Program Progress Performance Report (PPPR)
University Transportation Center - ATLAS Center

Submitted to:	U.S. Department of Transportation Office of the Assistant Secretary for Research & Technology
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Project Title:	University Transportation Center The Center for Advancing Transportation Leadership and Safety (ATLAS Center) *University of Michigan Transportation Research Institute (UMTRI) (Lead Institution)* *Texas A&M Transportation Institute (TTI), a member of the Texas A&M University System (TAMUS)*
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Submitting Official:	Same as above
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DUNS:	073133571
Recipient Organization:	University of Michigan (U-M) 500 S. State St., Ann Arbor, MI 48109
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Reporting Period End Date:	September 30, 2016
Report Term:	Bi-Annual
Signature:	

1. ACCOMPLISHMENTS

1.1 What are the major goals of the program?

The ATLAS Center has five major goals:

- Sponsor/conduct high-quality, high-impact research.
- Engage in effective education and workforce development activities.
- Disseminate new traffic safety knowledge and information to a wide range of stakeholders through technology transfer efforts.
- Provide state, national, and international traffic safety leadership.
- Develop and maintain traffic safety collaborations.

1.2 What was accomplished under these goals?

1.2.1 Sponsor/conduct high-quality, high-impact research

The ATLAS Center conducts three programs of sponsored research. The first is the ***Research Excellence Program***. Under this program, the ATLAS Center partners (UMTRI and TTI) embrace the power of competition to produce the highest quality research results. Each institution uses a competitive selection process, whereby investigator-initiated research projects are reviewed and evaluated by experts. Projects are selected for sponsorship based on these reviews and the priorities of each ATLAS Center institution.

Two U-M projects and three from TTI have come to completion this reporting period. One 2016 U-M Research Excellence project is still underway and has been extended through November, 2016. TTI awarded two projects which began March, 2016 and have been extended through the end of the year. TTI is reviewing other research projects to be awarded in the 2017-2018 time period.

The second research program conducted by the ATLAS Center is the ***Cooperative Research Program***. A key strength of the ATLAS Center is the synergy created through collaboration between the Center's two institutional partners. Through this program, the Center supports joint research projects that, at a minimum, include collaborative research conducted at UMTRI and TTI. To support a project awarded through the ATLAS Center at TTI Research Program, a small-scale UMTRI-based project was sponsored through the ATLAS Center at UMTRI's Cooperative Research Program and has come to completion. No other projects have been awarded.

The third ATLAS Center research program is the ***Strategic Initiatives Program***. This program is designed to be flexible enough to take advantage of strategic and/or timely research opportunities that might not otherwise fall under the timeframes of the ATLAS Center's other research programs. During this period, a project was funded through cost match from the Michigan Department of Transportation (MDOT) for the project period November 1, 2016 through April 20, 2018:

Identifying Potential Workzone Countermeasures Using Connected Vehicle and Driving Data

Principal Investigator: Adita Misra, PhD, Assistant Research Scientist, UMTRI
In partnership with MDOT and UMTRI

1.2.2 Engage in effective education and workforce development activities

The ATLAS Center conducts several activities that promote education and workforce development activities in traffic safety each year. The following describes the activities conducted during this reporting period.

Summer Internship Program: The ATLAS Center at TTI conducted a 10-week summer internship program at Texas A&M University (TAMU). The program provides undergraduate students with the unique opportunity to work closely with a research scientist or engineer in a structured and intensive research environment. Student interests are matched with appropriate researchers at TTI and TAMU, and the program provides room, board, and a stipend. The program coincides and is coordinated with other summer intern programs at TAMU funded by the National Science Foundation, providing interns with an opportunity to interact with students in other disciplines and participate in university wide seminars, tours, poster sessions and other events for interns. They were given the opportunity to take a GRE course and attend the TTI Traffic Safety Conference held in College Station. The following students participated in the 2016 Summer program which ended August 31, 2016:

Name	**University**	**Area of Study**	**Mentor**
Madison Graham	Texas A&M University	Urban Planning	Kay Fitzpatrick
Garima Gupta	University of Michigan	Mechanical Engineering	Jerry Ullman
Ezekiel Hsieh	University of Texas Austin	Mechanical Engineering	Jerry Ullman
Carlos Leyva	University of Texas Arlington	Civil Engineering	Chiara Silvestri-Dobrovolny
Madilyn Mendoza	Arizona State University	Mechanical Engineering	Chiara Silvestri-Dobrovolny
Mary Weber	University of Michigan	Informatics - Life Science	Eva Shipp
John Raker	Ohio Northern University	Civil Engineering	Karen Dixon

The ATLAS Center hosted a presentation breakfast for U-M interns Mary Weber and Garima Gupta at UMTRI to present the work and results from their research in the program.

Student of the Year: The ATLAS Center supports an annual Student of the Year Program to recognize student achievement. A call for applications has been sent out by ATLAS Center at TTI to determine this year's Student of the Year. Students are selected through a competitive process and given awards. The student will be recognized this year with a stipend of $1,000 and will be given support to travel to this year's 2017 CUTC Awards and Banquet Ceremony and Transportation Research Board (TRB) meetings held in January in Washington, D.C.

Professional Education Program: The ATLAS Center at UMTRI supports the education of traffic safety professionals through various media, including on-site education, lectures and talks, conferences and seminars, and web-based media to reach a wide variety of transportation professionals. There was nothing to report for this period.

Student Participation in Research: To encourage involvement of students in active research and offer an opportunity for students to learn more about transportation safety, each research project awarded by the ATLAS Center requires the participation of at least one student or post-doctoral fellow. The Center sponsored three students from TTI and 13 students from U-M during this research period. These students represented a broad range of academic departments including transportation engineering, mechanical engineering, computer science, economics, civil engineering, industrial engineering, biostatistics, and urban and regional planning.

