

**Progress Performance Report
for the
New England University Transportation Center
Massachusetts Institute of Technology**

**Federal Grant DTRT12-G-UTC01
Grant Period: January 1, 2012 - December 31, 2013**

Reporting Period: July-December 2012
(second six months report)

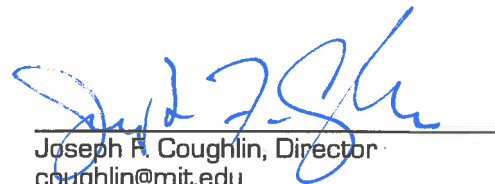
**Submitted to
US Department of Transportation
Research and Innovative Technology Administration
January 30, 2013**

Project Title
University Transportation Centers Program - Region 1

DUNS number
00-142-5594

EIN number
04-210-3594

Recipient Account No
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REPORTING CATEGORIES

1. Accomplishments

Major goals as stated in New England UTC Prospectus

Research Goal

- To conduct research in technology applications and systems integration with related work in policy, planning and human factors that improve transportation safety as well as further our understanding and realization of livable communities to support mobility across the lifespan.
- To support peer-reviewed investigations that address safety and livability by exploring and furthering research, policy, and practice in the application of ubiquitous intelligence, use of big data, and improved human performance

Accomplishments under this goal

As stated in our previous Program Progress Performance Report, on April 18 the New England UTC Request for Proposals was disseminated to all consortium schools as well as to the transportation faculty at MIT. Research proposals were due June 14 and we received 46 high quality submissions, all of which were peer-reviewed during July. The Center formally began its research program on September 1, 2012.

Thirty-four research projects were selected. Of these projects, 12 specifically addressed highway transportation, 9 examined transit-related questions and 13 were multimodal in scope. With respect to the research goals addressing safety and livability, 15 of these projects addressed safety, and the remaining 19 addressed issues relating to livable communities.

Following is the list of 34 final research projects that were selected for funding awards:

Project No.	PI	Project Title	Current Status
MITR24-1	Ben-Akiva Abou-Zeid Zegras	Capturing the Relationship between Motility, Mobility and Well-Being Using Smart Phones	new
MITR24-2	Coughlin	Transportation Wellbeing, Age and Safety	new
MITR24-3	D'Ambrosio	Assessing Alternative Transportation Options for Older Users	new
MITR24-4	Glass Mehler	Spoken Dialog Planning to Reduce User Distraction in Mobile Environments	new

MITR24-5	Gonzalez	Transportation Model in the Boston Metropolitan Area from Origin Destination Matrices Generated with Big Data	new
MITR24-6	Murga Salvucci	Kendall Square: Lessons Drawn from Its Past Development to Guide Its Future	new
MITR24-7	Osorio	Urban Transportation Optimization: A Multi-Modal Simulation-Based Approach	new
MITR24-8	Reimer	Technology Adoption and Use Across the Lifespan	new
MITR24-9	Salvucci Murga	Development of a "Universal" Residential Public Transportation Pass, as Part of a Comprehensive Multi-Modal Approach to Urban Parking	new
MITR24-10	Sheffi Goentzel	Big Data During Crisis: Lessons from Hurricane Irene	new
MITR24-11	Sussman	Determining Performance Measures to Evaluate the Effect of High Speed Rail on Communities' Livability	new
HVDR24-12	Howitt Giles	Disaster Recovery for Transportation: China's Wenchuan Earthquake of 2008 and Japan's Tohoku Earthquake and Tsunami of 2011	new
HVDR24-13	Gomez-Ibanez	The Challenges of Growth and Motorization: Transportation Policy in Rapidly Developing Cities	new
HVDR24-14	Muehlegger Shoag	Cell Phones and Vehicle Safety	new
UMAR24-15	Christofa Collura	A Person-based Comparison of Transit Preferential Treatments on Signalized Arterial Corridors	new
UMAR24-16	Collura Burleson Gao	A Decision Support System to Assess Disruptive Impacts of Alternative Transportation Financing Approaches	new

