CFIRE
NATIONAL CENTER FOR FREIGHT & INFRASTRUCTURE RESEARCH & EDUCATION

Volume 1 Issue 2 Fall 2007

From the Director

Freight Tsunami Points to Needed Research

Dr. Teresa M. Adams, Director

We are at a critical juncture in our nation's history. Recent testimony on behalf of the American Road and Transportation Builders Association (ARTBA) highlighted the vast needs of the nation's deteriorating physical infrastructure. This has been confirmed by dozens of studies and reflected in the poor ratings provided by the American Society of Civil Engineering's report card on the nation's infrastructure. From airports to transportation schools to water, we are slipping behind in terms of public investment in these key foundation sectors.

The expansive growth of our nation's population coupled with changes in the nature of our economic system, including globalization and just-in-time delivery systems, fostered transportation demand in excess of existing highway and transit capacity.

Over the past 25 years, the population of the United States has grown 28 percent, the number of drivers has grown 36 percent, the number of cars on the road has grown 50 percent and the total number of miles driven on our nation's highways has almost doubled. From a personal perspective, this has occurred in the relatively short time sime I earned my bachelor's degree in civil engineering. Highway capacity, as measured by the number of lane-miles, has grown only 6.6 percent. This is not sustainable—for the environment, for the economy or for the society. Are we reaching the tipping point?

We're entering very unfamiliar territory in the global marketplace. ARTBA highlighted that by 2020, current trends suggest the United States will add just 1,130 miles to our Interstate

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INSIDE

AAR study says over $135 billion investment needed in freight infrastructure by 2035. See story on page 8.

Please help the National Center for Freight and Infrastructure Research and Education (CFIRE) define its research road map and research priorities for 2008 and 2009 by participating in its first annual research workshop:

Setting the Freight Transportation Research Roadmap:

Sustainable Freight Transportation Infrastructure and Systems

9:30 a.m.- 3:30 p.m. November 16, 2007

Registration and breakfast begin at 8:30 a.m.

University of Wisconsin Fluno Center, Madison, Wisconsin

CFIRE supports research to improve freight movement, increase freight capacity, and improve public sector decision-making related to freight.

All members of the freight community are welcome to attend. Registration is required and space is limited. Please register by sending your contact information to Jason Bittner, CFIRE Deputy Director, via fax at (608)263-2512 or email bittner@engr.wisc.edu. There is no registration fee. For more information, visit the center's website at cfire.wistrans.org.

Got a Good Research Idea?

The National Center for Freight and Infrastructure Research and Education (CFIRE) at the University of Wisconsin-Madison is soliciting members of the freight transportation community to submit research ideas. The center's theme is Sustainable Freight Transportation Infrastructure and Systems. Potentially $1.95 million is available for research awards.

CFIRE supports research to improve freight movement, increase freight capacity, and improve public sector decision-making related to freight. Research ideas will be accepted in any of the following broad signature technical areas of research (STARs) in freight identified in the CFIRE Strategic Plan. Submitters are encouraged to contact area chairs to discuss topic ideas.

- **Design, Materials, and Construction Processes for Highway, Harbor, and Rail Infrastructure** [Chair, Dr. Michael Oliva, oliva@engr.wisc.edu, (608) 262-7241]
- **Multimodal Systems Planning and Optimization** [Chair, Dr. Jessica Guo, jyguo@wisc.edu, (608)890-1064]
- **Traffic Operations and Safety** [Chair, Dr. David Noyce, noyce@engr.wisc.edu, (608)265-1882]
- **Energy and Environment** [Chair, Dr. Tracey Holloway, taholloway@wisc.edu, (608)262-5256]

CFIRE is particularly interested in research ideas that include economic development and policy aspects of freight transport. Questions in each STAR can be directed to the respective STAR chairs. Please visit cfire.wistrans.org for more details on each STAR.

Research ideas must be received by 5 p.m. CST, Thursday, November 8, 2007, to be considered in preparing the center's research road map. Please do not send proposals at this time. Research projects generated through this call will start no earlier than July 2008.

Research Ideas should be brief and include in no more than one single-spaced page (8½" x 11"):

a. A brief statement of the problem to be solved and project objectives;
b. A statement of how the project advances the CFIRE theme;
c. A description of potential project stakeholders. Letters of intent are not required at this time.

Please send research ideas in electronic copy to Greg Waidley, Research and Education Programs Coordinator, gwaidley@engr.wisc.edu. Research ideas may also be submitted online at cfire.wistrans.org.

Questions regarding this Call for Research Ideas may be directed to Greg at the email address above or by calling (608)262-2013.

(From the Director, continued from page 1)

Highway System. In that same period, China will build 42,000 miles of interstate-quality highways and India will build 25,000 miles. Europe plans to add more than 10,000 new miles of road and rail capacity. By 2050, according to an analysis by Michael Gallis & Associates, China will have passed the U.S. and North America as the single largest national/trading bloc economy. The United States will move to a distant second place.