Daniel Crecca and Paras Mehta, undergraduate students at U-M, participated in ATLAS Center and UMTRI Behavioral Sciences Group (BSG) research projects as part of U-M's Undergraduate Research Opportunity Program (UROP). The students presented posters on their work at the UROP symposium and also to ATLAS Center staff in May, 2016. Mehta was involved in the LongROAD Study, a AAA Foundation for Traffic Safety sponsored longitudinal research study on aging drivers at five sites in the US. Crecca worked on the ATLAS Center project *Improving the Safety of Older Heavy-Vehicle Drivers: Developing a Framework for Moving Forward.* Sarah Limb and Hayley Walton, undergraduate students at U-M, participated in the UROP Spring Symposium as well. They worked on ATLAS Center-funded research in the Population, Neurodevelopment and Genetics Program, Survey Research Center, Institute for Social Research with ATLAS Center researchers Daniel P. Keating and Edward D. Huntley. They presented their poster *Predictors of Adolescent Behavioral Misadventure*. Tian Tian, a research student worked on ATLAS Center research on older truck driver safety and the MDOT pedestrian and bike study with Dr. Robert Hampshire. She presented her poster *Improving the Safety of Older Truck Drivers* at the 2016 TTI Traffic Safety Conference in June, 2016.

The ATLAS Center sponsored and organized conference, Meeting the Challenges of Safe Transportation in an Aging Society, held a poster competition September 14-15, 2016. Six students from the United States and Canada participated. Three awards were presented for outstanding posters.

The 2nd Annual 2016 Transportation Safety Research Symposium will be sponsored by UMTRI and the ATLAS Center and held on the campus of the University of Michigan on October 6, 2016. The full-day event will feature panels that will demonstrate the impact that UMTRI transportation research has made in the fields of energy, mobility, and safety. Seventeen students, including Garima Gupta, U-M 2016 summer intern, have entered the poster session, sponsored by ATLAS Center and the Patricia Waller Scholarship Fund.

UMTRI Speaker Series: The ATLAS Center at U-M is co-sponsor of the UMTRI Speaker Series, a presentation series this year focused on transportation data. The following

presentations were sponsored for this reporting period:

April 28: Professor Yi Lu Murphey, U-M Dearborn Department of Electrical and Computer Engineering, *Building Efficient Probability Transition Matrix using Machine Learning from Big Data for Personalized Driving Route Prediction*.

June 2: Henry Liu, UMTRI and U-M Department of Civil and Environmental Engineering, *Next Generation Traffic Control System with Connected and Automated Vehicles.*

Workforce Development and Education: The ATLAS Center has established a partnership with the Workforce Intelligence Network (WIN), a Southeast Michigan collaborative effort between nine community colleges, seven workforce boards and economic development partners. Its mission is to create a comprehensive and cohesive workforce development system in Southeast Michigan that provides employers with the talent they need for success. As part of the partnership, WIN was given funding to produce an analysis and profile of Michigan's transportation safety workforce. This report details occupations related to transportation safety sub-categorized by occupational family (e.g., transportation infrastructure, construction, transportation manufacturing, transportation testing). WIN's custom occupational analysis focuses on job titles related to the ATLAS Center's transportation safety research goals that promote safer roadways, safer drivers, and safety for high-risk groups. Additional occupation codes included in the analysis highlight workers with knowledge of emerging intelligent transportation systems, connected, or automated vehicle technologies, and a research and education focus of WIN partner Michigan Academy for Green Mobility Alliance (MAGMA).

WIN completed this analysis and profile of Michigan's transportation safety workforce titled *Transportation Safety Workforce Report 2015*. This report details occupations related to transportation safety sub-categorized by occupational family (e.g., transportation infrastructure, construction, transportation manufacturing, transportation testing). The report can be downloaded and read at: http://www.atlas-center.org/educationworkforce-development/workforce-intelligence-network-win/. An April, 2016 press release, executive summary, and one page report was produced from this workforce full report.

The ATLAS Center is also partially funding WIN through December, 2016 to research and analyze workforce needs specifically related to connected and automated vehicles.

Student Travel Assistance Program: A portion of the ATLAS Center at TTI's funds is allocated to graduate or undergraduate students to support travel to attend the Texas Traffic Safety Conference and TexITE meetings. The ATLAS Center supported transportation, lodging, and registration costs for 13 students from the TAMU student chapter of ITE to attend the TexITE meeting in Ft. Worth September 22-23, 2016.

*Advancement Via Individual Determination (AVID) Program Support***:** AVID is an in-school college readiness program for elementary through high school students, targeting underserved students (predominantly minority and economically disadvantaged) who fall in the academic middle for college eligibility and success. The ATLAS Center at TTI incorporates transportation safety elements into existing TTI interactions with the AVID program in College Station Independent School District schools. Melisa Finley, Research Engineer from TTI, led two AVID sessions this reporting period. In the spring of 2016, TTI hosted three different groups of AVID students at their facilities in College Station, Texas. Melisa Finley, Research Engineer from TTI, led these AVID sessions.

In total, 32 seventh grade and 63 sixth grade AVID students from local intermediate and middle schools visited TTI and learned about the world of transportation engineering, safe and smart biking skills, distracted driving, how TTI tests roadside devices, such as sign posts and guardrail, materials used to control storm water run-off when constructing roadways, and how traffic signals work. They also watched a crash test presentation and created "puff-mobiles" as a hands-on activity. The ATLAS Center helped sponsor these events and provided lunch for the students.

In summer 2016, ATLAS Center at TTI welcomed 39 students from the George Bush Presidential Library and Museum summer camps to its facilities at the TAMU campus in College Station, Texas. The George Bush Presidential Library and Museum offers summer camps each year to five groups of students aged 7 to 11. These week-long camps center around the topic of the museum's current exhibit. This year's exhibit "Driven to Drive" focused on the history of transportation and included a one-day field trip each week to TTI. Activities conducted during these field trips promoted science, technology, engineering and mathematics (STEM) fields.

The Summer Transportation Institute (STI), was replaced by *Outreach Activities of the Center for Energy and Environmental Sustainability (CEES) at Prairie View A&M University (PVAMU)*.

The Center for Energy & Environmental Sustainability (CEES) which is funded by the ATLAS Center at TTI collaborated with the Roy G. Perry College of Engineering Enhancement Institute (CE^2I) and Summer Research Experience Program (SREP) at Prairie View A&M University. CE^2I is an innovative and intensive summer bridge-to-college program designed to prepare freshman and local high school students for the rigors of an Engineering, Computer Science, or Technology Curriculum and to aid with the transition between high school and college. CEES invited Dr. Sanjay Tewari, an Assistant Professor of Civil Engineering at Louisiana Tech University, who met with 70 CE^2I participants and 15 SREP participants. Dr. Tewari organized a hands-on activity beneficial to both groups that involved a wide spectrum of science, energy, technology, engineering and mathematics specifically focused to vehicles.