UMAR24-17	Fisher Romoser	Moving Map Displays: Using CTIL and Eye Tracking Technologies to Measure Distraction in Locomotive Cabs	new
UMAR24-18	Ganz Collura	Hybrid NFC and Vision Based Navigation System in Subways for the Blind and Visually Impaired	new
UMAR24-19	Gao	A Spatial Learning Model for the Micro-Simulation of Travel Dynamics	new
UMAR24-20	Gao	Cognitive Maps for Route Choice Modeling	new
UMAR24-21	Gartner Jones Statmatiadis	Robust Performance of Transportation Networks Using Quantile Metrics	new
UMAR24-22	Knodler Romoser Fisher	Evaluating the Effects of Integrated Training on Minimizing Driver Distraction	new
UMAR24-23	Ni Gao	Making More Value out of Transportation Data	new
UMAR24-24	Ni	Modeling Drivers' Lateral Motion Control	new
UMAR24-25	Romoser Knodler Fisher	Reducing Older Driver Crashes: Technology, Training and Livable Communities	new
UMAR24-26	Stamatiadis Gartner Xie	ITS Equipment Placement for Safety and Mobility	new
UMAR24-27	Zarillo Collura Burleson	Security & Privacy Breaches in ETPS: Problem Survey & Case Study of I-90	new
UCNR24-28	Garrick Atkinson- Palombo	The Impact of Parking Policies on the Long-term Vitality of American Cities	new
UCNR24-29	Gokhale Lownes	Automated Congestion Prediction with Smart Phones	new

UCNR24-30	Ivan Ravishanker	Investigation of Road and Roadside Design Elements Associated with Elderly Pedestrian Safety	new
UCNR24-31	Konduri Lownes	Transportation System Modeling in the Information Era	new
UCNR24-32	Lownes	t-HUB: Connecticut Public Transport Data Hub	new
UMER24-33	Garder	Elderly Pedestrian Safety and Driver Distractions	new
UMER24-34	Rubin	Regional Credit Trading: Economic and GHG Impacts of a National Low Carbon Fuel Standard	new

Research results disseminated

Nothing to report. All research projects are currently underway.

Education & Workforce Goal

- To introduce transportation to all levels of education: K-12, undergraduate, graduate and continuing education.
- To place graduates into transportation fields.
- To provide current and developing methods, tools and insights to today's transportation workforce to support their capacity to build, operate and manage a safe and efficient transportation system.

Accomplishments under this goal

The Center formally began its education program on September 1, 2012. Following is the list of 5 final education projects that were selected for funding awards:

Project No.	PI	Project Title	Current Status
MITE24-35	Coughlin	Massachusetts Avenue Area Living Laboratory (MALL)	new

MITE24-36	Jarzombek Hendricks	Engaging emerging minority youth in real-time, community-based transportation research and modeling	new
UMAE24-37	Knodler	Creating an Education ASSET	new
UCNE24-38	Lownes	Senior Design	new
UCNE24-39	Lownes	Graduate Course	new

Students at the University of Connecticut bring passion to the program

October 26, 2012

The New England Center enables students to pursue passions in transportation research and extend boundaries in knowledge, innovations and policy planning. In this spotlight, we feature two outstanding New England Center-funded students from the University of Connecticut.

Kelly Bertolaccini is currently a MS student in the Transportation and Urban Engineering Program. She graduated from the University of Connecticut in 2010 with a BS in Civil Engineering and a BA in English. She was the 2010 recipient of the Eisenhower Grant and the 2011 recipient of the Helen Overly Memorial Scholarship, a Connecticut Valley Women's Transportation Seminar graduate student award.

"My primary interest is socially equitable transportation networks. In particular, I am interested in how transportation networks can be designed to increase people's economic and educational opportunities. Currently, I am investigation the relationship between arterial road networks and the distribution of wealth in metropolitan areas."

Alexander Bernier is currently a MS student in Civil Engineering. He graduated from the University of Connecticut in 2010 with a BS in Civil Engineering focusing on geotechnical engineering with work experience in airport design. He received second place in a data analysis contest sponsored by the Federal Highway Administration in 2010. He has also worked with DHS in aviation security workshops and has an interest in airport infrastructure as a whole. Current projects include the Long-Tem Pavement Performance SPS-9 closeout study, which involves testing and analysis for almost 200 samples taken from 6 test sections of pavement in Connecticut.

"My interest in pavement research stems from our nation's critical dependence on roadways. Many people often overlook the use of petroleum in producing and placing our roadways, not to mention the traffic and safety concerns associated with frequent road repairs. I believe improvements to our roadways must go hand-in-hand with more fuel efficient cars and alternative fuels to truly improve the sustainability of our road infrastructure."

