integrating the transit and managed-lane components, because it manages demand, generates revenue, and provides a "built-in" incentive for drivers to switch to transit.

David Schumacher of the San Diego Association of Governments offered a real-world perspective on operating BRT in managed lanes. As part of its "Transit First Strategy," which

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Inside

Register for Freight & Logistics Symposium

There's still time to register for the Eighth Annual CTS Freight and Logistics Symposium, to be held December 3 at the Sheraton Four Points Hotel in Minneapolis. Topics will include congestion, security, infrastructure condition, truck availability, cost, and hours of service regulations.

To register, contact **Heather Dorr** at 612-625-5267, hdorr@cce.umn.edu, or check the CTS Web site at www.cts.umn.edu/events. **CTS**

Researchers attract funding from national sources

CTS works with University faculty and researchers to attract funding for transportation research. One method is the CTS Request for Proposals (RFP) process, which annually solicits transportation-related research proposals. CTS then works with multiple funding sources to facilitate the review, selection, and funding of the proposals.

In addition to this process, individual researchers apply for grants from funding sources outside of Minnesota. Thanks to their entrepreneurial efforts, researchers have recently been awarded more than $8.7 million—$1.8 million this fiscal year alone—for an impressive set of projects (see page 2). Most of these projects are building on initial efforts that were seeded by CTS funds or by Mn/DOT and other funding coordinated by CTS.

"This successful leveraging of funding is a tribute to the creative initiative of our talented faculty and research staff partners," says **Robert Johns**, CTS director.

New funding sources include the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the Federal Highway Administration (FHWA), other state DOTs, foundations, and private companies.

For more about the CTS research program, please visit www.cts.umn.edu/research.

Funding continued on **page 2**

ITS Institute publishes annual report

The Intelligent Transportation Systems (ITS) Institute, housed within CTS, has published its 2004 annual report. Copies were mailed in October; if you haven't received one or would like an extra, please contact CTS. You may also download a PDF of the document at www.its.umn.edu. **CTS**

TRB committee to explore transportation information management

Transportation information services professionals articulated a plan for a national network of information services 30 years ago, but only selected elements of the plan have been realized. Most notably absent are a central coordinating body with a national perspective to manage the identification, collection, distribution, and retention of transportation information, and reliable funding for these activities.

To respond to these unmet needs, the American Association of State Highway and Transportation Officials (AASHTO) has asked the Transportation Research Board (TRB) to conduct a study that will take a strategic look at the issues of administrative structure and funding for transportation information services. The committee held its first meeting October 11–12 in Washington, D.C. **Robert Johns**, CTS director, is a committee member, along with other university and state DOT representatives. **Frank Francois**, former executive director of AASHTO, chairs the committee, which is staffed by **Stephen Godwin** and **Nan Humphrey** of TRB.

The study will provide strategic advice to the federal government and the states regarding a sustainable administrative structure and funding mechanism for meeting the information services needs of the transportation sector. The committee will define the core services that need to be provided, identify how they should be provided, and suggest options for funding.

At the October meeting, **Jerry Baldwin** of Mn/DOT presented the results of a recent survey of transportation library services and access for state DOTs. Johns discussed a survey of university transportation centers and was a panelist in a roundtable that presented the user perspective in defining core transportation information services and gaps.

The committee also heard a report from **Nelda Bravo** about activities of the National Transportation Library (NTL), with a special focus on the 11-state Midwest Transportation Knowledge Network (MTKN) that NTL has supported. MTKN, currently chaired by CTS librarian **Arlene Mathison**, is represented on the TRB committee by **Nina McLawhorn** of the Wisconsin DOT and **Roberto Sarmiento** of Northwestern University. Discussion centered on how experiences of MTKN can be used in the development of a national network.

After additional meetings, the committee is expected to finalize its findings and recommendations and complete a final report next summer. **CTS**

