

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

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1. Accomplishments

1A. Research Projects

Following is the list of 37 research projects under this grant, and their current status:

Project No.	PI	Project Title	Status
MITR25-1	Abou-Zeid Ben-Akiva	Capturing the Relationship between Social Interaction and Travel Behavior Using Smart Phones	active
MITR25-2	Blanco	High-Resolution Urban Freight Modeling in Cambridge, MA	active
MITR25-3	Coughlin	Assessing Navigatability and Livability of Public Transportation Systems	active
MITR25-4	Ellis Lavalliere	Transportation Workforce Health and Wellbeing	active
MITR25-5	D'Ambrosio	Understanding the Adoption of and Education about New Auto Technologies among Older Adults	active
MITR25-6	Frazzoli	Modeling the Impact of One-Way Car Sharing: An integrated data- and optimization-driven approach	active
MITR25-7	Goentzel	Fusing Structured and Unstructured Transportation Data for Decision-Making in Crisis	active
MITR25-8	Gonzalez	Coupled Mobility Networks: A Data Driven Approach	active
MITR25-9	Isaacson	Out and About in New England: Maintaining Active Life styles in Later Life	active
MITR25-10	Lee	Effectiveness of Various Information Channels on User Training and Learning in Automobiles	active
MITR25-11	Osorio	Optimal Road Traffic Operations for an Increasingly Autonomous and Connected Vehicle Fleet	active

MITR25-12	Pentland Shmueli	Incentivizing Safer Driving Using Peer-Pressure	active
MITR25-13	Reimer Dobres	Assessing the Effect of Typography on In-Vehicle Glance-Like Reading Across the Lifespan	active
MITR25-14	Salvucci Murga	MALL Transit and Wider Economic Benefit Assessment	active
MITR25-15	Sussman	Hub Stations As Catalysts for Regional Growth: The Case of New York Penn Station	active
MITR25-16	Trancik	From Trip Data to the Energy Requirements of Personal Vehicle Travel	active
MITR25-17	Zegras Pereira	Scenario Discovery for Resilient Urban Systems (or, The Future is "Big Data")	active
MITR25-18	Zhao	Humanizing Travel: How E-hail Apps Transform Stakeholder Relationships in Taxi Services	active
HVDR25-19	Glaeser	Transportation Stimulus Spending and Long Term Unemployment	active
HVDR25-20	Gomez-Ibanez Fagan	The Experience with Managed Toll Lanes	active
HVDR25-21	Howitt	Recreating Livable Communities after Catastrophe: Managing the Recovery from Japan's Earthquake, Tsunami, and Nuclear Disaster of 2011	active
HVDR25-22	Mayne	The Politics of Transport Policy in the Greater Copenhagen Region, Part 2	active
HVDR25-23	Shoag	The Local Effects of the American Recovery and Reinvestment Act on Economic Activity and Traffic Safety	active

UMAR25-24	Christofa Knodler	Operational and Emission Analyses of Roundabouts under Varied Vehicle and Pedestrian Demands	active
UMAR25-25	Fisher Knodler Zafian	Evaluating the Effect of Google Glass on Driver Distraction	active
UMAR25-26	Gao	Routing Policy Choice Models in Stochastic Time-Dependent Networks: The Stockholm Case Study	active
UMAR25-27	Gonzales	Route Choice in Congested Grid Networks	active
UMAR25-28	Knodler Fisher	A Driving Simulator Evaluation of Driver Distraction and Traffic Control Device Comprehension for At-Grade Railroad Crossings	active
UMAR25-29	Krishnamurty	An Innovative Design to Retrofit Seatbelts in Motorcoaches	active
UMAR25-30	Ni Wang	Supplementary Vehicle Positioning to Connected Vehicles	active
UCNR25-31	Atkinson-Palombo Garrick	A Multi-Scalar Model to Identify the Causes of Decreased Vehicle Miles Traveled (VMT) in the United States	active
UCNR25-32	Garrick Atkinson-Palombo	Factors Contributing to the Decrease in Traffic Fatality Rates for Young People in America	active
UCNR25-33	Ivan Ravishanker Townsend	Social Network Effects on Attitudes about Pedestrian Street Crossing Behavior	active
UCNR25-34	Konduri Dalal	Exploration of Human Psychological Factors Underlying Mobile Phone Usage Behaviors while Driving	active
UCNR25-35	Lownes	Clustering Algorithms for Transit Network Design	active
UMER25-36	Garder	Deficient Bridges and Safety Information	active
UMER25-37	Rubin Garder	Automated Vehicles: Economic Incentives for Environmental Benefits and Safety	active