Bertolaccini awarded Eisenhower Graduate Fellowship

October 26, 2012

University of Connecticut Civil & Environmental Engineering doctoral student Kelly Bertolaccini, who was featured in the October 2012 spotlight, was awarded a 2012 Dwight David Eisenhower Graduate Fellowship totaling more than \$103,000. The award covers tuition, a stipend, and attendance at the Transportation Research Board annual meeting in January 2013.

The fellowship, which is managed by the U.S. Department of Transportation Federal Highway Administration, will support Bertolaccini's research focusing on transit policy choices and the impact of transportation availability on social equity.

Technology Transfer Goal

- To increase the awareness and level of information concerning transportation issues facing New England.
- To further our well-established technology transfer and outreach activities.
- To engage the public and private transportation sectors throughout the New England Region and the nation.

Accomplishments under this goal

The Center formally began its technology transfer program on September 1, 2012. The New England UTC website is being revised and updated. Following is the list of 2 final technology transfer projects that were selected for funding awards:

Project No.	PI	Project Title	Current Status
MITT24-45	Coughlin	MIT Technology Transfer Initiative	new
UCNT24-46	Shea	LTAP/TTAP Core Competency Development and Pilot	new

Disruptive Demographics: Inventing the Future of Place & Space, New Thinking on Housing, Retail & Community in an Aging Society

October 5, 2012

The MIT AgeLab, in partnership with the New England Center, convened a daylong symposium in Cambridge, gathering over 100 business leaders and researchers, addressing the implications of aging on the future of place, space and livable communities. A summary report was produced and distributed to the participants. The symposium is the basis of a forthcoming edited book on livable communities.

New England Center presents at Toyota Safety Research Forum

September 24, 2012

New England Center research scientists Bryan Reimer and Bruce Mehler, and MIT research associate Dan Munger attended Toyota's 2012 Safety Research Forum on September 12. The forum was an opportunity for Toyota and its research partners to share preliminary results from projects focused on reducing the risk of driver distraction and protecting vulnerable traffic populations.

Dr. Reimer gave a talk focusing on the Delayed Digit Recall, or [MIT n-back task](#), a procedure developed for grading cognitive workload that is being used internationally. Attendees to the summit included the National Highway Traffic Safety Administration, other governmental representatives, Toyota's research partners, and the press.

New England Center presents at 15th Intelligent Transportation Systems Conference

October 1, 2012

MIT postdoctoral research associate Yan Yang presented "Are drivers aware of their behavior changes when using in-vehicle systems?" at the 15th IEE Intelligent Transportation Systems Conference held in Anchorage Alaska on September 16-20. The presentation was co-authored by Yan, Bryan Reimer, Bruce Mehler and Mike McDonald.

Dr. Reimer speaks about potential dashboard dangers

October 9, 2012

Research scientist Bryan Reimer spoke on the National Academy of Engineering's WTOP Radio about how font-type can make a difference in the safety of a driver. Read the transcript [here](#).

The New England Center sponsors Automotive User Interface Conference

October 15, 2012

The New England Center sponsored the [Automotive User Interface Conference](#) in Portsmouth NH, October 17 through 19. New England Center researchers presented three papers and a poster. New England Center associate director and research scientist Bryan Reimer organized the Second Workshop on Cognitive Load and In-Vehicle Human-Machine Interaction. Dr. Reimer also provided a one-hour tutorial on Driver Distraction.

2. Products

Journal publications

McCahill, C. and N. Garrick. "Automobile use and land consumption: Empirical evidence from 12 cities." *Urban Design International* 17 (2012): 221-227.

Mehler, B., Reimer, B. & Coughlin, J.F. (2012). Sensitivity of Physiological Measures for Detecting Systematic Variations in Cognitive Demand from a Working Memory Task: An On-road Study Across Three Age Groups. *Human Factors*, 54(3), pp. 396-412.

Reimer, B., Mehler, B., Wang, Y. & Coughlin, J.F. (2012). A Field Study on The Impact of Variations in Short Term Memory Demands on Drivers' Visual Attention and Driving Performance Across Three Age Groups. *Human Factors*, 54(3), pp. 454-468.

