



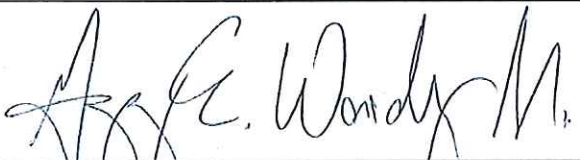
CFIRE

Program Progress Performance Report (PPPR): Jan. 1, 2012 to Jun. 30, 2012.

August 2012

National Center for Freight & Infrastructure Research & Education
Department of Civil and Environmental Engineering
College of Engineering
University of Wisconsin–Madison

Principal Investigator:
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Federal agency submitting to:	RITA, USDOT
Federal grant number:	DTRT12-G-UTC19
Project Title:	PPPR for Jan 1, 2012 to Jun 30, 2012
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DUNS and EIN numbers:	DUNS: 161202122 EIN: 396006492
Recipient organization:	University of Wisconsin-Madison
Grant period:	January 1, 2012 to January 31, 2014
Reporting period end date:	June 30, 2012
Report Term:	First 6 months; quarterly from now on
Signature of submitting official:	
	

This report covers CFIRE's efforts to collaboratively address research, education and workforce development, and technology transfer under Grant# DTRT12- G-UTC19 during the reporting period of January 01, 2012 to June 30, 2012.

1. Accomplishments

A. CFIRE's Goals

- I. **Research:** Through the strategic planning process, CFIRE has created and began the undertaking of nine research initiatives that support the USDOT Strategic Goals and advance the state of practice in freight and freight infrastructure systems.
- II. **Education and Workforce Development:** The partner institutions of CFIRE are actively engaged in education and workforce development at the local, state, and national levels. CFIRE has built upon established successful programs and continues support new collaborative initiatives. Our proposed education and workforce activities for university students and practicing professionals will develop skills and knowledge in multimodal freight transportation systems that reinforce our Center's theme.
- III. **Technology Transfer:** Technology transfer is the process of transferring discoveries or innovations derived from university research into products and services that benefit the profession. CFIRE will engage the freight community in a cross-section of technology transfer initiatives. These will include both traditional and innovative approaches to disseminating information.
- IV. **Collaboration:** The CFIRE team will take advantage of regional expertise developed over years of prior activities by establishing both northern and southern hubs to help coordinate proposed education, training, and technology transfer efforts. The CFIRE team brings a wealth of experience and a history of collaborative work. We will leverage these assets to further develop relationships across a spectrum of initiatives that include both state and national-level collaborations.

B. Accomplishments under CFIRE's goals

- I. **Research Initiatives –** During this period, the following projects have been initiated:
 - **A Multi-Modal Freight Safety, Security, and Environmental Routing Tool**
USDOT Priorities: Safety/Sustainability
Performing Institutions: Vanderbilt University, University of Wisconsin – Milwaukee and Superior, University of Memphis, University of Alabama in Huntsville, and University of Southern Mississippi.
Start Date: July 1, 2012 End Date: September 30, 2013
 - **Making Freight-Centric Communities More Livable: Measuring the Impact of Advanced Technologies**
USDOT Priorities: Livability/Economic Competitiveness
Performing Institutions: University of Memphis, University of Wisconsin-Madison, and University of Toledo.
Start Date: July 1, 2012 End Date: December 31, 2013
 - **Non-Destructive Technologies for Monitoring and Condition Assessment to Support Safety**
USDOT Priorities: State of Good Repair
Performing Institutions: University of Wisconsin-Madison and Milwaukee
Start Date: July 1, 2012 End Date: December 31, 2013
 - **Mining Automatic Identification Systems (AIS) Data for Improved Vessel Trip Analysis Capabilities**
USDOT Priorities: Economic Competitiveness
Performing Institutions: Vanderbilt, University of Toledo, and University of Wisconsin-Superior.
Start Date: July 1, 2012 End Date: December 31, 2013