1.2.3 Disseminate new traffic safety knowledge and information to a wide range of stakeholders through technology transfer efforts

The following describes ATLAS Center technology transfer activities during this reporting period.

Knowledge Translation Program (UMTRI): This program is intended to facilitate the translation of knowledge and intellectual properties into practical applications for the marketplace to benefit the University, the community, and the general public. The program coordinates its efforts with the U-M's Office of Technology Transfer to provide researchers with resources to help them successfully navigate the process required for technology transfer, product development, and technology commercialization. The Center continues to support knowledge translation by keeping ATLAS Center researchers informed of technology transfer resources.

Website: The ATLAS Center website continues to update the information required by the UTC program. During this reporting period, ATLAS-Center.org, was updated on a regular basis. Analysis of the website use from Google Analytics showed that during this reporting period the website had more than 6,535 page-views from 2,939 users. Since the start of ATLAS Center, the website has had more than 39,499 page-views from 14,698 users.

Newsletter. The ATLAS Express is currently sent electronically to more than 4,300 recipients, with new recipients continually added to our subscriber list. One newsletter was produced in this reporting period and all newsletters can be found on the ATLAS Center website.

Facebook Page: The ATLAS Center Facebook page continues to help disseminate our research results and keep stakeholders informed about Center activities. We regularly post to this site and are actively seeking more people to "like" our page.

Promotional Materials: During this reporting period, we have continued to use our banner at our symposium talks and researcher web briefings. Our three-fold brochures are being distributed at conferences and seminars along with the lapel pins. Our safety flashlights and eyeglass cleaners with our logo and website have been given to participants in ATLAS Center sponsored programs and to our new researchers. Thermal lunch bags were given out at the Meeting the Challenges of Safe Transportation in an Aging Society symposium in September, 2016.

Publication Support: The ATLAS Center encourages publication of research results in peer-reviewed journals or high-impact academic publications targeted at transportation and safety professionals by providing support to develop and/or publish articles. During this reporting period, ATLAS Center faculty (Drs. Molnar and Eby) continued in their role as special issue editors for the journal *Accident Analysis & Prevention.* The title of the special issue is "Implications of Advanced Vehicle Technologies for Older Drivers."

Dissemination Plan for Research Results: Each ATLAS Center research project includes a detailed dissemination/technology transfer plan. Once the current round of research projects are completed, the ATLAS Center leadership will ensure that these plans are followed so that results can be widely disseminated through web briefings, one page overviews, and final reports sent to transportation libraries. The grant required reporting will continue to be posted on the website and sent to the required transportation libraries.

ATLAS Center Annual Conference: A joint annual ATLAS Center and TTI conference is held each year. TTI's Center for Transportation Safety, in cooperation with the ATLAS Center and TxDOT, held the 2016 TTI Traffic Safety Conference in College Station June 6-9, attracting a crowd of over 300 attendees. The theme was the common goal of significant and permanent reductions in the deaths and injuries on our streets and highways. ATLAS Center staff and researchers Robert Wunderlich, Laura Higgins, Jennifer Zakrajsek, Nicole Zanier, Brad Brimley, Chiara Silvestri-Dobrovolny, and Kay Fitzpatrick moderated sessions and/or gave presentations on ATLAS Center and other important transportation safety research projects in areas such as aging drivers, bicycle and pedestrian safety, and roadway design. Former Summer Intern George Gillette presented "The Effect of Distractions on a Pedestrian's Waiting Behavior at Traffic Signal: An Observational Study." ATLAS Center supported six students to attend the student poster competition held at the conference.

2016 CUTC Summer Meeting: ATLAS Center Program Advisor Melissa Tooley, Education Coordinator Renée St. Louis, and Program Administrator Beth Jakubowski attended the CUTC 2016 summer meeting in Los Angeles hosted by METRANS Transportation Center. Melissa served as panelist discussing *Managing and Marketing your Transportation Center*.

ATLAS Center Symposium: ATLAS Center hosted the symposium, Meeting the Challenges of Safe Transportation in an Aging Society, co-sponsored by UMTRI; Elsevier Limited; The Center for Accessibility and Safety for an Aging Population (ASAP), Florida State University; and the

Transportation Research Center for Livable Communities (TRCLC), Western Michigan University. The symposium was held September 14-15, 2016 at U-M in Ann Arbor. More than 85 researchers, faculty, students, and staff from the United States, Canada, and Australia attended the symposium and reception at the U-M Museum of Art (which has given the title of best campus museum in the US).

The symposium's collaborative environment addressed the latest research to improve the safe transportation of older adults from a broad array of disciplines including, but not limited to, engineering, public health, psychology and social sciences, medicine, public policy, economics, and urban planning. The symposium had oral presentations, symposia, and a competitive poster session. The videos, downloadable presentations, and abstracts can be viewed at: http://www.atlas-center.org/presentations-videos-safe-transportation-aging-symposium/.

Community Outreach and Education Program: ATLAS Center Education Coordinator, Ms. Renée St. Louis, is a Certified Child Passenger Safety Technician and uses her skills and training to provide education to parents and caregivers of young motor vehicle passengers. During this reporting period, the ATLAS Center continued to support Ms. St. Louis's efforts through her attendance at the Michigan Child Passenger Safety Conference in May, 2016 in Mt. Pleasant, Michigan. Approximately 150 Child Passenger Safety Technicians and Instructors from across the state attended the two day conference to learn about innovative strategies to engage community members in transportation safety, hear the latest research in engineering and crash testing, and to get hands-on experience working with new child safety seats on the market. She also participates in monthly child safety seat inspection stations, expectant parent classes held at local businesses, and other community safety events.

ATLAS Center Administrator, Ms. Beth Jakubowski, continues to be supported in acquiring her master's degree in psychology at a local university.

Conference Presentations and Publications: During this reporting period, ATLAS Center members gave many presentations. Lists of these presentations are provided in section 2 of this report.