Zhao, N., Mehler, B., Reimer, B., D'Ambrosio, L.A., Mehler, A. & Coughlin, J.F. (2012). An Investigation of The Relationship Between The Driving Behavior Questionnaire and Objective Measures of Highway Driving Behavior. *Transportation Research Part F: Traffic Psychology and Behaviour*, 15(6), pp. 676-685.

Other publications, conference papers and presentations

Analysis of High-Speed Rail Implementation Alternatives in the Northeast Corridor: the Role of Institutional and Technological Flexibility (.pdf ESD-WP-2012-23), TRB 2013 Paper Compendium

Discontinuous Regions: High-Speed Rail and the Limits of Traditional Governance (.pdf ESD-WP-2012-22), TRB 2013 Paper Compendium.

Garrick, N. and C. McCahill. "Lessons from Zurich's Parking Revolution." *The Atlantic Cities*. August 08, 2012.

McCahill, C. and N. Garrick "Lessons from the Escalation in Parking Facilities in Older American Cities over the Last Fifty Years." . Transportation Research Board. Washington, DC. January 23, 2012.

Mehler, B., Reimer, B., & Zec, M. (2012). Defining workload in the context of driver state detection and HMI evaluation. *Proceedings of the 4th International Conference on Automotive User Interfaces and Interactive Vehicle Applications*. Portsmouth, NH.

NEC FUTURE Tier I Scoping Process: Public Comment (.pdf ESD-WP-2012-27)

Reimer B., (2012) The Impact of Typeface on Future HMIs. *Telematics Munich*, Germany. [Conference presentation]

Reimer, B. (2012). A Tutorial on Driver Distraction, *The 3rd International Conference on Automotive User Interfaces and Interactive Vehicle Applications*, Portsmouth, NH.

Reimer, B. (2012). Driver Distraction and Cognitive Load, *The Second Workshop on Cognitive Load and In-Vehicle Human-Machine Interaction*, *The 3rd International Conference on Automotive User Interfaces and Interactive Vehicle Applications*, Portsmouth, NH.

Reimer, B., Mehler, B., Donmez, B., Pala, S., Wang, Y., Zaho, N., Olson, K., Wenzel, J. &

Coughlin, J.F. (2012). A Driving Simulator Study Examining Phone Dialing with an iPhone vs. a Button Style Flip-Phone. To appear in the proceeding of the 56th Annual Meeting of the Human Factors and Ergonomics Society. Boston, MA.

Reimer, B., Mehler, B. & Coughlin, J.F. (2012). An Evaluation of Typeface Design in a Text-Rich Automotive User Interface. MIT AgeLab White Paper 2012-12. Massachusetts Institute of Technology, Cambridge, MA.

Reimer, B., Mehler, B., Wang, Y., Mehler, A., McAnulty, H., Mckissick, E., Coughlin, J.F., Matteson, S., Levantovsky, V., Gould, D., Chahine, N. & Greve, G. (2012). An exploratory study on the impact of typeface design in a text rich user interface on off-road glance behavior. Proceedings of the 4th International Conference on Automotive User Interfaces and Interactive Vehicle Applications. Portsmouth, NH.

Yang, Y., Reimer, B., Mehler, B., Wong, A. & McDonald, M. (2012). Exploring differences in the impact of auditory and visual demands on driver behavior. Proceedings of the 4th International Conference on Automotive User Interfaces and Interactive Vehicle Applications. Portsmouth, NH.

Websites or other Internet sites

The Economist. The eyes have it:

<http://www.economist.com/news/technology-quarterly/21567195-computer-interfaces-ability-determine-location-persons-gaze>

The Wall Street Journal. Cars that can monitor drivers health (video)

<http://live.wsj.com/video/cars-that-can-monitor-a-driver-health/A5ADC10F-A1A2-4D76-AD6E-F647AE9BEA95.html#!A5ADC10F-A1A2-4D76-AD6E-F647AE9BEA95>

The Wall Street Journal. A Car That Takes Your Pulse

<http://online.wsj.com/article/SB10001424127887324352004578131083891595840.html#object%3DDEYERD1128%26articleTabs%3Darticle>

CNN. Can you believe this traffic? Health consequences of a long commute

<http://www.cnn.com/2012/11/19/health/driving-traffic-commute-consequences/index.html?iref=allsearch>

The Boston Globe. It's not the cellphone, but the driver that's high-risk

<http://www.boston.com/business/technology/2012/08/26/not-the-cellphone-but-the-driver-that-high-risk-not-the-cellphone-but-the-driver-that-high-risk/TrEoka1wNf6TfX8HtroajK/story.html>