Trucking's share of total freight tonnage is estimated to grow from 76 percent to 80 percent—even as rail, maritime, and air freight increase too. Expected economic growth in China and India will increase global trade, propelling U.S. exports and also resulting in increased imports. To use the already coined phrase, it all adds up to a "tsunami of freight."

In light of this shift in the global arena, domestic freight should also continue to grow at a torrid pace. FHWA reported that more than 200 freight bottlenecks are costing the trucking industry $8 billion in economic losses annually and 243 million hours of delay and lost productivity each year. It is a scary thought and we need to do something. For example, my colleague Jessica Guo is leading a study for the 10 states in the Mississippi Valley Freight Coalition (MVFC) to develop strategies for relieving bottlenecks on the region's most important freight junctures. We are reaching a tipping point nationally as well. The amount of freight tonnage shipped on roadways by truck is projected to double by 2035 nationally, and increase by over 75 percent in the MVFC region. The FHWA has approved a proposal for a Corridor of the Future involving I-70 and the use of truck lanes; more details on this proposal are included in this newsletter.

America needs a long-term, strategic national plan to facilitate the safe and efficient movement of freight and to reduce the impact of truck traffic on other highway users. We will do our part to get there: our next effort is to help establish the freight transportation research roadmap. We will be pulling together dozens of industry professionals, our executive, advisory, and STAR committee members, and faculty from across our consortium on November 16th to begin planning our strategic research program. Wisconsin is positioned well to respond to these transportation challenges. We hope you can join us.

The National Center for Freight & Infrastructure Research & Education
NEWSLETTER

CFIRE Plan Focuses on Freight's Future – STAR Chairs Named

In August 2007, the USDOT approved the stategic plan for the National Center for Freight and Infrastructure Research and Education (CFIRE). The plan focuses on finding solutions to existing and growing problems affecting the safe and efficient movement of goods through what has become a complex, public-private web of freight movers using all types of transportation networks and services.

CFIRE will focus on issues of sustainability and freight transport as it advances technology, knowledge, and expertise in the planning, design, construction, and operation of sustainable freight transport infrastructure and its associated systems, according to center director Dr. Teresa M. Adams, who points out that freight movements will grow by an estimated 50-75 percent over the next 20 years.

"Our current infrastructure systems for freight are not able to absorb that growth without significant impacts on system efficiency, economic health and competitiveness in world markets," Adams says. "Now, more than ever, freight transportation is a critical issue."

How does CFIRE's plan address present and future freight concerns? Over the next five years, we are committed to funding and sponsoring research projects and educational programs to address four **Signature Technical Areas of Research** (STARs) for freight transportation:

- Design, materials, and construction processes for highway, harbor, and rail infrastructure and systems
- Planning and multimodal system optimization
- Traffic operations and safety
- Energy and the environment

The research consortium has five academic partners: the University of Wisconsin-Madison, the University of Wisconsin-Milwaukee, the University of Wisconsin-Superior, the University of Illinois-Chicago, and the University of Toledo.

The first STAR will focus on sustaining existing freight movements and improving facilities to meet future demands. The research here will improve delivery systems and reduce costly disruptions. This STAR is chaired by University of Wisconsin faculty member Michael Oliva of Civil and Environmental Engineering.

Highway and rail bridges, for example, need to be reexamined to efficiently carry freight loads. This STAR will also consider options for using more energy-efficient or recyclable materials that are less scarce and longer-lasting than traditional concrete or asphalt paving. CFIRE also recommends better lock and dam design to improve waterway shipping ventures. Agencies involved in this effort include the Recycled Materials Resource Center at the University of Wisconsin, the Innovative Bridge Research and Deployment Program, the Wisconsin Highway Research Program, and the UW-Madison Construction Materials and Support Center.

Now, more than ever, freight transportation is a critical issue.
–Dr. Teresa M. Adams

The second STAR addresses better planning so that freight and passenger transportation systems can function efficiently together. Dr. Jessica Guo is the chair of this area. CFIRE research would analyze impacts of projects and policies and develop solutions to common problems in the technological and legislative arenas. CFIRE will gather input from private freight shippers to incorporate their perspectives in future plans. Preparedness for hazardous events, the economic impact of security measures, and resolving freight transportation bottlenecks in the Mississippi Valley and other regions will also be explored.

The third STAR responds to increased traffic volume and congestion related to freight operations. Dr. David Noyce will lead this STAR focused on Traffic Operations and Safety. CFIRE will build upon the successful work of the Mississippi Valley Freight Coalition (MVFC) and its Mississippi Valley Traffic Operations Coalition to explore alternative management strategies for travelers. The plan calls for development of safety management systems for leading freight carriers. Technological research will involve the use of simulations to develop faster clearance of traffic incidents involving commercial vehicles and analyzing

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MVFC Research Projects Approved

When transportation planners and researchers gathered for the Research Issues in Freight Transportation conference on October 22-23 in Washington, D.C., they received four packages of good news.

The executive committee of the Mississippi Valley Freight Coalition (MVFC) has approved four research projects that fit the coalition's original mission of solving transportation and freight problems using regional cooperation among member states.