- **Estimating the Effects of Climate Change on Transportation Infrastructure**
USDOT Priorities: Sustainability
Performing Institutions: Vanderbilt University and University of Wisconsin-Madison.
Start Date: July 1, 2012 End Date: September 30, 2013
- **Realigning Multimodal Freight Networks in Response to International Capacity Expansion**
USDOT Priorities: Economic Competitiveness
Performing Institutions: University of Southern Mississippi, University of Alabama in Huntsville, University of Memphis, University of Illinois at Chicago, and University of Wisconsin-Superior.
Start Date: July 1, 2012 End Date: December 31, 2013
- **Enhancing Rail Connectivity to Underserved Rural Communities**
USDOT Priorities: Livability/Economic Competitiveness
Performing Institutions: University of Memphis, University of Wisconsin-Superior and Madison, University of Alabama in Huntsville, and University of Southern Mississippi.
Start Date: July 1, 2012 End Date: October 31, 2013
- **Beneficial Reuse of Dredging Materials Summit**
USDOT Priorities: State of Good Repair
Performing Institutions: University of Wisconsin-Madison, Milwaukee, and Superior.
Start Date: August 1, 201 End Date: April 30, 2013

II. Education and Workforce Development- The following progress has been made on CFIRE's commitments to Education and workforce issues.

- University of Wisconsin – Madison:
 - i. Camp Badger - CFIRE sponsored, provided funding for, and developed curriculum related to maritime freight transportation. Staff gave a presentation, created a chart of the Madison Chain of Lakes (distributed as a bandana), and helped provide a tour of the Tenney Locks to two groups of 32 students. More info can be found at: <http://www.wistrans.org/cfire/2012/08/camp-badger/>
 - ii. National Transportation Workforce Summit, April 24-26 in Washington, DC. UW-Madison was the lead institution in this effort. Topics included building and raising career awareness; roles of community colleges and universities and their partners in government; professional and continuing education.
- University of Wisconsin – Superior:
 - i. Rail and Intermodal Youth Summer Program, July 8-14 - A weeklong investigation designed to create awareness and stimulate interest in the area of rail and intermodal transportation.
 - ii. Transportation and Logistics Major – Housed in the school of business and the students who engage in research and events such as TRB significantly impact the other students in the school of business when they bring knowledge and experiences into other classes.
 - iii. Lead a Seminar for incumbent workers and managers with the FMCSA on March 21, 2012 where workers gained knowledge and brought new individuals into the discipline.
- Michigan Technological University:
 - i. Great Lakes Maritime Teacher Institute – Planning five-day teacher institute on Great Lakes Maritime Transportation for 20 teachers from throughout the Great Lakes Basin to take place in Michigan's eastern Upper Peninsula July 16-20, 2012.
 - ii. Transportation Teacher Workshops - Began planning for series of 3 transportation teacher workshops that will take place in Detroit in the 2012-13 school years.
 - iii. Pedal Power - A school-wide event titled "Pedal Power" was held for 750 K-5 students at the Calumet-Laurium-Keweenaw Elementary School in Calumet on May 18.

III. Technology Transfer - The following progress has been made on CFIRE's commitments to Education.

- University of Wisconsin – Milwaukee: Kicked off preparations for course module on freight planning.

- IV. Collaboration - The following progress has been made on CFIRE's commitments to collaboration.
- University of Wisconsin – Madison: While planning for/conducting the National Workforce Summit, UW-Madison collaborated with FHWA, FTA, RITA, and OST of the USDOT; AASHTO, TRB, ARTBA, ENO Foundation, US Dept. of Education, APTA, NSF, and numerous UTCs.
 - CFIRE Consortium: UW Madison conducts weekly meetings of the consortium to align our resources around the research, education, and tech transfer initiatives from February 2012 to the present. All CFIRE partners are preparing papers and presentations for the 2012 Mid-Continent Transportation Research Forum to be held September 6-7, 2012 in Madison, Wisconsin.
- C. Dissemination of Results
- Nothing to report.
- D. Next Quarter
- 2012 MidContinent Transportation Research Forum in Madison, WI. This research forum brings together research centers at UW-Madison with focuses in freight, traffic and operations, recycled materials, construction of pavements and structures, and transportation policy. The focus of the forum is to bring all of UW's research to the DOTs of the upper Midwest, primarily Wisconsin and Iowa DOTs. All CFIRE partners will be attending and presenting at this forum.