Science Now. Why Cell Phone Bans Don't Work

<http://news.sciencemag.org/sciencenow/2012/08/why-cell-phone-bans-dont-work.html?ref=hp>

Reuters. Who needs a license? Self-driving cars coming our way

<http://www.reuters.com/article/2012/08/15/us-autos-selfdriving-cars-idUSBRE87E04V20120815>

Yahoo! Autos. Study: The typeface in your car could be dangerous

<http://autos.yahoo.com/news/study-the-typeface-in-your-car-could-be-dangerous.html>

The Truth About Cars Blog. Gizmology: The Wrong Typeface Can Kill You. Unless You Are A Woman

<http://www.thetruthaboutcars.com/2012/09/the-wrong-typeface-can-kill-you-unless-you-are-a-woman/>

The Airspace: On The Road, A More Legible Typeface Could Save Your Life

<http://theairspace.net/commentary/on-the-road-a-typeface-could-save-your-life/>

US News & World Reports' Best Cars Blog: Is Your Infotainment System's Font Distracting You?

http://usnews.rankingsandreviews.com/cars-trucks/bestblog/2012/09/Is_Your_Infotainment_Systems_Font_Distracting_You/

Fox News: Study finds fonts used on car displays can increase your risk of crashing

<http://www.foxnews.com/leisure/2012/09/28/study-finds-fonts-used-on-car-displays-can-increase-your-risk-crashing/>

Smithsonian Magazine Blog: The Right Dashboard Font Could Make Driving Safer

<http://blogs.smithsonianmag.com/smartnews/2012/09/the-right-dashboard-font-could-make-driving-safer/>

MIT News:

<http://web.mit.edu/newsoffice/2012/agelab-automobile-dashboard-fonts-1005.html>

The Independent (UK): Will Dean's Ideas Factory: Type positive - can fonts stop car crashes?

<http://www.independent.co.uk/travel/news-and-advice/will-deans-ideas-factory-type-positive-can-fonts-stop-car-crashes-8180721.html?origin=internalSearch>

The Wall Street Journal CIO Journal: The Morning Download: Cracking Banks and Hacking Votes

http://blogs.wsj.com/cio/2012/09/27/the-morning-download-cracking-banks-and-hacking-votes/?mod=djemCIO_h (requires subscription)

Sympatico Canada - Autos:

<http://autos.sympatico.ca/auto-news/14724/dashboard-writing-fonts-affect-driver-distraction>

Automotive News TV: Auto News Now TV Newscast: When typefaces distract Starts at 2:40min

<http://www.autonews.com/article/20120926/VIDEO/309269752/autonews-now-paris-show-goes-practical&ccid=email-autonews-annow>

Daily News (UK): How the font used on your car's dashboard could determine if you're going to crash

<http://www.dailymail.co.uk/sciencetech/article-2208990/How-cause-car-accident-font-GPS-system.html>

IT World: Warning to drivers: Your typeface may be endangering your life

<http://www.itworld.com/science/298459/warning-drivers-your-typeface-may-be-endangering-your-life>

USA Today Online: Some text on car dashboards distract more than others

<http://www.usatoday.com/money/cars/story/2012/09/24/car-distractions/57838182/1>
Print: First page of Money section just under the fold. Section B

The Wall Street Journal: Driver's Seat Blog: Can't Read Your Dashboard? Try a Humanist Typeface

<http://blogs.wsj.com/drivers-seat/2012/09/25/cant-read-your-dashboard-try-a-humanist-typeface/>

Popular Science: How Better Typography Could Reduce Car Crashes

<http://www.popsci.com/science/article/2012-09/how-better-fonts-could-reduce-car-crashes>

Consumer Reports: Safety: A cheap way to reduce driver distraction found by study

<http://news.consumerreports.org/cars/2012/09/study-finds-cheap-way-to-reduce-driver-distraction.html>

Reuters:

<http://mobile.reuters.com/article/companyNewsAndPR/idUS34534+25-Sep-2012+BW20120925?feedType=RSS&feedName=companyNewsAndPR>

Yahoo News:

<http://in.finance.yahoo.com/news/monotype-imaging-sponsors-study-links-040200310.html>

Investor's Business Daily:

<http://news.investors.com/newsfeed-business-wire/092512-141372719-monotype-imaging-sponsors-study-that-links-typeface-style-with-reduced-driver-distraction-risk.aspx>

MarketWatch:

<http://www.marketwatch.com/story/monotype-imaging-sponsors-study-that-links-typeface-style-with-reduced-driver-distraction-risk-2012-09-25>

Boston Herald:

<http://www.heraldonline.com/2012/09/25/4288366/monotype-imaging-sponsors-study.html>

Technologies or techniques

Project MITR24-9 Development of a Universal Residential Public Transportation Pass

The project is developing a database management technique to track historical monitoring of the parking and transportation demand management ordinance in Cambridge. We are also developing tools and methods to develop comprehensive inventories of parking spaces using a various data sources including city tax records and GIS layers of paved surfaces. These techniques once refined, can be shared with other researchers and planning professionals to develop similar parking inventories in other cities.

Project UCNR24-29 Automated Congestion Prediction with Smart Phones

We have developed a smartphone application to collect driver location information and a database server to store this statistical information so that it can be used to develop new traffic prediction models. We have not completed application testing and therefore have not reached the stage where we are able to share these technologies and techniques. In the future, we plan to make the smartphone application source code and database scripts available to interested researchers.

Project UCNR24-32 t-HUB: Connecticut Public Transport Data Hub

At the end of this project we will have a public transit database and a prototype of NetWare designed to access the database through an intuitive GIS-based graphical user interface. Currently, these products are being developed.

Audio or video products

White paper:

http://agelab.mit.edu/files/Agelab_typeface_white_paper_2012.pdf

Press release:

<http://eon.businesswire.com/news/eon/20120924006673/en/Monotype/MIT/fonts>

NE UTC Page

<http://utc.mit.edu/20120924-264-study-monotype-finds-typeface-style-can-affect-safety>
[other references to selected media sources]

MIT AgeLab home page

<http://agelab.mit.edu/new-findings-released-today-typeface-style-can-affect-safety>

Other Products

Project UCNR24-29 Automated Congestion Prediction with Smart Phones

A database and software have been developed. The databases can store information on the

time and location information of vehicles. A smartphone app collects this information and transmits it to the database through the internet by automatically interacting with a data entry webpage. The smartphone app and database have been successfully integrated and tested.

3. Participants & Other Collaborating Organizations

Organizations that have been involved as partners

Monotype (Woburn, MA) – financial, in-kind support including technical expertise, industry contacts and outreach.

BMW (Munich, Germany) - financial support and expertise

Toyota CSRC (Ann Arbor, MI) – financial support

Denso America (Southfield, MI) – financial support

Volpe National Transportation Laboratory (Cambridge, MA)

University of New Hampshire / University of Washington (UTC) – collaborative development of the 2012 International Conference on Automotive User Interfaces and Interactive Vehicular Applications hosted by the University of New Hampshire and co-sponsored by the NE UTC (Region 1) and Pac Trans (Region 10)

The Hartford, The Advance50 Team: Financial support

City of Cambridge - Collaborative research and facilities: Researchers on the project have been collaborating with staff from the City of Cambridge. City staff have been collaborating by meeting regularly (semi-monthly) with the project team, and by sharing historical data and records. Graduate students periodically use office space at the City to perform their research work on-site.

IST: Lisbon, Portugal

Provides facilities, collaborative research is performed and personnel exchange is carried out

Other collaborators or contacts that have been involved

Klaus Bengler (Technical University of Munich, Germany) - - technical consultant

Linda Angell (Touchstone consulting) – technical consultant

NHTSA (Ritchie Huang; Chris Monk; Eric Traube) – NHTSA Human Factors outreach and education

Andrew Gellatly (GM) – corporate outreach, education and sponsor development

Jay Joseph (Honda) – technical consultant

Claudia Escobar (Hyundai) – corporate outreach, education and sponsor development

James Foley (Toyota CSRC) – technical consultant

Kristin Kolodge, Brad Gieske (Chrysler) – corporate outreach, education and sponsor

development

Shannon O'Day (Ford) - corporate outreach, education and sponsor development

Center for Transportation and Livable Systems: Storrs, CT. Financial support; facilities.

Connecticut Department of Transportation: Newington, CT. Financial support.