Accomplishments under the New England UTC's research goal

Staying Put visits New England Center

October 15, 2014

New England Center welcomed members of Staying Put, a grassroots voluntary group with a passion for Somerville and Cambridge residents, especially those 55+. Staying Put raises awareness about the concepts and importance of universal design principles and age-friendly communities in order to inspire active and meaningful living across the lifespan. Susann Wilkinson of Staying Put organized the event and invited honored guest, Massachusetts State Senator Pat Jehlen, Senate Chair of the Committee on Elder Affairs. UTC Center Director Joe Coughlin kicked off the visit. Other UTC researchers presented New England Center research addressing aging in place, as well as transportation, housing, health, and technology.

NE Center Announces DOT's 2015 Internship Program for Diverse Groups

October 21, 2014

DOT's Summer Transportation Internship Program for Diverse Groups (STIPDG) provides a unique opportunity to gain valuable professional experience and skills that will complement one's academic pursuits. This hands-on program is designed to mentor and cultivate tomorrow's leaders, strengthen their understanding of the transportation industry and prepare them for future public service opportunities. This is a paid internship program open to all qualified candidates; the internship period is June 8-August, 15, 2015.

Study performed in New England Center driving simulator featured in Wired magazine

November 17, 2014

Wired spoke with New England Center research scientist Bruce Mehler regarding a study of university students who were using Google Glass while in a driving simulator. The piece concluded: "Turns out, hands-free driving doesn't mean distraction-free driving. But whether Google Glass, which is largely hands-free and uses visuals projected into your line of sight, is the best of a bad lot hasn't been answered just yet." Read the article at Wired.com

US Secretary of Transportation visits NE Center; addresses UTC themes

January 6, 2015

The United States Secretary of Transportation Anthony Foxx visited the New England Center to learn about the instrumented vehicles from Center director Joe Coughlin and associate director Bryan Reimer. Foxx also spoke as part of the MIT Center for Transportation and Logistic's Global Leadership Speaker Series. Governor Deval Patrick was in attendance as were representatives from the US Department of Transportation Headquarters and the Volpe Center. Foxx spoke to UTC themes, including high-speed rail development, questions surrounding the future of autonomous vehicles, and increasing access to transit throughout the US.

Boston transportation survey distributed online

March 16, 2015

UTC researcher Dr. Michal Isaacson distributed an online survey to a large database to examine some of the transportation aspects of the historic winter weather New England has had. The study is called "Resilience in extreme weather situations: transportation and day-to-day life in the Boston Metropolitan Area, winter 2015." The goal of this study is to measure the impact that the weather has had on mobility, transportation and well-being for the people living in the Boston metropolitan area. In addition, the study seeks to understand who is the most vulnerable to the impacts of extreme weather and what makes others resilient to the difficulties that extreme weather creates. Data for this study is currently being collected using an internet-based survey that closes at the end of the month.