The National Center for Freight Infrastructure Research and Education (CFIRE) has worked closely with MVFC to develop the following projects, expected to be completed within one year (funding in parentheses):

1. Mississippi Valley Freight Traveler Information Clearinghouse ($150,000)

This involves developing real-time technology so commercial freight movers can be notified in advance of delays or bottlenecks that may require changing routes. The approved study will use input from trucking, transportation and traffic operations perspectives.

2. Expanded Truck Parking Facilities ($70,000)

This study will involve identifying existing truck parking areas and assessing current and future needs as a guide for DOT design and construction plans that call for safer, less congested road systems.

3. Addressing Regional Freight Bottlenecks ($95,000)

This is a priority problem that affects all types of freight transportation: highways, rails and ports. Researchers will develop and submit a strategic plan for each mode, identifying and ranking freight bottlenecks throughout the Mississippi Valley region. The goal is to reduce congestion and improve safety.

4. MVFC 2008 Workshop on National Transportation Initiatives ($47,500)

The National Commission on Surface Transportation Policy and Revenue (NCSTP) has received input from national, regional and state transportation agencies and associations on legislative priorities. A workshop will be held in April 2008 to present findings and position papers so MVFC can redefine its position on how to proceed with freight-related activities.

Ohio Conference on Freight Held

On September 17-18, CFIRE director Dr. Teresa M. Adams met with colleagues at the Ohio Conference on Freight to consider the evolving nature of the freight transportation industry and the potential for the Great Lakes region to become a center for freight logistics innovation.

The two-day workshop held at Toledo, Ohio, featured sessions on freight planning and public-private partnerships, freight distribution and security, and site selection in the freight planning process.

The University of Toledo is part of Region 5 of the Midwest Regional University Transportation Center, based at University of Wisconsin-Madison. Research at the Toledo campus has focused on developing data storage systems for regional, intermodal freight transportation.

Freight Facts

The nation's freight system moved 14 billion tons of domestic freight valued at $11 trillion over 4.5 trillion ton-miles in 2000.

- Trucks moved 78 percent of the nation's domestic freight tonnage, generated 60 percent of its ton-mileage, and accounted for 88 percent of its dollar value, the highest percentage in each category. Trucks moved 11 billion tons valued at $9.5 trillion over 2.6 trillion ton-miles in 2000.

- Rail moved 16 percent of total domestic freight tonnage, second to truck. Rail moves tended to be longer in distance than truck moves and therefore accounted for a proportionately higher share (28 percent) of ton-miles. Rail moves also tended to involve lower-value commodities than truck, so rail represented a proportionately lower share (6 percent) of total domestic freight value. Rail moved two billion tons valued at $600 billion over 1.2 trillion ton-miles in 2000.

- Water (e.g., river barges, and coastal and lake steamers) moved six percent of tonnage, 15 percent of ton-miles, and one percent of value. These figures cover only domestic waterborne tonnage. Like rail, water moves tended to be longer in distance and lower in value than truck moves. Domestic shipping moved one billion tons valued at $138 billion over 540 billion ton-miles in 1998.

- Air represented a negligible share of tonnage and ton-miles, but a disproportionately high share of value, 5 percent. Air freight tends to be very light and valuable.

—Cambridge Systematics Freight-Rail Bottom Line report

Indiana Logistics Summit Attracts Huge Crowd

Keynote speaker Norm Mineta, former U.S. Secretary of Transportation

Keynote speaker Michael Gallis, national strategic planning expert

The 5th annual Indiana Logistics Summit in September brought together top officials from industry, government and university research sectors to discuss ways to make Indiana's transportation, distribution, and logistics businesses more competitive and leaders in the area of logistics. Over 300 people attended the event in Indianapolis.

CFIRE consultant and Mississippi Valley Freight Coalition (MVFC) researcher Ernie Wittwer, Wittwer Consulting, attended the two-day summit on behalf of the MVFC. The summit detailed several things that might be of use to both the MVFC and to Wisconsin.

First, several large shippers from the manufacturing community took an active role. Honda, Rolls Royce, Cummins and ArcelorMittal Steel were on a single panel. They spoke about their logistics needs and processes. This private sector participation is critical for advancing the initiatives of the MVFC. Several large carriers were also present. UBS, CSX, American Commercial Lines, and JB Hunt participated. Each of these are major players in the movement of freight in our region. Finally, Indiana higher education was well represented. Purdue University, University of Indiana, and the community college system each had a role.

These three communities came together largely because of a group that is fairly new to the state: Conexus Indiana. This is a group of government, business and educational people dedicated to making Indiana competitive in the transportation, warehousing and logistics businesses. They have defined three objectives: building a world-class workforce (average wages in Indiana are substantially lower than the national average), building awareness of manufacturing and logistics, and improving infrastructure. They have subcommittees to deal with each topic. These committees are chaired by members from business and academia. They also serve as the freight advisory council for INDOT and have full-time staff. More information is available at ConexusIndiana.com.

This umbrella group and its several parts suggests a coordination and commitment to dealing with issues related to freight that does not exist in other parts of the region. MVFC staff will continue working to coordinate its efforts with Conexus activities.