4. Impact

The impact on the development of the principal disciplines of the program

Project UCNR24-28 The Impact of Parking Policies on the Long-term Vitality of American Cities

It is expected that the data collection techniques under development will provide significantly richer data for transportation modeling. These models will also be useful for predicting congestion in existing networks as well as simulating the performance of proposed networks.

Project UCNR24-32 t-HUB: Connecticut Public Transport Data Hub

The results of this research will have profound impacts on the management of transit data and the usage of data in public transit planning and operations. In particular, the t-HUB database and webtool will create a centralized repository of the network, demographic and socio-economic data necessary to perform equity and environmental justice analysis by transit planners and operators. Furthermore, the repository will create a valuable resource for students and researchers looking for living laboratory opportunities – that is, opportunities to test their methods, techniques and technologies on real data from real transit systems.

The impact on other disciplines

Project UCNR24-28 The Impact of Parking Policies on the Long-term Vitality of American Cities

It is expected that the contributions will impact the field of intelligent transportation by providing models that can be used by algorithms used to plan vehicle routes.

Project UCNR24-32 t-HUB: Connecticut Public Transport Data Hub

Both computer science and geography stand to benefit from this project, as it will serve as an example of a successful collaboration between civil engineering, computer science & engineering and geography.

The impact on the development of transportation workforce development

Project MITR24-8 Technology Adoption and Use Across the Lifespan

- Improved the performance and skills of members of underrepresented groups who will improve their access to transportation research;
- Developed and disseminated new educational materials;

- Provided exposure to transportation to several members of the public.

Project MITR24-11 Determining Performance Measures to Evaluate the Effect of High Speed Rail on Communities' Livability

- Provided opportunities for research in transportation and related disciplines; graduate students have benefitted from the research experiences.

The impact on physical, institutional, and information resources

Project UCNR24-28 The Impact of Parking Policies on the Long-term Vitality of American Cities

The database of transportation statistics will serve as a repository of information for researchers in the field of transportation modeling. A database query tool that allows a user to select a subset of the data based on the time and location of interest is planned.

The impact on technology transfer

Project MITR24-8 Technology Adoption and Use Across the Lifespan

NE Center research on the impact of typeface style on driver demand has had considerable impact on industry and government. Technical briefings to GM, Ford, Chrysler and BMW as well as others provided the basis for data driven decision making on the impact typeface style may have on reducing driver distraction. This research renewed conversations between vehicle designers and system implementers on the importance of understanding basic legibility and its impact on distraction. This research has fueled renewed conversations on basic aspects of the driver vehicle interface, needs for standardization refinements and the adjustments of standards for technological trends at NHTSA, ISO, SAE etc.

Project UCNR24-28 The Impact of Parking Policies on the Long-term Vitality of American Cities

The transportation models resulting from the research are expected to assist individuals at highway operations centers more accurately predict congestion. This should simplify their task overseeing traffic conditions.

Project UCNR24-32 t-HUB: Connecticut Public Transport Data Hub

A workshop for transit operators and regional planners was held November 20, 2012. This workshop, funded through the Connecticut DOT, was affiliated with t-HUB and dealt with Title VI reporting requirements to FTA.

The impact on society beyond science and technology

Project MITR24-8 Technology Adoption and Use Across the Lifespan

NE Center research on the impact of typeface style on driver demand resulted in over 20,000 YouTube video views, 10,000 white paper downloads and considerable news presence. This research highlights how attention to basic aspects of vehicle design may be an effective way to combat some issues with distracted driving. In addition, the research illustrated at the consumer level how relatively small changes in vehicle interface design can have dramatic

impact on usability. Attention to research on methods of combatting distracted driving advances departmental goals in the overall education and elimination of distracted driving.

Project MITR24-9 Development of a Universal Residential Public Transportation Pass

The results of this work will not only be timely and relevant to the city of Cambridge (which is a serious proposal to revise the zoning code to almost double permitted density), but also have major significance for guiding the development of zoning codes and transportation strategies for the future transit-oriented redevelopment of more than 200 acres of land in Inner Belt, Brickbottom and Union Square around Green Line Extension stations in Somerville that is anticipated within the decade.

5. Changes/Problems

Nothing to report.

Additional information regarding Products and Impacts

Outputs

Nothing to report.

Outcomes

Nothing to report.

Impacts

Nothing to report.

6. Special Reporting Requirements

Nothing to report.