Data show decrease in VMT not a recent phenomenon

The work conducted under Project UCNR25-31: A Multi-Scalar Model to Identify the Causes of Decreased Vehicle Miles Traveled (VMT) in the United States, has been impactful in identifying that the downward trend in VMT in the US is not a recent phenomenon. In fact, when VMT data are

analyzed at the state level, it is evident that VMT decreases date back as far as twenty years, beginning with the state of Washington. This is very important because policy-makers have been interpreting this phenomenon as something that happened recently, and adopting a “wait-and-see” approach. VMT is an important determinant of many policy-oriented issues, most importantly funding. The pre-existing notion was that VMT and economic growth were positively correlated—so the more VMT, the more growth and vice versa. Our research shows that economic growth is able to take place within an environment of declines in VMT which suggests that the entire way that VMT metrics are used in policy need to be rethought. Presentations at the Transportation Research Board in January and the news article written by the Washington Post about the research garnered a great deal of attention. The data associated with the project have been made publicly available via the Washington Post website to extend discussion and analysis of this phenomenon.

UMAR25-25 Evaluating the Effect of Google Glass on Driver Distraction

The experiment is to commence the week of April 12, 2015. Pilot participants have already been run. Final study preparation is underway. Google Glass system functionality and capability have been fully analyzed and team members have become knowledgeable about the complete operation of the Glass device. Forty-eight participants will be recruited for the study. Half of the participants will use the Glass for performing secondary tasks while navigating the virtual world while the other half will use their own smartphone. These secondary tasks, along with the scenarios, were evaluated in the four pilot runs which were run on March 6, 2015. The experiment will commence week of April 12, 2015. Twenty subjects will be run each week with an expected completion date of June 1, 2015. Several pilot participants have already been run.

How the New England UTC’s research results have been disseminated

NE Center researchers present award-winning Google Glass driving simulation study November 24, 2014

An extended presentation on the study “Comparing the Demands of Destination Entry using Google Glass and the Samsung Galaxy S4” was recently presented at the 2014 Human Factors and Ergonomics Society Annual Meeting. A preliminary report on this research was presented by student researchers and won the Volpe Award at the New England chapter of HFES Annual Student conference earlier this year. This study was aimed at understanding how driving performance and attentional resources could be affected when using modern navigation entry devices while operating a vehicle. Researchers compared the workload associated with entering a destination address into a navigation application with a novel hands-free technology (Google Glass) to voice-based and visual-tactile input options on a smartphone (Samsung Galaxy S4) while driving in a vehicle simulator.

Bryan Reimer speaks at the Vermont Highway Safety Alliance Annual Meeting October 15, 2014

Dr. Bryan Reimer, Associate Director of the New England Center, presented at the Vermont Highway Safety Alliance Annual Meeting in Killington Vermont October 14, 2014. In his talk titled, “Human Centered Considerations: Future Vehicles & the Aging Operator,” he described a vision for the future of older adult mobility in a radically changing operational environment that includes advanced driver assistance systems and increased automation. He described some of the major human factors challenges for safe mobility in an increasingly automated transportation system. With the recent implementation of a hand-held device ban in Vermont, voice interfaces may provide for an acceptable and potentially safer alternative.

Project MITR25-4 Transportation Workforce Health and Wellbeing

We are currently analyzing data from the Gallup Healthways survey to gather information on well-being across different industries. More specifically, we are comparing responses from 4 sectors: Transportation, Service, Labor, and Professionals across 5 different indexes gathered by the survey: Health behaviors, Basic Access, Emotional health, Physical health, and Work environment. The current analysis is allowing us to do a comparison between sectors as well as across the lifespan

since we have responses from participants aged from 18 to 85 years old. A survey is under preparation to be sent out to major transportation companies to assess more specifically questions raised by the Gallup-Healthways survey.

Project MITR25-17

Scenario Discovery for Resilient Urban Systems (or, The Future is “Big Data”)

A paper based on the vehicle ownership and trip generation modeling has been accepted for presentation at CUPUM (Computers in Urban Planning and Urban Management), 2015 and a paper based on the initial calibration of the land use-transport model system has been accepted for presentation at the 14th International Conference on Competition and Ownership in Land Passenger Transport.