The summit is an annual event which began in 2003, with the goal of addressing current and future issues in the TDL industry, and is hosted by the Ports of Indiana and Purdue University.

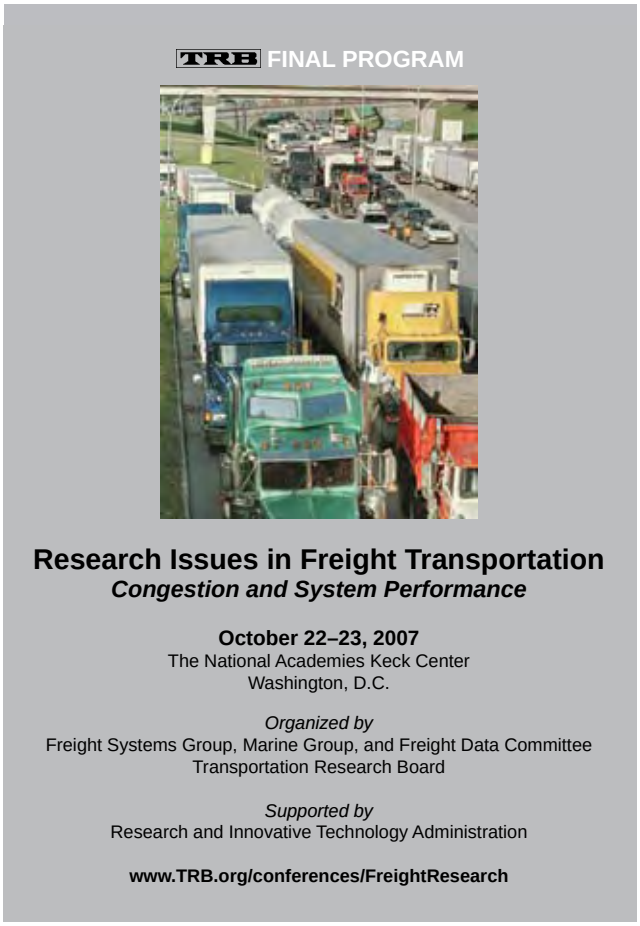
INDIANA LOGISTICS

Adams and Wang Highlight Research Issues at D.C. Freight Conference

CFIRE director Dr. Teresa M. Adams and researcher Bruce Wang were prominently featured during the October 22-23, Research Issues in Freight Conference in Washington, D.C. The conference, co-sponsored by CFIRE, is the second University Transportation Center-oriented conference organized by TRB and supported by the U.S. DOT Research & Innovative Technology Administration.

The conference objectives were to:

- Improve collaboration among researchers
- Encourage interaction and synergies among universities, government, private interests and TRB committees
- Define freight-related research opportunities of interest to academia, government and the private sector
- Identify future freight-related critical issues for US DOT personnel, and other government staff, including state and MPO staff



The movement of freight is an important national issue. Not only does freight movement contribute directly to the nation's and states' economies, but eventually all the goods and commodities delivered find their way into the businesses and households of America, and thus affects the quality of life afforded Americans. However, the freight system is facing serious challenges.

Congestion in ports, on access roads to intermodal facilities and on the rail system has significant impacts on the productivity and competitiveness of the U.S. economy. Environmental issues where freight movement concentrates, such as in ports, are becoming of greater concern to surrounding communities. And finding the funding needed to improve the nation's freight infrastructure is increasingly relying on innovative financing mechanisms that combine both public and private investment sources.

Dr. Adams led breakout sessions targeting research developments measuring the impact of congestion on the economy and presented in a session targeting institutional models for university-industry-government collaboration for improving the movement of freight. Wang presented work related to the Mississippi Valley Freight Traveler Information Clearinghouse efforts. A poster was also presented on the Mississippi Valley Freight Coalition.

The nation's research universities have a great deal to offer in finding new solutions to the problems facing the freight system. The purpose of this conference was to provide a forum for researchers, government officials, and private sector representatives to exchange ideas on how the freight transportation system can be improved.

The conference will serve as a major point of departure for the transportation research community, with participants from all levels of government, the private sector and the academic community, in identifying needed freight and logistics research topics. Dr. Adams served on the planning committee. More details are available at trb.org/conferences/2007/FreightResearch.

The nation's research universities have a great deal to offer in finding new solutions to the problems facing the freight system.

—TRB Conference announcement

IANA Intermodal Expo November 11-13

"Come celebrate the 25th Intermodal Expo in the city where it all began."

So begins the announcement from the Intermodal Association of North America (IANA) on its annual meeting in Atlanta, Georgia, November 9-13.

IANA deals with all types of freight transportation issues for highways, rail, and waterways. Educational sessions will include collaboration and partnerships, private financing of infrastructure, the effect of capacity and higher energy costs on resources, and liability issues in moving hazardous materials.