Funding from **page 1**

Additional funds attracted by U of M researchers

PRINCIPAL INVESTIGATOR	TITLE/TOPIC	AMOUNT	FUNDING SOURCE
Max Donath, Mechanical Engineering/ITS Institute	Intersection Decision Support	$2,075,436	Federal Highway Administration
	Toward a Multi-State Consensus on Rural Intersection Decision Support	$430,502	Pooled fund
Ann Forsyth, Metropolitan Design Center	Measurement and Analysis of Walkability in the Twin Cities	$600,000	Robert Wood Johnson Foundation
Mats Heimdahl, Computer Science and Engineering	Methods and Tools for Flight Critical Systems	$700,000	NASA
Kevin Krizek, Humphrey Institute of Public Affairs	Guidelines for Cost-Benefit Analysis of Investment in Bicycle Facilities	$300,000	National Cooperative Highway Research Program
David Levinson, Department of Civil Engineering	CAREER: The Evolution of Transportation Networks: Empirical Research and Agent-Based Models	$400,000	National Science Foundation
	Simulating the Integration of the Growth of Networks and Land Use	$38,669	Digital Media Center, U of M
Mihai Marasteanu, Civil Engineering	Low-Temperature Cracking of Asphalt Pavement	$665,000	Pooled fund
Nikolaos Papanikolopoulos, Computer Science and Engineering	Monitoring Human Activities at Mass Transit Sites	$1,785,000	Department of Homeland Security
Rajesh Rajamani, Mechanical Engineering	Safe and Stable Narrow Tilt-Controlled Commuter Vehicles	$60,000	NSF
	Fault Diagnostics for Automated Vehicle Applications	$300,000	NSF
	Passive Roadside Reflectors and Communication Systems for Improvement of Radar Reliability	$150,000	Caltrans
Craig Shankwitz, Mechanical Engineering/ ITS Institute	Head-up Display Deployment in Alaska	$136,000	Alaska DOT
Doug Tiffany, Applied Economics	Energy from Grass: Integrating Directed Class Research with Additional Research Topics	$25,000	Initiative for Renewable Energy and the Environment, U of M
Nic Ward, HumanFIRST	Intelligent Driver Support Systems	$1,766,360	Nissan

Mn/ROAD highlighted at international pavement testing conference

Interest in accelerated pavement testing (APT) has grown in recent years. The testing, which applies wheel loads in a compressed time period, provides a shortcut for evaluating potential materials, designs, and features.

Researchers and practitioners from around the world heard the latest APT news and findings at the Second International Conference on Accelerated Pavement Testing, held September 26–29 in Minneapolis. Organized under the auspices of the Transportation Research Board, the conference was sponsored by Mn/DOT, CTS, and a number of organizations from across the nation.

In the opening plenary session, conference co-chair **Ben Worel** of Mn/DOT presented a summary of and future plans for the Minnesota Road Research (Mn/ROAD) test facility. Several of the concurrent sessions featured Mn/ROAD research:

- "Low Temperature Cracking Study at Mn/ROAD," **Xue Li,** Department of Civil Engineering (CE), University of Minnesota
- "Determination of HMA Modulus Values for Use in Mechanistic-Empirical Pavement Design," **Timothy Clyne,** CE
- "Mn/ROAD Automated Laser Profile System ("ALPS")," Ben Worel, Mn/DOT
- "Mn/ROAD Mainline Rutting Forensic Investigation," **Ronald Mulvaney**, Mn/DOT
- "Mn/ROAD Mainline 2003 Maintenance Activities for Hot Mix Asphalt Test Cells," **William Zerfas**, Mn/DOT

The conference also included a field trip to the Mn/ROAD site, one of the most sophisticated, independently operated pavement testing facilities of its type in the world. For information about Mn/ROAD, visit http://mnroad.dot.state.mn.us/research/mnresearch.asp.

The University was represented on the conference technical advisory committee by **Lev Khazanovich, Mihai Marasteanu**, and **Gene Skok** of Civil Engineering, and **Erland Lukanen** of the Pavement Research Institute, a joint program of CE and CTS. **CTS**

The Mn/ROAD test facility

Courtesy Mn/DOT

Intersection safety work brings officials, researchers to Minnesota

IDS demo participants

New technologies to improve intersection safety were at the top of the agenda September 27 and 28 as members of the Cooperative Intersection Collision Avoidance Systems (CICAS) Initiative met in the Twin Cities to discuss ongoing research. The meeting was hosted by the Intelligent Transportation Systems Institute, housed within CTS.

ITS Institute director **Max Donath** was joined at the meeting by **Craig Shankwitz**, head of the Institute's Intelligent Vehicles Lab and lead researcher on Minnesota's intersection project, dubbed Intersection Decision Support (IDS).

CICAS, launched by the U.S. Department of Transportation, is a partnership of federal and state transportation agencies, university research organizations, and automobile manufacturers, with the goal of finding an optimal combination of infrastructure-based and in-vehicle safety systems to address the spectrum of intersection crash problems.