1.2.4 Provide state, national, and international traffic safety leadership

ATLAS Center faculty and staff are recognized state, national, and international leaders in traffic safety. This reputation for quality leadership is demonstrated by ATLAS Center members serving in leadership positions and on state/national/international committees, as well as being involved in the scientific peer-review process. The following lists the leadership positions, committees, and peer-review activities of ATLAS Center members:

Leadership Positions:

- Daniel Blower: Chairperson, Michigan Truck Safety Commission.
- Marcus Brewer: Section Administrator, Brazos Valley Section of Institute of Transportation Engineers (ITE); Chair, Research Subcommittee, Geometric Design Committee (AFB10), TRB.
- Lisa Buckley: Assistant Director, Training and Education Core, U-M Injury Center.
- David W. Eby: Head, Behavioral Sciences Group, UMTRI; Director, ATLAS Center
- Thomas K. Ferris: Faculty Advisor, TAMU student chapter of Alpha Pi Mu, Industrial Engineering Honors Society; Course Committee Chair, ISEN 330: Human-Systems

Integration; Course Committee Chair: ISEN 4XX: Human Error and Complex System Failures; Director, Human Factors and Cognitive Systems Laboratory.

- Melisa Finley: District Awards Coordinator, Texas District of Institute of Transportation Engineers (TexITE); Chair, Positive Protection in Work Zones Subcommittee, TRB; Communications Coordinator, Traffic Control Devices Committee.
- Kay Fitzpatrick: Chair, Operational Effects of Geometrics Design Committee, TRB; Past-President, Brazos Valley ITE; Co-Chair, 2003, 2007, 2012, and 2017 Urban Street Symposiums.
- Paul A. Green: Executive Council Member of Board of Directors, Human Factors and Ergonomics Society(HFES); Member of Board of Directors, Board of Certification in Professional Ergonomics; Founder, Driver Performance Measures Committee, SAE DRIPOD; Chair, Automotive User Interface 2016 Conference.
- Dominique Lord: Professor, Zachry Department of Civil Engineering.
- Michael Manser: Chairperson, Human Factors in Road Vehicle Automation Joint Subcommittee of the TRB.
- Lisa J. Molnar: Associate Director, UMTRI; Chair, Senior Mobility Options Joint Subcommittee of the TRB; Secretary, Safe Mobility for Older Adults Committee of the TRB; Member, International Program Board, Third International Conference on Human Aspects of IT for the Aged Population. Member, ITNAmerica Research Group.
- Anuj K. Pradhan: Chair, Surface Transportation Technical Group, Human Factors and Ergonomics Society; Secretary, Joint Subcommittee on Human Factors in Road Vehicle Automation (AND10(3)); Session Chair, Lecture session on Research Methods and Perspectives, International Driving Symposium on Human Factors in Driver Assessment, Training and Vehicle Design, Utah; Session Chair, Lecture session on Affordances for Young and Old, HFES Annual Meeting, Los Angeles, CA.
- James Sayer: Director, UMTRI.
- Robert Sweet: Chair, Midwest Transportation Knowledge Network.
- Melissa Tooley: Vice Chairperson at Large, The American Road and Transportation Builders Association (ARTBA); Member, Board of Regents, ENO Foundation.

Committees:

- Daniel Blower: Member, Panel on the Review of the Compliance, Safety, Accountability Program of the Federal Motor Carrier Safety Administration, National Academy of Sciences; Member, Consensus Panel on the Review of Manual on Classification of Motor Vehicle Traffic Accidents (ANSI D16.1), Association of Traffic Safety Information Professionals; Member, Expert Panel, Best practice on Data Collection for Commercial Vehicle Crashes, Federal Motor Carrier Safety Administration (FMSA).
- Marcus Brewer: Member, Geometric Design, TRB; Member, Managed Lanes, TRB; Member, ITE/FHWA Self Enforcing Roadways (SER) Technical Advisory Committee.
- Bradley Brimley: Friend, Traffic Control Devices Committee, TRB; Friend, Singing and Marking Materials Committee, TRB; Friend, Visibility Committee, TRB; Friend, Vehicle User Characteristics Committee, TRB.
- Chiara Silvestri-Dobrovolny: Member, Roadside Safety Design Committee, TRB; Friend, Occupant Safety Committee, TRB.
- David W. Eby: Member, Occupant Protection Committee (ANB45) of the TRB; Member, Safe Mobility for Older Adults Committee (ANB60) of the TRB; Member, Michigan Senior Mobility Work Group; Member and Former Convener, Transportation and Aging Interest Group, Gerontological Society of America (GSA); Member, UMTRI Internal Review Committee; UMTRI Executive Committee; Member, UMTRI Bylaws Committee;

Member, UMTRI Faculty Development Committee; Member, UMTRI Advisory Committee; Member, LongROAD Project Steering Committee, AAA Foundation for Traffic Safety.