1B. Education Projects

Following is the list of 2 education projects under this grant, and their current status:

Project No.	PI	Project Title	Status
HVDE25-38	Howitt	Teaching Case Study on “Resilient Cities” and Transportation	active
HVDE25-39	Davis Altshuler	Transforming Urban Transport: a Set of Case Studies	active

Accomplishments under the New England UTC’s education goal

New England Center names outstanding student award recipient December 1, 2014

Ms. Jing Ding-Mastera has been named the winner of the UTC Outstanding Student of the Year Award 2014 for the New England (Region One) University Transportation Center. She will be honored at a special ceremony to be held during the CUTC Annual Banquet at the 94th Annual TRB meeting in Washington, DC on January 10, 2015. She also received \$1000, a certificate from USDOT, two free registrations to the CUTC Banquet, and free travel expenses to Washington.

Project HVDE25-39 Transforming Urban Transport: a Set of Case Studies

Research and interviewing has begun on our three new US case studies: (1) Adaptive taxi and livery regulation in San Francisco, (2) publicly-supported tax-based transit investments in Los Angeles, and (3) non-motorized transport improvements in New York City. Each of the cases focus on roughly the same aspects – political evolution and decision-making, with particular attention to the contributions of identifiable leaders. The case study writing for these cases will begin this summer.

1C. Technology Transfer Projects

Following is the list of 2 technology transfer projects under this grant, and their current status:

Project No.	PI	Project Title	Status
MITT25-43	Coughlin	MIT Centralized Technology Transfer Initiatives	active
UMAT25-44	Collura	UMass Centralized Technology Transfer Initiatives	active

Accomplishments under the New England UTC's technology transfer goal

Coughlin Keynotes Annual TRB Human Factors Meeting January 27, 2015

New England Center director Joe Coughlin keynoted the Annual Transportation Research Board's Human Factors Plenary Session held in Washington DC, January 11, 2015. Speaking before the gathering of industry leaders, government regulators, system operators and university researchers, his talk: "Automation and the Changing Context of the Transportation Operator;" cited four contextual factors that should receive significant attention in future research and development of automated systems, both in transportation and countless other applications such as smart home environments.

Project UMER25-37

Automated Vehicles: Economic Incentives for Environmental Benefits and Safety

We are helping plan a social-behavioral science session at the Automated Vehicle Symposium at the University of Michigan in July 20-24, 2015:

<http://www.driverlesstransportation.com/event/automated-vehicles-symposium-2015>

Project UMAR25-27

Route Choice in Congested Grid Networks

Findings disseminated in award-winning conference presentation and journal paper submissions
The findings of the research to date have been presented in two conferences. These venues have reached both a local and national audience, and include interaction with researchers and professionals outside the conventional transportation engineering program of civil engineering. Mahyar Amirgholy, Graduate Student Researcher, presented two posters related to this work at the ITE (Institute of Transportation Engineers) Student Symposium and Technical Day on March 26, 2015. He was awarded Best Poster by a panel of external judges consisting of academics and professionals. Results are also in preparation for journal papers. One has passed a first round of reviews and another is in preparation for submission in the near future.

2. Products

Journal publications

Dobres, J., Chahine, N., Reimer, B., Gould, D., Mehler, B. & Coughlin, J.F. (under review). Utilizing Psychophysiological Techniques to Investigate the Effects of Age, Typeface Design, Size, and Display Polarity on Glance Legibility. *Human Factors*.

Garceau, T., Atkinson-Palombo, C., and Garrick, N., Peak Car Travel in the United States: A Two-Decade Long Phenomenon at the State Level *Transportation Research Record*, (Accepted 03/15).

Garceau, T.* , Atkinson-Palombo, C., and Garrick, N., Peak Travel and the Decoupling of Vehicle Miles Travelled and Gross Domestic Product: A Synthesis of the Literature, *Transportation Research Record: Travel Behavior* (2014), 1, 2412, 41-48.