The meeting focused on research being carried out by teams in Minnesota, California, and Virginia as part of a pooled-fund consortium. In each of these states, university researchers are working with the state DOT on a particular type of intersection crash problem.

The Minnesota team's focus is on crashes at unsignalized rural through-stop intersections. Minnesota's IDS system will use data on oncoming traffic to monitor gaps between highway vehicles and communicate when gaps are safe to stopped drivers waiting to cross or merge into traffic.

Meeting attendees visited a rural intersection south of the Twin Cities where a variety of sensors have been installed to gather data on gaps between vehicles and driver behavior as they enter the traffic stream. The system includes radar, lidar and video-based vehicle detectors linked to an on-site computer system. The prototype IDS system will use a subset of the detectors currently installed.

Minnesota researchers presented status updates on different aspects of their intersection research, including human factors analysis, sensor system implementation, and data analysis:

- The intersection team has added wireless communication and lidar-based vehicle classification.
- Human factors researchers began to study the behavior of drivers in a simulated version of the intersection.

Representatives of the other Consortium states presented updates on progress in their research:

- California PATH/UC Berkeley researchers carried out experimental observations on urban and suburban left-turn crashes in the San Francisco Bay area.
- Researchers at Virginia Tech Transportation Institute gathered data on traffic signal/stop sign violations.

In addition to the Infrastructure Consortium, the ITS Institute is also leading a multi-state pooled-fund effort to develop a common framework for rural IDS systems. Eight states are currently members of the pooled-fund group. State DOTs can learn more about the pooled-fund project by visiting www.its.umn.edu/research/applications/ids/pooledfund. **CTS**

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CE seeks practitioner-mentors for capstone design course

The Department of Civil Engineering (CE) at the University of Minnesota is again seeking volunteers to serve as practitioner-mentors in its Capstone Design course. The purpose of this course, required of all seniors, is to provide a realistic experience by integrating basic material learned during the civil engineering undergraduate program to address real-life design problems at the feasibility level.

Each practitioner-mentor presents a problem statement for a design project to be solved. Students then form teams of four to five to work with the individual practitioner-mentors in addressing the design problems at the feasibility level. The students meet with their practitioner-mentor once per week at a place chosen by the mentor. The mentors receive professional development hours for their efforts.

If you are interested in becoming a mentor-practitioner for spring semester, which starts in January, please contact Professor **Heinz G. Stefan**, 612-625-2810 (stefa001@umn.edu), for water resources and environmental-related projects, and **Professor Joe Labuz**, 612-625-9060 (jlabuz@umn.edu), for structures and geotechnical-related projects. Transportation-related projects are especially sought for the spring 2005 semester; if you are interested in participating, please contact **Professor Panos Michalopoulos** at 612-625-1509 (micha001@umn.edu).

Mentors should provide a very general description of the project/problem (one page or less) before November 30. Students will use these descriptions to choose a project/team. **CTS**

CTS seeks nominees for Research Partnership Award

CTS is accepting nominations for the ninth Research Partnership Award. Initiated in 1996, the award is designed to recognize research projects within the CTS program that have resulted in significant impacts on transportation, and to reward those teams of individuals who have drawn on the strengths of their diverse partnerships to achieve those results. Criteria and submission instructions are in the enclosed form.

Last year's recipient was titled "GIS Parcel Map Inventory." The purpose of the project was to create an inventory of GIS systems in Minnesota and to develop a system for keeping the information current. Before this project began, there was only anecdotal evidence of which counties and local governments had this parcel data and even less was known about how accurate these maps were. The project team systematically collected that information statewide and put it in a database that is accessible to all. Project partners were the University's Center for Urban and Regional Affairs, Mn/DOT, and ProWest and Associates.

An evaluation committee will review the nominations and recommend a winning partnership to the CTS director for approval. The award will be presented at the CTS annual awards ceremony in March. Please return your nomination form to **Linda Pelkofer** of CTS by January 31, 2005. **CTS**

BRT **from page 1**

includes several types of BRT service, San Diego has begun to implement BRT in managed lanes on its I-15 freeway corridor north of downtown.

The San Diego system incorporates several features similar to light rail, such as dedicated BRT stations with direct boarding ramps, and extends the area's FasTrack pricing system; Schumacher considers these elements to be crucial to customer acceptance. He stressed that the strategy represented a commitment for the entire metropolitan area, with several similar corridors included in the 2030 Regional Transportation Plan.