2. Products

A. Partner Websites

- I. University of Wisconsin-Madison (CFIRE): <http://cfire.wistrans.org>
- II. University of Memphis (IFTI): <http://www.memphis.edu/ifti/>
- III. University of Wisconsin-Superior (GLMRI): <http://www.glmri.org/>
- IV. University of Illinois at Chicago (UTC): <http://www.utc.uic.edu/>
- V. University of Toledo: <http://www.utoledo.edu/research/ITI/>
- VI. Michigan Technological University: <http://wupcenter.mtu.edu/>
- VII. Vanderbilt University (VECTOR): <http://www.vanderbilt.edu/vector/>
- VIII. University of Southern Mississippi (CLTT): <http://www.usm.edu/logistics-trade-transportation>

B. Newsletters

- Center for Freight and Infrastructure Research and Education has released a Spring 2012 issue: http://www.wistrans.org/cfire/documents/CFIRE_Newsletter_2012-1.pdf
- Mid-America Freight Coalition has released a...
 - Winter 2012 issue: http://midamericafreight.org/wp-content/uploads/MAFC_FreightNotes_2012-1.pdf
 - Spring 2012 issue: http://midamericafreight.org/wp-content/uploads/MAFC_FreightNotes_2012-2.pdf

3. Participants and Other Collaborating Organizations

A. Consortium participants

Name	Project Role	Hours worked	Contribution	Funding Support	Collaboration with individual in foreign country	Country	Travel to foreign country	Duration of stay
Teresa Adams, UW-Madison	PI	120 hours	Lead on grant	UW-Madison	No	n/a	n/a	n/a
Greg Waidley, UW-Madison	Program Manager	50 hours	Grant administration	UW-Madison	No	n/a	n/a	n/a
Steve Wagner, UW-Madison	Communications Manager	5 hours	Designed promotional	UW-Madison	No	n/a	n/a	n/a

Joshua Levine, UW-Madison	Research Intern	30 hours	Presenter and planner	UW-Madison	No	n/a	n/a	n/a
Greg Helfrich, UW-Madison	Research Intern	5 hours	Presenter and planner	UW-Madison	No	n/a	n/a	n/a
Jamesa Marshall, UW-Madison	Graduate student	10 hours	Presenter and planner	UW-Madison	No	n/a	n/a	n/a
Alan Horowitz, UW-Milwaukee	Consortium Liaison	60 hours	Management Committee Member	UW-Milwaukee	No	n/a	n/a	n/a
Hani Titi, UW-Milwaukee	Investigator	25 hours	Project development	UW-Milwaukee	No	n/a	n/a	n/a
Habib Tabatabai, UW-Milwaukee	Investigator	10 hours	Project development	UW-Milwaukee	No	n/a	n/a	n/a
Yue Liu, UW-Milwaukee	Investigator	10 hours	Project development	UW-Milwaukee	No	n/a	n/a	n/a
Rani El-Hajjar, UW-Milwaukee	Investigator	4 hours	Project development	UW-Milwaukee	No	n/a	n/a	n/a
Richard Stewart, UW-Superior	Consortium Liaison	100 hours	Management Committee & project development	UW-Superior	No	n/a	n/a	n/a
Zamira Simkins, UW-Superior	Investigator	20 hours	Project development	UW-Superior	No	n/a	n/a	n/a
Mei Cao, UW-Superior	Investigator	20 hours	Project development	UW-Superior	No	n/a	n/a	n/a
Brady Peterson, UW-Superior	Graduate student	40 hours	Project development	UW-Superior	No	n/a	n/a	n/a
Richard Martinko, Univ. of Toledo	Consortium Liaison	20 hours	Management Committee Member	Univ. of Toledo	No	n/a	n/a	n/a
Peter Lindquist, Univ. of Toledo	Investigator	20 hours	Project development	Univ. of Toledo	No	n/a	n/a	n/a
Sarah Schafer, Univ. of Toledo	Project Manager	20 hours	Project development	Univ. of Toledo	No	n/a	n/a	n/a
Joan Chadde, Mich. Tech. Univ.	Consortium Liaison	65 hours	Management Committee & project development	MTU	No	n/a	n/a	n/a
Lloyd Wescoat, Mich. Tech. Univ.	Educ. Program Assistant	20 hours	Project Assistant	MTU	No	n/a	n/a	n/a
Kazuya Kawamura, Univ. of Illinois, Chicago	Consortium Liaison	80 hours	Management Committee & project development	UIC	No	n/a	n/a	n/a
Kouros Mahammadian, Univ. of Illinois, Chicago	Investigator	60 hours	Project development	UIC	No	n/a	n/a	n/a
Marin Lipinski, Univ. of Memphis	Outgoing Consortium Liaison	80 hours	Management Committee & project development	Univ. of Memphis	No	n/a	n/a	n/a
Dan Pallme, Univ. of Memphis	Incoming Consortium Liaison	40 hours	Project development	Univ. of Memphis	No	n/a	n/a	n/a
Sean Ellis, Univ. of Memphis	Program Manager	40 hours	Grant administration	Univ. of Memphis	No	n/a	n/a	n/a
Mark Abkowitz,	Consortium Liaison	100	Management	Vanderbilt	No	n/a	n/a	n/a