Books, dissertations, or one-time publications

Chahine, N., Reimer, B. & Dobres, J. (2015). Branding and Legibility in Automotive Displays. ATZ.

Garceau, T. PhD Dissertation on "Vehicle Miles Travelled: An Analysis of Trends and Implications", Scheduled for August 2015.

Reimer, B. (2015). Chasing Glances. Huffington Post.

Other publications, conference papers and presentations

Amirgholy, M., and Gonzales, E.J. (2015). Efficient Frontier of Route Choice for Modeling the Equilibrium under Travel Time Variability with Heterogeneous Preferences. 56th Annual Transportation Research Forum, March 12-14, Atlanta, Georgia.

Amirgholy, M., and Gonzales, E.J. (2015). Bi-Objective Traffic Assignment Using the Efficient Frontier of Route Choice: Accounting for Travel Time Variability and Heterogeneous Travel Preferences. NEITE Student Symposium and 16th Annual UMass Technical Day, March 26, 2015, Amherst, Massachusetts. (Best Poster).

Central Connecticut State University 3/23/15: Research Talk on Peak Car Travel.

Dobres, J., Reimer, B., Parikhal, L., Wean, E. & Chahine, N. (in press). The Incredible Shrinking Letter: How Font Size Affects The Legibility of Text Viewed in Brief Glances. Proceedings of the 8th International Driving Symposium on Human Factors in Driver Assessment Training, and Vehicle Design.

Explaining Peak Car Travel: Analyzing State-Level Patterns to Identify Factors Related to Driving Reductions in the United States. *Association of American Geographers 2015 Annual Meeting*, Chicago, IL (Apr. 2015).

Invited: Peak Car Travel at the State-Level in the United States. University of Massachusetts Transportation Engineering Transportation Seminar. Amherst, MA (Apr. 2015).

Keene State College, Sustainability Planning Course 2/24/15; Guest lecture / delivered a variation of the TRB talk.

Peak Car Travel in the United States: Two-Decade Long Phenomenon at the State Level. *Transportation Research Board 94th Annual Meeting*, Washington, D.C., lectern session 15-3449 (Jan. 14, 2015).

Peak Car Travel in the United States: Two-Decade Long Phenomenon at the State Level. *Transportation Research Board 94th Annual Meeting*, Washington, D.C., poster presentation P15-6155 (Jan. 13, 2015).

Websites or other Internet sites

Nothing to report.

Media

Visual science research is needed as displays get smaller. *Electronics Weekly*, March 12, 2015
Could Apple really be about to make cars?. *BBC Future*, February 20, 2015.

5 Quotes on Why Auto Brands Need To Watch Their Backs. *Auto World News*, February 8, 2015.

Detroit Motor Show: Car firms take on the tech giants. *BBC News*, January 12, 2015.

3 New Cars Technology That Decrease Danger. *AARP Bulletin*, December, 2014.

Monotype & AgeLab Findings in 2014, November 24, 2014.

The Hassle of 'Hands Free' Car Tech. *WSJ*, November 23, 2014.

Speech Interface Concerns. *The Hansen Report*, November, 2014.

The car of the future? Less distracting. *The Boston Globe*, November 16, 2014.

Turns out Google Glass may be only kind of distracting while driving. *Wired*, November 11, 2012.

Driverless Cars Special. *BBC World Service Science in Action*, October 26, 2014.

The Washington Post: The American Decline in Driving Actually Began Way Earlier Than You Think.
<http://www.washingtonpost.com/blogs/wonkblog/wp/2015/01/16/the-american-decline-in-driving-actually-began-way-earlier-than-you-think/>

Technologies or techniques

Project UMAR25-25

Evaluating the Effect of Google Glass on Driver Distraction

UMass Amherst is a partner in two Tier 1 University Transportation Centers (UTCs), one with Ohio State University (CrIS) and one with the University of Iowa (SaferSim). We have shared with them how to use an eye tracker to record the glance patterns of drivers wearing Google Glass. It was generally believed that it would not be possible to do this. Because knowledge of the eye glance patterns is so important to understanding how information displayed on Google Glass can be a source of top down distraction, this represents an important advance in techniques for evaluating wearable displays.