Audience members, including **D. Scott Dibble** of the Minnesota state senate, posed a wide variety of provocative questions to the speakers during the panel discussion that followed. **CTS**

Upcoming events

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

Dec. 3	Freight and Logistics Symposium, Four Points Sheraton Metrodome, Minneapolis. Contact **Heather Dorr,** 612-625-5267, hdorr@cce.umn.edu.
Dec. 7	51st Annual Bituminous Conference, Brooklyn Center. Contact **Don Theisen,** 651-430-4304.
Jan. 9–13	84th Annual Meeting of the Transportation Research Board, Washington, D.C. Visit www.trb.org/meeting.
Jan. 18–21	Minnesota County Engineers Association Annual Conference, Brainerd. Contact **Heather Dorr,** 612-625-5267, hdorr@cce.umn.edu.
Jan. 26–28	City Engineers Association of Minnesota Annual Conference, St. Paul. Contact **Heather Dorr,** 612-625-5267, hdorr@cce.umn.edu.
Feb. 10	CTS Winter Luncheon, Radisson Hotel Metrodome, Minneapolis. Contact **Heather Dorr,** 612-625-5267, hdorr@cce.umn.edu.
Feb. 17	Minnesota Pavement Conference, Continuing Education Conference Center, St. Paul. Contact **Teresa Washington,** 612-624-3745, twashing@cce.umn.edu.
Mar. 2	Transportation Career Expo, Coffman Union, Minneapolis. Contact **Mindy Jones,** 612-625-1813, jones154@cts.umn.edu.
Mar. 9	ITS Minnesota Annual Meeting and Information Exchange. Contact **Heather Dorr,** 612-625-5267, hdorr@cce.umn.edu.
Apr. 20–21	Spring Maintenance Training Expo, St. Cloud. Contact **Teresa Washington,** 612-624-3745, twashing@cce.umn.edu.
Apr. 26–27	16th Annual CTS Transportation Research Conference, RiverCentre, St. Paul. Contact **Heather Dorr,** 612-625-5267, hdorr@umn.edu. **CTS**

UNIVERSITY OF MINNESOTA

CTS CENTER FOR TRANSPORTATION STUDIES

CAREERS IN TRANSPORTATION

Transportation Jobs and Internships

November 2004

APPLICANTS: If you are interested in these positions, please contact the person(s) listed.

EMPLOYERS: If you have job opportunities related to the field of transportation, CTS will help you publicize them. You can obtain a submission form from the CTS web site at *www.cts.umn.edu/education/employfrm.pdf* or by calling 612-625-6687. Please send your text by mail, fax, or e-mail; we must receive your text by the 25th of each month in order to list it in the next *CTS Report*. Send submissions to:

Careers in Transportation
Center for Transportation Studies
University of Minnesota
200 Transportation and Safety Building
511 Washington Avenue S.E.
Minneapolis, MN 55455
Phone: 612-625-6687
Fax: 612-625-6381
E-mail: snopl001@cts.umn.edu

Students interested in civil engineering positions can check the Civil Engineering Department's site at: *www.ce.umn.edu/empopp/coop*.

Accuracy of ads is the responsibility of the employer. CTS reserves the right to edit ads for length and format. Unless otherwise notified, CTS will run announcements until the application deadlines expire. Ads without a deadline will be run for three consecutive issues, unless otherwise arranged.

ENGINEERING & TECHNICAL

Ulteig Engineers

Ulteig Engineers is seeking several experienced professionals for positions across the region. All positions include competitive salary and benefit package. Ulteig is proud to be an EEO/AA employer. For more detailed information regarding these positions and other career opportunities with Ulteig, please visit our website at *www.ulteig.com*. Resumes may be submitted to Ulteig Engineers, Attn: Raleigh Kern, 3350 38th Avenue S, Fargo, ND 58104 or Fax: 701-280-8701 or Email: careers@ulteig.com.

Civil Engineer – Land Development Department Manager
(Minneapolis, MN office)
The Land Development position is a senior-level position that requires a strong interest and extensive experience in the design of commercial and residential developments. This position will have complete responsibility for design, certification, management and client relations for major engineering projects. A Bachelor's degree in Civil Engineering is required with a minimum of 10 years of progressive work experience. Professional registration required.