The USDOT Intermodal Freight Technology Working Group (IFTWG) will also hold its annual meeting beginning November 11 in conjunction with the IANA event. The IFTWG works to develop public-private partnerships for studying technological solutions to improve the efficiency, safety, and security of intermodal freight movement. Among IFTWG activities are Electronic Freight Management, the Freight Information Highway, and the Cross-Town Improvement Project.

CFIRE director Dr. Teresa M. Adams and researcher Bruce Wang have worked with IFTWG on industry-government partnerships to promote freight efficiency through technology.

For more information, visit intermodal.org.

National Rural ITS Conference Highlights MVFC

Finding effective solutions to commercial freight congestion and safety issues is not a problem unique to urban areas. Rural transportation routes constantly deal with obstacles to smooth and efficient travel as traffic density continues to grow.

CFIRE deputy director Jason Bittner presented at the National Rural Intelligent Transportation Systems Conference, held October 7-10 at Traverse City, Michigan. Conference sessions focused on technological solutions to improve vehicle-to-vehicle and vehicle-to-infrastructure communication, incident response and winter travel, work zone traffic management and real-time warning systems, power system application, and data base application to overall rural transit safety and efficiency.

The conference was held in conjunction with the Intelligent Transportation Society of America's Commercial Vehicle and Freight Mobility forum that emphasized the commercial vehicle sector of freight transportation. Participants included representatives from motor carriers, railroads, deep water ports, intermodal freight technology services, and other shipping and commercial vehicle operations.

For more information, see the conference website nritsconference.org or the ITS America site www.itsa.org.

(CFIRE Plan, continued from page 3)

driver behaviors around commercial vehicles. Other potential research includes the effect of roadway signs and pavement markings to determine possible causes of collisions. CFIRE, along with the UW-Madison Traffic Operations and Safety Laboratory, will also investigate vehicle-to-roadside and vehicle-to-vehicle telematic communication systems to provide real-time information on route conditions, motorist service areas, and availability of freight for returning trips—all of which would improve efficiency. An early effort of this work will be included in the MVFC project exploring a clearinghouse of freight traveler information.

A fourth STAR is chaired by Dr. Tracey Holloway and will focus on on how freight transportation affects energy use, air and water quality, land use, and wildlife. The energy consumption and environmental and social impacts of freight transportation will increase substantially as freight movements increase. Research will address the volumes and types of vehicle emissions such as ozone and various chemicals. The goal is to identify the health and climate impacts of potentially hazardous emissions from freight hauling vehicles. Other concerns include finding alternative fuels in response to rising petroleum prices.

These four STARs are in charge of awarding research projects to carry out CFIRE's mission. Each STAR membership includes a representative from a consortium institution, the Wisconsin DOT, private industry, and USDOT. Memberships are currently being finalized.

Educational objectives in our plan include matching grants for research, a freight planning internship program, visiting professor faculty exchange programs, detailed websites, and various conferences and workshops devoted to freight management and operations.

More details on CFIRE are available on our website: cfire.wistrans.org.

Railroads Outline Infrastructure Needs: Billions Necessary for Freight Rail Infrastructure

U.S. freight railroads will require nearly $135 billion for infrastructure investment over the next 28 years, more than a quarter of which will have to be funded by the government, according to an industry study released for the American Association of Railroads (AAR). The study does not factor in possible growth in passenger service.

CFIRE researchers are working with representatives from the rail industry to help explore new materials and methods for meeting the infrastructure needs. Federal legislation has been proposed to provide tax incentives for infrastructure increasing freight rail capacity.

The study is based on federal forecasts for rail demand. The U.S. Department of Transportation estimates that, measured by weight, demand for rail freight transportation will increase 88 percent by 2035.

The study concluded that a total of $148 billion in investment in all freight rail infrastructure will be needed by 2035. Of that, $13 billion is projected on short line and regional freight railroads, while $135 billion is on the seven biggest freight railroads, known as Class I railroads.

That leaves $39 billion, or about $1.4 billion per year, that must come from outside assistance such as tax incentives or public-private partnerships, the study says.

AAR president Edward Hamberger said the investment tax credit would help fill the $39 billion gap, but he didn't know whether it would cover it completely.

Investment in freight infrastructure is crucial for the future of passenger rail, too, said Ross Capon, executive director of the National Association of Railroad Passengers.

The AAR study assumed the number of passenger trains that run on tracks owned by the freight railroads would stay the same. But Amtrak and passenger rail advocates have talked about expanding in key corridors.

A total of $148 billion in investment in all freight rail infrastructure will be needed by 2035.
–AAR Freight Capacity Study

The National Surface Transportation Policy and Revenue Study Commission, which asked the railroad association to commission the freight study, is conducting a separate study to forecast the needs of passenger rail.

More details on the study are available at the Association of American Railroads website: aar.org. The study can be downloaded at www.aar.org/PubCommon/Documents/natl_freight_capacity_study.pdf.

New Connected Vehicle Proving Center Opens in Ann Arbor

State Government Leaders, Auto Industry Executives on Hand for Dedication of Test Center, Showcase

Michigan state government officials and executives from the transportation, manufacturing, automotive and telecommunications sectors were on hand for the dedication of the Connected Vehicle Proving Center (CVPC) October 2 in Ann Arbor.