- Thomas Ferris: Undergraduate Committee Member, Industrial and Systems Engineering Department; Member, Human Factors and Ergonomics Society (HFES) Health Care Technical Group; Member, HFES Cognitive Engineering and Decision Making Technical Group; Member, HFES Education Technical Group; Member, Institute of Industrial and Systems Engineers (IISE); Member, HFES Perception & Performance Technical Group; Member, HFES Surface Transportation Technical Group.
- Melisa Finley: Member, Temporary Traffic Control Committee, American Traffic Safety Services Association (ATSSA); Member, Work Zone Traffic Control Committee, Member, TRB.
- Kay Fitzpatrick: Friend, Geometric Design Committee, TRB; Friend, Managed Lane Committee, TRB; Friend, Pedestrians Committee, TRB; Friend, Highway Safety Performance Committee, TRB.
- Carol Flannagan: Member, Data Analysis Committee, TRB; Member, UMTRI Research Symposium Planning Committee.
- Srinivas Geedipally: Young Member, Motorcycles and Mopeds Committee, TRB.
- Paul A. Green: Member, Society of Automotive Engineers (SAE) Safety and Human Factors Committee; Member, SAE J2364/J2365 Subcommittee; Member SAE J2830 Committee; Member, SAE Process for Testing of In-Vehicle icons Task Force; Member, SAE IOS TC22 SC13 USAG, Ergonomics Applicable to Road; Member, SAE Visual Behavior and Metrics Committee; Member SAE, Definitions Measures Related to DV Behavior TF; Member, SAE, Controls and Displays Standards Committee; Member, SAE, SCAG-TSB Standards in the Classroom Advisory Group; Member, User Experience Professionals Association; Member, Society for Information Display; Member, Program Committee, Automotive User Interface 2016 Conference; Member, U-M Advisory Committee, Center for Healthcare Engineering and Patient Safety; Fellow, Institute of Ergonomics and Human Factors; Member, Automotive User Interface Program Committee; Member, HFES Fellow Selection Committee.
- Robert Hampshire: Member, Emerging and Innovative Public Transport and Technology (AP020), TRB.
- Laura Higgins: Member, ATLAS Center Meeting the Challenges of Safe Transportation in an Aging Society Symposium Program Committee.
- Joan Hudson: Friend, Bicycle Committee, TRB; Friend, Pedestrian Committee, TRB**;** Member, City of Austin Vision Zero Task Force; Member, Eanes Independent School District, School Safety and Health Advisory Council (SSHAC).
- Beth Jakubowski: Program Committee Member and Conference Coordinator, ATLAS Center Meeting the Challenges of Safe Transportation in an Aging Society Symposium; Member, UMTRI Research Symposium Planning Committee.
- Monica Jones: Member, Board Certified Professional Ergonomist; Member, Human Factors and Ergonomics Society; Member, American Society of Biomechanics; Member, SAE; Member, UMTRI Communications Committee; Member, UMTRI Research Symposium Planning Committee.
- Lidia P. Kostyniuk: Member, GSA; Member, American Society of Civil Engineers (ASCE); Member, Sigma Xi; Fellow, ITE; Member, Transportation and Aging Interest Group, GSA.
- Dominique Lord: Member, Safety Data, Analysis and Evaluation Committee, TRB; Member, Highway Safety Performance Committee, TRB.

- Michael Manser: Member, Vehicle User Characteristics Committee, TRB; Member, Motorcycle and Mopeds Committee, TRB.
- Lisa J. Molnar: Member and Former Convener, Transportation and Aging Interest Group, GSA; Member, Driver Medical Review Subcommittee, TRB; Member, Education and Training (ABG20) Committee, TRB; Member, Michigan Senior Mobility Work Group; Member, ITNAmerica Research Group; Member, ATLAS Center Meeting the Challenges of Safe Transportation in an Aging Society Program Committee; Member, UMTRI Research Symposium Planning Committee.
- Anuj K. Pradhan: Member, Technical Activities Standing Committee (ANB30) Operator Education and Regulation, TRB; Member, Technical Activities Standing Committee (AND30) Simulation and Vehicle and Operator Performance Measurement, TRB; Member, Subcommittee on Young Drivers (ANB30(1)), TRB; Member, Joint Subcommittee on Human Factors in Road Vehicle Automation (AND10(3)), TRB; Planning Committee Member, 2015 TRB workshop on Simulation and Naturalistic Driving; Planning Committee Member, 2015 TRB panel session on Young Drivers and Learning Skills; Planning Committee Member, 2015 Automated Vehicle Symposium, Ann Arbor.
- James Sayer: Member, Surface Transportation Technical Group, Human Factors and Ergonomics Society; Member, SAE International; Member, Vehicle User Characteristics and Visibility Committee, TRB; Member, International Standards Organization (ISO).
- Robert Sweet: Member, Information Services Committee, TRB; Member, Information Services Committee, Transportation Research Thesaurus Subcommittee, TRB; Member, Library and Information Science for Transportation Committee, TRB.
- Melissa S. Tooley: Member, Transportation Education and Training Committee, TRB.
- Robert C. Wunderlich: Member, Subcommittee on Global Road Safety, TRB; Member, Institute of Transportation Engineers Safety Council; Member, Technical Committee on Geometric Design, American Association of State Highway and Transportation Officials; Member, Institute of Transportation Engineers, Leadership ITE Committee; Member, Transportation Safety Management Committee (ANB10) TRB; Member, Vision Toward Zero Deaths Subcommittee (ANB10(9), TRB.
- Yunlong Zhang: Member, Standing Committee on Artificial Intelligence and Advanced Computing Applications, TRB.

Editorial Boards/Grant Review/Conference Review:

- Daniel Blower: Paper Reviewer, TRB.
- Marcus Brewer: Paper Review Coordinator, Managed Lanes Committee, TRB.
- Lisa Buckley: Editorial Board Member, Journal of Safety Research.
- Chiara Silvestri-Dobrovolny: Paper Reviewer, TRB.
- David W. Eby: Special Issue Editor for special issue of Accident Analysis and Prevention on Implications of Advance Vehicle Technologies for Older Drivers; Editorial Board Member, Journal of Safety Research; Paper Reviewer, TRB; Abstract Reviewer, GSA Annual Conference; Reviewer, Driving Assessment Conference; Grant Proposal Reviewer, Qatar National Research Fund. Undergraduate Research Opportunity Program; Special Emphasis Panel/Scientific Review Group Member, National Institutes of Health. ZRG1 RPHB-R (12) B - Small Business: Psycho/Neuropathology, Lifespan Development, and STEM Education Program; Grant Proposal Reviewer, PacTrans Region 10 University Transportation Center, Multi-Institute and Single Institute Research Competitions; Conference Abstract Reviewer, 21st IAGG World Congress of Gerontology and Geriatrics; Scientific Reviewer, Canadian Frailty Network, Catalyst

Grant (CAT) Competition; Conference Chairperson and Co-Organizer, ATLAS Center, Meeting the Challenges of Safe Transportation in an Aging Society Symposium.