Civil Engineer – Municipal Project Manager (Minneapolis, MN office)
The Municipal Engineer is a senior-level position that requires a strong interest and extensive experience in the design of urban and rural roadway development for municipal and other local agencies. This position will have complete responsibility for design, certification, management and client relations for major engineering projects. A Bachelor's degree in Civil Engineering is required with a minimum of 15 years of progressive work experience. Professional registration required.

Civil Engineer – Environmental
(Fargo, ND office)
The successful candidate will fill a mid-level position with complete responsibility for planning and managing all aspects of municipal water and wastewater design projects. This position will be responsible for the supervision of the design and ongoing progress of a project with clients and governmental agencies. A Bachelor's degree in civil engineering is required with an emphasis in environmental studies preferred, along with 5 or more years of relevant experience. Professional registration strongly preferred.

LHB, Inc.

Civil Engineer
LHB, Inc. is a 140-person full-service engineering and architectural firm located in Duluth and Minneapolis, Minnesota. We are seeking civil engineers for our Duluth office. These positions will work on a large variety of civil, transportation, and municipal projects. Ideal qualifications include a 4-year degree with a minimum of 5 years experience designing and managing dederal, state, and county state aid projects or municipal focused projects (licensure is required); supervisory experience is a plus. We are looking for entrepreneurial individuals with an interest in assuming a leadership osition within the firm. These positions offer a competitive wage and a comprehensive benefits package.

If you are interested in working for a growing firm, send a letter of interest and resume to Human Resource Manager LHB, Inc., 21 West Superior Street, Suite 500, Duluth, MN 55802 and/or e-mail at Markr.Anderson@LHBCorp.com. LHB is an equal opportunity employer. *www.lhbcorp.com*.

Hennepin County Transportation Department

Public Works Operating Technician
Put your road maintenance/snow plowing and civil technology skills to work in the Transportation Department of Minnesota's largest county public works program at Medina, MN. Hennepin County has a current opening for a Public Works Operating Technician. Successful candidates will meet one of the following requirements:

- Completion of an approved training program in land surveying, highway/civil engineering technology or heavy equipment operation; OR
- Twenty semester (30 quarter) college credits in mathematics, geography, computer science, or engineering related technical courses PLUS one year of experience in one of the following: technical non-professional highway, land survey, or related engineering work; analysis of numerical data using computer software applications or development and maintenance of computerized information systems/applications; road construction, road maintenance, operation of a commercial motor vehicle over 26,000 pounds gross vehicle weight, operation and maintenance of farm equipment, or building and heavy construction industry; OR
- Two years of work experience in one or more of the areas listed directly above.

Position also requires a Class B or higher Commercial Drivers License (CDL) with air brakes endorsement and a good driving record with no more than two moving violations during the past 3 years. Salary range is $15.35 TO $20.25 per hour plus competitive benefits package.

See position details and apply online at the Hennepin County web site: *www.hennepin.us*. Apply by November 10, 2004. Call 612-348-2704 if you need further information.

PLANNING

SRF Consulting Group, Inc.

Senior Environmental Planner
Project manager wanted to assist in a wide range of environmental analysis and planning projects. Requirements include a graduate degree or bachelor's degree with equivalent experience in planning, engineering, or a related field; five plus years experience in environmental or transportation planning; and a minimum one year project management experience. Must have excellent written/verbal communication skills along with the ability to understand and solve complex environmental and transportation problems. Public presentation experience required.

SRF Consulting Group, Inc. is a locally owned and well-established transportation engineering, planning, and design firm. In addition to varied and exciting work in a positive atmosphere, we offer competitive salary and benefits, 401k/profit sharing, and vacation and sick leave. Send your resume to SRF Consulting Group, Inc., One Carlson Parkway N., Ste. 150, Plymouth, MN 55447; fax to 763-475-2429; or e-mail to jobs@srfconsulting.com. EOE.

Ulteig Engineers

Transportation Planner – Senior Project Manager (Fargo, ND office)
The successful candidate must have a strong interest and extensive experience in the planning of urban and rural transportation projects for municipal and other local or regional agencies. Some of the duties include completing planning studies and reports. These may include but are not limited to environmental documents, corridor studies, school, pedestrian and bicycle crossing studies, transportation system studies, right of way and access preservation studies, preliminary design studies, site impact studies, fringe area plans, etc. A Bachelor's degree in Civil Engineering is preferable with 5 years of relevant experience.