The CVPC, funded by the State of Michigan, has been created through a strategic alliance between the Center for Automotive Research (CAR) and the Connected Vehicle Trade Association. The CVPC will be a proving ground for testing, evaluating, and showcasing connected vehicle systems.

The center will integrate connected vehicles, smart roadway infrastructure and a broad range of telecommunication technologies. In addition, the CVPC will provide expertise in evaluation design, data storage and analysis, and information sharing.

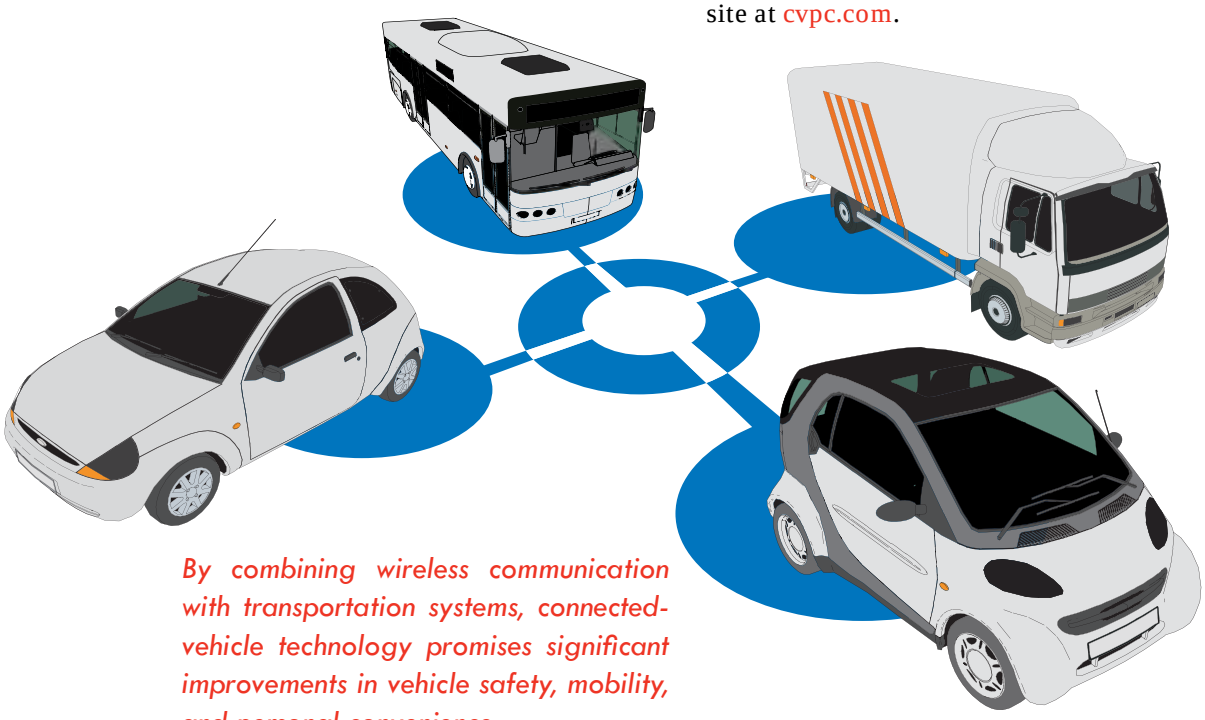
Once fully operational, the CVPC will serve as an incubator that offers an advanced test and evaluation environment that can be accessed by OEMs, automotive suppliers, transportation agencies, and communications companies. Ultimately, the center will serve as a catalyst for growing the connected vehicle industry, thereby attracting related technical and engineering jobs to Michigan.

"Michigan's economic plan is all about building on our heritage to create cutting-edge jobs," said Michigan Governor Jennifer M. Granholm. "This project is an excellent example of how innovation can fuel economic growth in our state."

Over the years, Michigan has established itself as the world leader in the development of connected vehicles and electronic components. This development and expertise in the industry, coupled with Michigan being home to the U.S. automotive industry, made the state the logical site for the CVPC.

"We are extremely excited to be opening the Connected Vehicle Proving Center and better enabling our partner companies to advance the field of vehicle safety," said Steve Underwood, director of both the CVPC and CAR's Transportation and Information System Planning Group. "The facility will be a unique, international showcase, serving as the pinnacle of automotive advancement, demonstrating the capabilities of connected vehicle systems and their positive societal impact."

The CVPC is located at the Center for Automotive Research, 1000 Victors Way, Suite 200, Ann Arbor, Michigan, 48108. For more information, visit the center's web site at cvpc.com.



By combining wireless communication with transportation systems, connected-vehicle technology promises significant improvements in vehicle safety, mobility, and personal convenience.

Image courtesy of CVPC, Center for Automotive Research

FAST Truckers Renewal Deadline Nears

Among the top priorities for the Mississippi Valley Freight Coalition remains congestion and security at border crossings. These delays cost the Midwest economy through lost manufacturing jobs and other economic losses.