- Tom Ferris: Editorial Board Member, Human Factors.
- Melisa Finley: Paper Reviewer, TRB.
- Kay Fitzpatrick: Paper Reviewer, TRB; Grant Reviewer, National Science Foundation (NSF), Computer and Information Systems Engineering (CISE) Directorate.
- Carol Flannagan: Paper Reviewer, TRB; Paper Reviewer, Accident Analysis and Prevention; Paper Reviewer, Journal of Automobile Engineering; Paper Reviewer, IEEE Transactions; Paper Reviewer; Traffic Injury Prevention; Paper Reviewer, Journal of Safety Research.
- Srinivas Geedipally: Editorial Advisory Board Member, Analytic Methods in Accident Research, Elsevier; Grant Reviewer, Medical Research Council, UK; Scientific Reviewer, Accident Analysis and Prevention; Scientific Reviewer, Journal of the TRB; Scientific Reviewer, Journal of Transportation Safety and Security; Scientific Reviewer, Safety Science; Scientific Reviewer, ASCE Journal of Transportation Engineering; Scientific Reviewer, Traffic Injury Prevention; Scientific Reviewer, Transportation Research Part A: Policy and Practice.
- Paul A. Green: Reviewer, Driving Assessment Conference; Reviewer, HFES Conference; Reviewer, AutoUI Conference.
- Laura Higgins: Reviewer, Standing Committee on User Information Systems (AND20), TRB; Reviewer, Standing Committee on Safe Mobility of Older Persons (ANB60).
- Monica Jones: Conference Reviewer, Human Factors and Ergonomics Society; Conference Reviewer, International Ergonomics Association; Conference Awards Reviewer, American Society of Biomechanics.
- Lidia P. Kostyniuk: Editorial Advisory Board, Accident Analysis & Prevention; Editorial Advisory Board, Transportation; Editorial Advisory Board, Journal of Safety Research; Grant Proposal Reviewer, Research Grants Council of Hong Kong; Paper Reviewer, Transportation Research Record: Journal of the TRB; Paper Reviewer, Transportmetrica A: Transport Science.
- Dominique Lord: Senior Associate Editor, Analytic Methods in Accident Research; Editorial Advisory Board, Accident Analysis & Prevention*;* Grant Reviewer, Fonds de recherché du Québec - Nature et technologies (Quebéc NSF); UTC Grant Reviewer, Pacific Northwest Transportation Consortium, University Transportation Center for Federal Region 9, UCCONNECT, and New England University Transportation Center.
- Michael Manser: Proceedings Reviewer, Human Factors and Ergonomics Annual Conference; Paper Reviewer, Accident Analysis and Prevention.
- Lisa J. Molnar: Conference Reviewer, TRB; Conference Reviewer GSA; Reviewer, Driving Assessment Conference.
- Anuj K. Pradhan: Conference Reviewer, International Symposium on Human Factors in Drier Assessment, Training, and Vehicle Design; Conference Reviewer, Human Factors and Ergonomics Society Annual Conference; Conference Reviewer, TRB.

Ad-Hoc Reviews

ATLAS Center faculty are frequently asked to participate in the peer-review process by completing expert ad-hoc reviews of manuscripts submitted to trade journals. There are too many reviewed manuscripts to list individually.

1.2.5 Develop and maintain traffic safety collaborations

The ATLAS Center actively seeks, establishes, and maintains traffic safety collaborations. The following is a list of organizations for which the ATLAS Center has an existing collaboration or is working toward establishing a collaborative relationship:

- AAA Foundation for Traffic Safety
- Alamo Area Council of Governments
- Anthrotech
- Capital Metropolitan Transportation Authority, Dallas, Texas
- Centers for Disease Control and Prevention
- City of Austin, Texas
- Dallas Area Rapid Transit System
- East Carolina University
- Gerontological Society of America
- Lakehead University (Canada)
- Michigan Department of Transportation
- Monash University (Australia)
- North Texas Tollway Authority
- Please be Kind to Cyclists – Texas
- Precision Driving Research
- School of Public Health, TAMU
- Southeastern Transportation Center, Knoxville, TN
- Southwest Research Institute
- Texas A&M University
- Texas Department of Public Safety
- Texas Department of State Health Services
- Texas Department of Transportation
- University of Connecticut, Department of Civil & Environmental Engineering
- University of Massachusetts, Boston
- U-M ISR
- U-M Health System
- U-M Medical School
- U-M Psychology, Psychiatry and Pediatrics
- University of New South Wales (Australia)
- University of Nevada, CATER
- University of Ottawa (Canada)
- University of Texas Health Science Center – San Antonio
- University of Texas Health Science Center, Center for Translational Injury Research, Hermann-Memorial Hospital, Houston, TX
- University of Toronto
- University of Utah Psychology
- USAA Insurance

1.2.6 How have the results been disseminated?

As discussed previously, the Center engages in a broad range of activities to disseminate research results and to increase awareness about what we do. Our completed 2015/2016 project results have been disseminated through conference presentations, published articles, and interviews with news media. The Center activities are disseminated through a wide range of

outlets including a website, a Facebook page, a newsletter, a bi-annual annual report and presentations by Center leadership.

1.2.7 What do you plan to do during the next reporting period to accomplish the goals?

A number of activities are planned for the next reporting period that will facilitate accomplishing the goals of the ATLAS Center. These activities are:

- Sponsoring and coordinating student poster session at UMTRI's 2nd Annual Transportation Safety Research Symposium
- Continue distributing the 2014-2015 Bi-Annual Report in electronic file and hardcopy
- Collect and disseminate required research reporting
- Tracking and adding research, education, technology transfer and events to our website
- Collection, review and distribution of Final Research reporting posted on the ATLAS Center website
- Track the completion of connected and automated vehicle research by our workforce development partner
- Continuing to present at conferences related to ATLAS Center's theme of integrated solutions for transportation safety

2. PRODUCTS

The ATLAS Center places a strong emphasis on the development of scholarly and relevant products.

2.1. Publications, conference papers, and presentations

The following are lists of publications, conference papers, and presentations that were at least partially sponsored by the ATLAS Center:

2.1.1 Presentations:

- Ferris, T. (2016). Designing to Support Human Performance in Cognitively-Challenging Contexts. *Texas A&M University HCI Seminar Series.* College Station, TX, April, 2016.
- Ferris, T. (2016). Human-centered Design to Support Human Performance in Cognitively-Challenging Contexts. *University of Iowa Department of Mechanical and Industrial Engineering Seminar*. Iowa City, IA, April.
- Fitzpatrick, K. (2016). Is Age a Factor in Crashes at Channelized Right-Turn Lanes? *2016 TTI Traffic Safety Conference*. College Station, TX, June.
- Graham, M. and Fitzpatrick, K. (2016). Behavioral Study on Pedestrian's Decisions at a Midblock Crossing. *TAMU LAUNCH Undergraduate Research Summer Poster Session.* College Station, TX, August, 2016.
- Grider, J. and Moni, J. (2016). Human Factors Analysis of Transit Dwell Time Performance. *Poster Presentation. Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- Gupta, G. and Ullman, G. (2016). Work Zone Crashes Involving Concreate Barrier Impacts. *TAMU LAUNCH Undergraduate Research Summer Poster Session.* College Station, TX, August, 2016.