Vanderbilt Univ.		hours	Committee & project development	University				
James Dobbins, Vanderbilt Univ.	Investigator	80 hours	Project development	Vanderbilt University	No	n/a	n/a	n/a
Janey Camp, Vanderbilt Univ.	Investigator	80 hours	Project Development	Vanderbilt University	No	n/a	n/a	n/a
Michael Anderson, University of Alabama in Huntsville	Consortium Liaison	40 hours	Management Committee & project development	AUH	No	n/a	n/a	n/a
Chad Miller, Univ. of Southern Miss.	Consortium Liaison	80 hours	Management Committee & project development	USM	No	n/a	n/a	n/a
MD Sarder, Univ. of Southern Miss.	Investigator	40 hours	Project development	USM	No	n/a	n/a	n/a
Tulio Sulbaran, Univ. of Southern Miss.	Investigator	40 hours	Project development & foreign collaboration	USM	Yes	Panama	Yes	1 week

B. Collaborating Organizations

- I. Wisconsin Department of Transportation; Madison, WI; financial support
- II. Tennessee Department of Transportation; Nashville, TN; financial support
- III. Canadian National Railway; Memphis, TN; financial, in-kind support, facilities
- IV. Burlington Northern Santa Fe; Fort Worth, TX; in-kind, facilities
- V. Halvor Trucking; Superior, WI; in-kind, facilities
- VI. North Shore Scenic Railway; Duluth, MN; in-kind, facilities
- VII. Duluth Superior Transportation Association; Duluth, MN; in-kind
- VIII. Ingram Barge Company; Nashville, TN; financial, in-kind
- IX. International Maritime University of Panama; Panama City, Panama; collaborative research

4. Impact

- National Transportation Workforce Summit: Participants have formed a unique new community that includes representatives of groups responsible for defining and delivering education and training at all levels, the business and labor communities, and diversity groups, as well as federal, state and local of governments. This summit successfully brought the group together. The immediate next steps for the summit planning and steering committees are to prepare a document that calls the community to action. We will be working with experts to prepare a summary of the challenges, strategies, and action items in the form of a call to action and draft of the strategic framework for preparing the transportation workforce. In addition, video recordings of the opening panels have been edited and made those available to a broader audience at www.cutcworkforce.com.
- Camp Badger: Camp Badger Exploring Engineering is a one-week, residential program for Wisconsin and Minnesota teenagers (entering 8th grade) that helps students explore the many engineering fields to interest them in education and careers in the STEM disciplines. Camp Badger uses field trips, job site visits, hands-on activities, and small group discussions to teach young people about engineering. This year, CFIRE provided sponsorship for Camp Badger, created the curriculum for one day of the camp, and personnel to run the event.
- Great Lakes Maritime Transportation Teacher Institute: Participants will gain new knowledge and skills, classroom activities, and resources that can be integrated into social studies, science,

language arts, and math classes. The institute will explore the many facets of the shipping industry within the context of intermodal transportation, port safety, Great Lake shipping routes and global destinations. The institute will provide teachers with a foundation in maritime transportation history, current operations, and future career opportunities.

5. Changes/Problems

- Nothing to report.



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