Congestion and inefficiencies at the border crossings pose a significant challenge. In the next 30 years, total U.S.-Canada trade by truck is expected to increase by 128 percent and vehicle traffic could climb by 57 percent. Research has also indicated that this border crossing could reach capacity as early as 2015.

Some inefficiencies can be improved by smoother processing. For the past five years, thousands of qualified commercial truckers have literally been on the fast track, carrying low-risk goods across the United States-Canada border with increased safety, security, and speed for the mutual economic benefit of the countries involved.

More than 87,000 drivers, importers and carriers who cross the northern and southern borders of the U.S. have been expediting commercial clearance and delivery under the Free And Secure Trade (FAST) program—a joint venture administered through U.S. and Canadian customs agencies—since December 2002.

Now, these truckers are receiving notices in the mail to renew their FAST applications for an additional five years. Renewal steps include the following, among others:

- Submitting a U.S. Customs and Border Protection (CBP) form to the FAST program within 90 days of the expiration date on the driver's current identification card
- Completion of comprehensive risk assessment, eligibility criteria, criminal background checks and a new ID photo
- Completion of an interview scheduled through the nearest enrollment center after receiving a conditional approval letter
- Payment of fees ($80 in Canada, $50 in the U.S.)
- Surrender of old credentials at the time of renewal

It's a complex process depending on the trucker's location and origination.

Participating countries distinguish between carriers, importers, and drivers. Each country makes its own approvals regarding carriers and importers. Drivers, however, need approval from both countries to participate in FAST. Renewal forms and supporting documents are sent to the FAST processing center in Canada for fee processing and risk assessment. This information is sent to the U.S. for a second assessment. After that, drivers go to a FAST enrollment center for in-person interviews, photos, and fingerprinting

Truckers crossing into Canada must be authorized through the Custom Self-Assessment (CSA) program that streamlines accounting, payment, and eligible goods, and the Partnership in Protection program that's concerned with stopping the smuggling of contraband.

Canadian truckers follow CSA requirements but also need authorization under the U.S.-based Customs-Trade Partnership Against Terrorism program, a cooperative government-business venture to strengthen both the supply chain and border security.

before they receive a FAST card.

The benefits of FAST, however, certainly outweigh the complex renewal journey. According to FAST officials, drivers experience faster commercial clearance, fewer and more efficient compliance checks through an automated paperless system, and can use truck-only lanes to avoid traffic congestion on their routes.

For more information on the FAST program, visit the CBP website at cbp.gov.

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The National Center for Freight & Infrastructure Research & Education
NEWSLETTER

Transportation Program Course Offerings

DEPARTMENT OF
Engineering Professional Development

Course Title	#	Date(s)	Location
Designing and Implementing Roundabouts	J707*	October 17-18, 2007	Madison, Wisconsin
Designing Optimized Traffic Signals and Systems Using Visual TEAPAC, PASSER, TRANSYT & CORSIM	J735	January 22-24, 2008	Las Vegas, Nevada
Docks and Marinas	J173	October 15-17, 2007	Madison, Wisconsin
Effective Roadway Lighting	J140	April 28-30, 2008	Madison, Wisconsin
Engineering Fundamentals of Rail Freight Terminals, Yards, and Intermodal Facilities: Current Practices in Design and Construction	J600	February 20-21, 2008	Orlando, Florida
Engineering Fundamentals of Rail Transit Passenger Systems: Light Rail, Commuter Rail, Rapid Transit	J607	January 9-11, 2008	Madison, Wisconsin
Evaluation & Rehabilitation of Pavements	J377	November 7-8, 2007	Madison, Wisconsin
Highway Bridge Design	J595	December 5-7, 2007	Madison, Wisconsin
Highway -Rail Grade Crossing Safety Course	J609	January 17-18, 2008	Madison, Wisconsin
Implementing a Sidewalk Management System	J757	January 28-29, 2008	Madison, Wisconsin
Implementing Effective Culvert Maintenance	J760*	March 27-28, 2008	Las Vegas, Nevada
Improving Public Works Construction Inspection Skills	J222*	Decmber 10-11, 2007	Las Vegas, Nevada
Legal Aspects of Engineering, Public Works, and Construction	J708	October 29-30, 2007	Madison, Wisconsin
Maintaining Asphalt Pavements	J372*	December 12-13, 2007	Las Vegas, Nevada
Maintenance, Rehabilitation and Upgrading of Conventional Railroad Track	J608	January 14-16, 2008	Madison, Wisconsin
Managing Snow and Ice Control Operations	J376	October 15-16, 2007	Madison, Wisconsin
Mastering the Fundamentals of Culvert Hydraulic Design	J758*	March 25-26, 2008	Las Vegas, Nevada
Municipal Engineering Fundamentals for Non-Engineers	J495*	December 12-13, 2007	Las Vegas, Nevada
Pavement Design	J370*	November 5-6, 2007	Madison, Wisconsin
Preparing an Effective Municipal Capital Improvements Plan	J487*	December 10-11, 2007	Las Vegas, Nevada
Railroad Engineering 2007	J160	October 8-10, 2007	Madison, Wisconsin
Railway Bridge Engineering	J597	November 29-30, 2007	Las Vegas, Nevada
Railway Track Systems: Engineering and Design	J602*	October 22-23, 2007	Madison, Wisconsin
Soil Engineering for Roads and Pavements	J480	November 27-28, 2007	Las Vegas, Nevada

These transportation short-courses are being offered by the University of Wisconsin-Madison. Please refer to the EPD course web pages for more information: epdweb.engr.wisc.edu. Click on Courses then Civil and Environmental Engineering Courses. ***Indicates additional scheduled dates and locations for this course.** See the EPD website for details.