Inventions, patent applications, and licenses

Project UMAR25-29

An Innovative Design to Retrofit Seatbelts in Motorcoaches

US provisional patent UMA 14-029 - [42740.00018] "Retrofit Seatbelt System" was filed in May of 2014. This patent will be converted to a non-provisional version in May of 2015 as part of the work from this project. As this patent process matures, it will at some point become possible to publically disseminate details of this invention in other forms for the benefit of outreach to other communities not usually aware of our research activities. The patent document details how this invention is different from any prior art in a way that could overcome all current technical and economic barriers that have prevented the retrofit of existing motorcoaches with seatbelts.

Other products

Project UMAR25-24

Operational and Emission Analyses of Roundabouts under Varied Vehicle and Pedestrian Demands

We utilized one-hour video data that had been collected before for each of the morning and evening peak hours at two test sites: the single-lane roundabout located on the University of Massachusetts Amherst campus, at N. Pleasant and Governors Dr. and the double roundabout located at Route 116 and Bay Road in Amherst, MA. These data were used to model the two sites in the microsimulation software VISSIM.

3. Participants & Other Collaborating Organizations

Organizations that have been involved as partners

Charles and Anne Schewe, Sara's Wish Foundation (SWF), Amherst, MA

FTA provided financial support; UMass Transit provided in-kind services and space; Edit provided in-kind staff time; and State Military Task Force provided \$5 million to establish an Aviation Center at WARB.

Government agencies (FTA, UMass Transit, MassDevelopment, WARB, and MBTA) and industry (M2C Aerospace, Milford, MA).

Maine Department of Transportation (headquarters in Augusta, ME)

The Metropolitan Area Planning Council, Boston, MA (meetings on numerous occasions, share with our project their initial estimations and implementation of CubeLand for Boston and also shared an extensive set of data for our model estimation and validation).

Other collaborators or contacts that have been involved

We have collaborated with a research partner from Masdar Institute of Science and Technology, with graduate students developing an evaluation framework and screening model consistent with our modeling approach and context.

The i2d data logger was provided by the developers with the help of Drs. Nagui Roupail and Dr. Behzad Aghdashi of North Carolina State University. This technology was the result of a research and development and technology demonstration project jointly sponsored by the Instituto de I&D do Departamento de Engenharia Mecanica do IST (IDMEC) and the Internet, Technologies & Desenvolvimento De Software (ITDS) and co-funded by Fundo de Apoio a Inovacao (FAI)

4. Impact

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

Project MITR25-17

Scenario Discovery for Resilient Urban Systems (or, The Future is “Big Data”)

A method for integrating sea level rise into transportation network models has been developed, with potential for widespread use elsewhere.

Project UMAR25-29

An Innovative Design to Retrofit Seatbelts in Motorcoaches

Initial findings and results of the invention were presented at the meeting in October 2014 described above with US government officials who are very interested in the progress of this project. This was a significant development, because the final rule from NHTSA on occupant crash protection in 2013 hypothesized that economic and technical barriers prevent the feasibility of retrofitting seatbelts on existing motorcoaches. The impact of this presentation raises the possibility to the transportation community that such barriers to feasibility may no longer exist.

The impact on other disciplines

Project UMAR25-27

Route Choice in Congested Grid Networks

The research addresses problems that fall at the intersection of transportation engineering, economics, management science, and finance. As such, the project has sparked interest from researchers from outside of the conventional transportation engineering field, and is fostering communications that may lead to future collaborations. There is particular interest from faculty working with concepts of efficient frontiers, portfolio theory, and option theory in financial applications who now see some potential value in the transportation domain.