All Ulteig positions include competitive salary and benefit package. Ulteig is proud to be an EEO/AA employer. For more detailed information regarding these positions and other career opportunities with Ulteig, please visit our website at *www.ulteig.com*. Resumes may be submitted to Ulteig Engineers, Attn: Raleigh Kern, 3350 38th Avenue S, Fargo, ND 58104 or Fax: 701-280-8701 or Email: careers@ulteig.com.

Dakota County

Transit Planning and Project Manager
Dakota County, Minnesota is seeking an individual who has experience in transit planning to lead its efforts to encourage transit opportunities and use in the County and to manage major County transit projects including the development of a County transit plan and the Cedar Avenue Transitway project. The Cedar Avenue project will result in a bus rapid transitway that combines flexible, reliable service with new technologies along Cedar Avenue from the Mall of America through Apple Valley. The individual in this position will serve as primary staff to the County's Regional Railroad Authority and as the liaison with state and local agencies responsible for transit planning and operations. The salary range for this position is $61,000 - $94,400

Dakota County prides itself on its innovative, efficient and effective government, and you will be part of a highly professional team of people working toward this goal. If you enjoy a challenge, are looking for a position where you can make a difference, and have extensive knowledge of transit planning at the regional, state and federal levels, you will want to explore this exciting new opportunity. To obtain more information visit *www.co.dakota.mn.us* or call the County's Employee Relations Department at 651-438-HIRE (4473).

Dakota County is an equal opportunity employer committed to a culturally diverse workforce.

MISCELLANEOUS

US/DOT's Volpe Center

Transportation-related positions
US/DOT's Volpe Center has a variety of opportunities for individuals at both junior and mid-levels in a wide range of transportation project applications.

The following are some of the available positions: transportation economists and analysts, transportation and community planners, policy analysts, operations research analysts, travel survey researchers, traffic engineers, mechanical engineers, and organizational development and design specialists. The John A. Volpe Transportation Internship is also available.

The positions are located in the Office of System and Economic Assessment at the US/DOT's Volpe Center in Cambridge, MA.

For more information on career opportunities at the Volpe Center visit www.volpe.dot.gov/career/index.html or contact Susan Jarrell, DTS-84, Office of Human Resources, RSPA/Volpe Center, Kendall Square, Cambridge, MA 02142, phone 617-494-2214; e-mail Jarrell@volpe.dot.gov.

INTERNSHIPS

National Science Foundation

East Asia and Pacific Summer Institutes

American students are happy to find summer jobs to help pay for their schooling and possibly even prepare them for their professional lives, but what about a chance to become an internationally experienced researcher? The National Science Foundation's (NSF) 2005 East Asia and Pacific Summer Institutes for U.S. Graduate Students (EAPSI) provide graduate students in science and engineering with firsthand research experiences in Australia, China, Japan, Korea, or Taiwan, as well as an introduction to the culture and language of the region. The institutes last approximately eight weeks from June to August.

Proposals are now being accepted for the 2005 summer institutes. To apply, you must be a U.S. graduate student in one of the following areas: biological sciences; education and human resources; computer and information science and engineering; engineering; geosciences; mathematical and physical sciences; polar research; or social, behavioral, and economic sciences. See the program solicitation at *http://www.nsf.gov/pubsys/ods/getpub.cfm?nsf03608* for proposal guidelines and further requirements. The deadline for submitting proposals is December 10, 2004.

Each student selected will receive from NSF an international round-trip air ticket and a stipend of $3,000. Sponsoring organizations in the East Asia and Pacific communities will support students' local living expenses. The 150 students in last year's program conducted research in fields such as cancer research, humanoid robotics, computational neuroscience, and nanofabrication. For a complete list of 2004 participants and research areas, see *http://www.nsf.gov/pubsys/ods/getpub.cfm?eapsi04*.

For more information about this program, visit *http://www.nsftokyo.org/spmenu.htm*.

SRF Consulting Group, Inc.

Traffic Engineering Intern

SRF Consulting Group, Inc. seeks a Traffic Engineering Intern to assist in conducting traffic studies. Duties include data collection and analysis, report assembly, and various office tasks. Position requires 10–20 hours per week during the school year, with 40-hour potential in the summer. Necessary qualifications include excellent technical and analytical skills and proficient use of word processing and spreadsheet programs. Must be currently pursuing a civil engineering degree and have a strong interest in transportation.

To be considered for this position, send your resume to SRF Consulting Group, Inc., One Carlson Parkway N, Ste. 150, Plymouth, MN 55447; fax to 763-475-2429; or e-mail to jobs@srfconsulting.com. EOE.