Video to Increase Public Awareness of Transportation's Role

The Transportation Development Association of Wisconsin (TDA) has produced a video to help educate the public in Wisconsin about the critical role transportation plays in our lives. *Transportation: our future rides on it* is divided into segments which include: Our Future, Economic Development, Safety, Quality of Life and Funding. The video can be viewed by segment online at tdawisconsin.org. DVDs are available upon request.

transportation
our future rides on it.

According to the TDA, Wisconsin's multimodal transportation system includes:

- 12,000 miles of state and interstate highways,
- 98,000 miles of local roads and streets,
- 13,300 bridges,
- 25 urban public transit systems,
- 36 shared-ride taxi services,
- 9 commercial passenger airports,
- 88 general aviation airports,
- 4,500 miles of railroad track,
- 12 railroad operations and
- 15 commercial water ports,

... all serving 5.5 million state residents and the economy that supports them.

TDA is a statewide nonprofit organization working to promote understanding of the crucial role that a safe, efficient and reliable transportation system plays both in providing mobility for the people of Wisconsin and in driving the growth of the state's economy. Now in its fourth decade, TDA represents the interests of more than 400 member organizations working to ensure the vitality of the state's transportation network.

The National Center for Freight & Infrastructure Research & Education

UPCOMING EVENTS

October

- **Financing Capacity and Growth in the Railway Industry**
  October 2-3 New York, New York
  www.railtrends.com
- **2007 AASHTO Standing Committee On Rail Transportation Conference**
  October 14-17 Biloxi, Mississippi
  freight.transportation.org/rail_index.html
- **2007 ATA Management Conference & Exhibition**
  October 20-23 Orlando, Florida
  truckline.com
- **Research Issues in Freight Transportation—Congestion and System Performance**
  October 22-23 Washington, D.C.
  trb.org/conferences/FreightResearch
- **Great Lakes: From Data to Markets to Shipping Opportunities**
  October 26 Toledo, Ohio
  utoledo.edu/research/ututc
- **Foundry Sand Recycling Forum: Infrastructure Applications**
  October 31 Chicago, Illinois
  foundryrecycling.org

November

- **3rd Asphalt Shingle Recycling Forum**
  November 1-2 Chicago, Illinois
  shinglerecycling.org
- **Intermodal Freight Technology Working Group Meeting and Demonstrations**
  November 9-10 Atlanta, Georgia
  www.intermodal.org/iftwg_files
- **National Industrial Transportation League 100th Annual Meeting & TransComp 2007**
  November 9-14 Atlanta, Georgia
  nitl.org
- **IANA's Intermodal Expo & Annual Membership Meeting**
  November 10-13 Atlanta, Georgia
  www.intermodal.org/events_files/expo_files
- **WisDOT Freight Rail Conference**
  November 14 Madison, Wisconsin
  dot.wisconsin.gov
- **Setting the Freight Transportation Research Roadmap: Sustainable Freight Transportation Infrastructure and Systems**
  November 16 Madison, Wisconsin
  cfire.wistrans.org
- **Eleventh Annual Freight and Logistics Symposium**
  November 30 Minneapolis, Minnesota
  www.cts.umn.edu/Events/FLOGSymposium/2007

December

- **2nd National Urban Freight Conference**
  December 5-7 Long Beach, California
  www.metrans.org/nuf/2007
- **North American Port & Intermodal Finance & Investment Summit**
  December 3-5 Coral Gables, Florida
  guest.cvent.com/i.aspx?1Q,P1,1F018C69-F61E-4F4E-B084-B6A3DE168986

January 2008

- **TRB 87th Annual Meeting**
  January 13-17, 2008, Washington, D.C.
  trb.org/Meeting

The National Center for Freight and Infrastructure Research and Education (CFIRE) at the University of Wisconsin-Madison is one of ten National University Transportation Centers. The CFIRE consortium includes the University of Wisconsin-Milwaukee, University of Illinois at Chicago, University of Toledo, and University of Wisconsin-Superior. CFIRE's mission is to advance technology, knowledge, and expertise in the planning, design, construction and operation of sustainable freight transportation infrastructure through education, research, outreach, training, and technology transfer. Our vision is to be an internationally recognized authority and resource that creates knowledge, advances understanding, develops technologies, and prepares leaders to meet the nation's need for safe, efficient and sustainable infrastructure for the movement of goods. CFIRE has four signature technical areas of research as noted below.

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