- Hsieh, E, Pesti, G., and Ullman, G. (2016). Effectiveness of End-of-Queue Warning Systems and Portable Rumble Strips on Lane Closure Crashes. *TAMU LAUNCH Undergraduate Research Summer Poster Session.* College Station, TX, August, 2016.
- Kajaks, T. (2016). Collaborative Industry-wide Research on the Impact of Advanced Vehicle Technologies on Safety-related Driving Outcomes in Young, Middle-aged, and Older Drivers: A Scoping Review. *Poster Presentation. Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- Kajaks, T. (2016). The Impact of Physical Mobility on Vehicle Ingress and Egress by Older Adults. . *Poster Presentation. Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- Kidando, E. (2016). Evaluating the Impact of the travel Time Reliability on Elderly Drivers Crash Severity. *Poster Presentation. Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- Mendoza, M. and Leyva, C. (2016). Development of In-Service Performance Evaluations of Roadside Safety Hardware. *TAMU LAUNCH Undergraduate Research Summer Poster Session.* College Station, TX, August, 2016.
- Pitts, B. (2016). Age-related Differences in Mutimodal Informatioin Processing and their Implications for Adaptive Display Design. *Poster Presentation. Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- Raker, J. and Dixon, K. (2016). Pedestrians and Bicyclists at Stop Controlled Intersections. *TAMU LAUNCH Undergraduate Research Summer Poster Session.* College Station, TX, August.
- Shi, G. (2016). Inferring Alcohol Involvement in Fatal Car Accidents with Ensembled Classifiers. *Poster Presentation. Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- Souders, D. (2016). Valuation of Active Blind Spot Detection Systems by Younger and Older Adults. *Poster Presentation. Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- St. Louis, R.M. (2016). Review of Prescriptions and Other Medications and Supplements. *Meeting the Challenges of Safe Transportation in an Aging Society Symposium.* University of Michigan, Ann Arbor, MI, September.
- Weber, M. and Shipp, E. (2016). Text Mining Crash Narratives. *TAMU LAUNCH Undergraduate Research Summer Poster Session.* College Station, TX, August.
- Zakrajsek, J. and Molnar, L.J. (2016). Improving the Safety of Older Heavy-Vehicle Drivers. *2016 TTI Traffic Safety Conference*. College Station, TX, June.
- Zanier, N., Eby, D.W., and Molnar, L.J. (2016). Longitudinal Research on Aging Drivers (LongROAD) Study: Project Overview. *2016 TTI Traffic Safety Conference*. College Station, TX, June.

2.1.2 Conference Papers:

- Suh, Y. and Ferris, T.K. (2016). *The Impacts of Touchscreen and Physical Control Interface Characteristics on Driver Distraction and Attention Management. Paper presented at the* Proceedings of the Human Factors and Ergonomics Society 60th Annual Meeting. Washington, D.C., September.

2.1.3 Publications:

- Early, M., Dixon, K., Avelar, R, and Zhou, Y. Operational performance at Two-Way Stop Controlled Intersections. *Transportation Research Record: Journal of the Transportation Research Board, No. 2562*, Transportation Research Board, Washington, D.C., 2016, pp1-8.
- Fitzpatrick, K., Das, S., and Contreras, A. (2016). *Is Age a Factor in Crashes at Channelized Right-Turn Lanes? An Exploration of Potential Relationships.* Report No. ATLAS-2016-14. Ann Arbor, MI. ATLAS Center, University of Michigan and Texas A&M University.
- Gillette, G., Fitzpatrick, K., and Chrysler, S. (in press). The Effects of Distractions on a Pedestrian's Waiting Behavior at Traffic Signals: An Observational Study. *Transportation Research Record: Journal of the Transportation Research Board No. 2586*.
- Manser, M. and Higgins, L. (2016). *Older Driver Support System.* Report No. ATLAS-2016-11. Ann Arbor, MI. ATLAS Center, University of Michigan and Texas A&M University.
- Jones, M.L.H., Ebert, S.M., Hu, J., and Reed, M.P. (2016). Quantifying body shape differences between supine and standing postures for adults with high body mass index. Proceeding accepted for the *4th International Digital Human Modeling Symposium* (DHM 2016), Montreal, Canada June, 2016.
- Keating, D., Huntley, E., Arendt, T., and Simons-Morton, B. (2016). *Circadian Timing, Drowsy Driving, and Health Risk Behavior in Adolescent Drivers.* Report No. ATLAS-2016-16. Ann Arbor, MI. ATLAS Center, University of Michigan and Texas A&M University.
- Shirazi, M., Lord D., and Geedipally, S.D. (2016) Sample-Size Guidelines for Recalibrating Crash Prediction Models: Recommendations for the Highway Safety Manual. *Accident Analysis & Prevention*. (DOI: http://dx.doi.org/10.1016/j.aap.2016.04.011).
- Shirazi, M., Geedipally, S.R., and Lord, D. (2016). Guidelines to Determine When Safety Performance Functions Should Be Recalibrated. *Journal of Transportation Safety and Security*.
- Silvestri-Dobrovolny, C., Schulz, N., and Blower, D. (2016). Finite Element Approach to Identify the Potential of Improved Heavy-Truck Crashworthiness and Occupant Protection in Frontal Impacts. *Transportation Research Record: Journal of the Transportation Research Board, No. 2584,* Transportation Research Board, Washington, D.C., 2016, pp. 77-87.
- Songchitruksa, P., Bibeka, A., Lin, L, Zhang, Y. (2016). *Incorporating Driver Behaviors into Connected and Automated Vehicle Simulation.* Report No. ATLAS-2016-13. Ann Arbor, MI. ATLAS Center, University of Michigan and Texas A&M University.
- Suh, Y. and Ferris, T.K. (2016). *The Impacts of Touchscreen and Physical Control Interface Characteristics on Driver Distraction and Attention Management.* Proceedings of the Human Factors and Ergonomics Society 60th Annual Meeting. Washington, D.C., September.