The impact on the development of transportation workforce development

Project MITR25-17

Scenario Discovery for Resilient Urban Systems (or, The Future is “Big Data”)

We have 5 graduate students and a postdoctoral associate working on the project, from urban planning and transportation. Meetings with MAPC have given exposure to individuals from that agency to our research.

Project UMAT25-44

UMass Centralized Technology Transfer Initiatives

This initiative focused on workforce development. Activities include the following: 1) Dr. John Collura has collaborated with UMTC staff (Kris Stetson) and UMass Transit staff (Mr. Al Byam, former Director, and Mr. Rauley Caine) in promoting the FTA/UMass Transit Management and Operations Certificate Program; 2) Dr. John Collura continues to work with MBTA staff including Mr. Jeff Gonville, Chief Mechanical Office, to explore opportunities for MBTA employees to enroll in the FTA/UMass Transit Management and Operations Certificate Program and to establish middle school and high school outreach programs in the Springfield area; 3) Dr. John Collura continues to work with UMass Facilities staff (Tom Shaw and Peter Gray-Mullen), Westover Air Reserve Base (WARB) staffer Wayne Williams, MassDevelopment, and M2C Aerospace (Mr. Rick Brody) to develop a functional space plan for the Aviation Center at the WARB; 4) Dr. Collura prepared and submitted a National Cooperative Highway Research Program (NCHRP) Synthesis Proposal in February in coordination with the TRB Education and Training Committee and the Consortium on University Transportation Centers (CUTC); and 5) Dr. Collura continued to coordinate the

development of a workforce monograph in conjunction with the CUTC Workforce Development Task Force and Clark Martin at FHWA.

The impact on physical, institutional, and information resources at your university or other partner institutions

Project MITR25-17

Scenario Discovery for Resilient Urban Systems (or, The Future is “Big Data”)

We purchased a multi-processor Tower computing environment for running our models and storing results. We have compiled a massive set of data on travel behavior, historical infrastructure (including compiled from TIPS) and service changes (e.g., transit line changes), and land uses. We are developing a web-site to disseminate the results.

The impact on technology transfer

Project UMAR25-29

An Innovative Design to Retrofit Seatbelts in Motorcoaches

The results were shared with the federal government officials at the meeting in October 2014. Several potential industry partners, including American Bus Association, American Seating and Peter Pan, have been informed about the new invention and its potential. These industry partners have all shown interest in following the progress of this project and have assisted with the acquisition of donated bus seats and mounting hardware.

The impact on society beyond science and technology

Project HVDR25-22

The Politics of Transport Policy in the Greater Copenhagen Region, Part 2

I have been able to continue to gather detailed information on both large-scale, “big-bang” policy shifts as well as – and crucially – smaller-scale, incremental policy enactments that, taken together, have turned Copenhagen into one of the world’s leaders in sustainable transportation. These policies resulted from national as well as municipal political action, and a key goal of this project has been to identify factors and conditions that influence politicians at the local and national level to pursue policies that facilitated the development and consolidation of a sustainable transportation regime in the Greater Copenhagen Region. To this end, as part of this project I have collecting a large store of data in two principal areas. The first relates to political events and developments that occurred in the interwar period. This includes, most notably, the enactment of policies that led to the opening of the first urban S-train lines in the 1930s and the growing political strength and influence of conservation groups and urban planners in the 1920 and 1930s. Second, I have been collecting finer-grained data related to smaller-scale political events and developments that slowly over time, cumulatively speaking, had far-reaching effects on transportation policy.

5. Additional Information

Additional information regarding Products and Impacts

Outputs

Project MITR25-17

Scenario Discovery for Resilient Urban Systems (or, The Future is “Big Data”)

We received a seed grant from the Center for Advanced Urbanism to extend analysis based on this project, concerning sea level rise scenarios.

Outcomes

Nothing to report.

Impacts

Nothing to report.