2.2 Website(s) or other internet site(s)

- The ATLAS Center website link is: www.ATLAS-Center.org.
- The ATLAS Center Facebook page: https://www.facebook.com/ATLASCenter.

2.3 Technologies and techniques

Nothing to report for this period.

2.4 Inventions, patent applications, and/or licenses

Nothing to report for this period.

2.5 Other products

Nothing to report for this period.

3. PARTICIPANTS AND COLLABORATING ORGANIZATIONS

The ATLAS Center places great value on multidisciplinary, collaborative activities. Indeed, collaboration is the hallmark of our Center. We have established several collaborations, and continue to do so.

3.1 What organizations have been involved as partners?

The ATLAS Center is a collaboration between UMTRI in Ann Arbor, Michigan and TTI in College Station, Texas. Several of the Center's programs are designed to facilitate collaborative efforts among the two institutions.

As part of some of the ATLAS Center research projects, partners outside these two institutions have been brought in as research collaborators. These partners include: Mr. Will Bozeman (Texas Department of Transportation – Austin District); Dr. Joel Cooper (University of Utah and Precision Driving Research); Mr. Mack Cowan (Texas Department of Public Safety); Ms. Elizabeth Hilton (Federal Highway Administration); Sharon Newnam (Monash University, Australia); Sjaan Koppel (Monash University, Australia); Dr. John Ivan (University of Connecticut); Dr. Paul Milgram (University of Toronto); Mr. David Mitropoulos-Rundus (Hyundai-Kia); Ms. Tina Sayer (Toyota Motor Corporation); Dr. Bruce Simons-Morton (University of South Wales); Ms. Lisa Southwick (Hyundai Kia); Ms. Kaye Sullivan (Ford Motor Company); Bruce Bradtmiller (Anthrotech); and Dr. Zong Tian (Center for Advance Transportation Education and Research, University of Nevada).

The ATLAS Center at UMTRI has a commitment from MDOT for cost match funding for the first 2 years of operation. Two years of funding has gone to the Strategic Initiatives Program for two projects in collaboration with MDOT (see above).

3.2 Have other collaborators or contacts been involved?

In addition to collaboration with organizations outside of U-M and TAMU, the ATLAS Center intends to take full advantage of the breadth of expertise available within these two universities. The following is a list of departments/institutes for which ATLAS Center has collaborated with during the reporting period: Chemical Engineering (U-M); Civil Engineering (U-M and TAMU); C.S. Mott Children's Hospital (U-M); Health System (U-M); Department of Asian Languages and Culture (U-M); Department of Communication Studies (U-M); Department of Earth and Environmental Sciences (U-M); Department of Health Behavior and Health Education (U-M); Department of Health Management and Policy (U-M); Department of Psychiatry (U-M);

Department of Psychology (U-M and TAMU); Department of Statistics (U-M); Department of Surgery (U-M); Economics Department (U-M); Geriatrics Center (U-M); Industrial and Manufacturing Systems Engineering (U-M); Industrial and Operations Engineering (U-M); Industrial and Systems Engineering (TAMU); Landscape Architecture and Urban Planning (TAMU); Institute for Gerontology (U-M); Institute for Social Research (U-M); Materials and Science Engineering (U-M); Mechanical Engineering (U-M); and School of Public Health (TAMU).

4. IMPACT

The ATLAS Center is having an impact on all three of its focus areas – research, education, and technology transfer. These impacts are discussed in the following sections.

4.1 What is the impact on the development of the principal discipline(s) of the program?

Our impact has been to further the development of the field of transportation safety in multiple ways. First, our ongoing research program has created new knowledge about how to improve traffic safety. Second, our outreach to students in a variety of fields has been instrumental in bringing new talent into the field or encouraging students to become more fully engaged in the field of transportation safety. For example, one of the students who participated in our summer intern program is now working as an intern for WIN and was directly involved in the workforce development project WIN is engaged in as part of our partnership. Two summer interns presented their work to professionals in the field of transportation safety. The work will also be published in a TRB publication this coming year. There are several similar success stories from this program.

4.2 What is the impact on other disciplines?

Advancements in transportation safety clearly require a multi-disciplinary and multi-faceted approach. Through its research, education, and technology transfer programs and initiatives, the ATLAS Center has broadly reached out to a variety of disciplines (as evidenced elsewhere in this report), and by doing so, has raised awareness in these disciplines about transportation safety and the potential roles they can play in finding integrated solutions to transportation problems.

4.3 What is the impact on transportation workforce development?

During this reporting period, the ATLAS Center continued its partnership with the WIN program on a project intended to have important impacts on the development of the transportation workforce including: a better understanding of the workforce related to transportation safety and green mobility; clearer definitions of what workers in this space do and how new occupational codes might be developed to better align with the transportation workforce; identification of training gaps for workers; and the contribution to future program development to address training gaps. The first report from this effort has been released and is listed under Publications. It is also available at www.win-semich.org/atlas-report and on the ATLAS Center website.

The ATLAS Center also supported several student activities with the long-term goal of fostering increased interest in and commitment to pursuing transportation related careers. The Center:

- Provided support for elementary through high school students, targeting underserved students, to participate in an in-school program focused on transportation;
- Provided support for students to attend and present research at the TRB conference.

4.4 What is the impact on physical, institutional, and information resources at the university or other partner institutions?

The Center has strategically positioned itself to have a strong impact on transportation safety because of the synergy it has created, and the breadth and depth of knowledge it has brought together through the partnership of UMTRI and TTI. The Center harnesses the wealth of transportation expertise and information resources residing in each institution into a single entity, which leads to integrated, innovative solutions for improving the transportation system within all of the areas of safety within our scope. In addition, by adding a formalized structure to the partnership between the institutions, we are achieving significant operational efficiencies by reducing duplication in research, education/workforce development, and technology transfer efforts. Establishment of the Center has also led to UMTRI and TTI partnering on other transportation related initiatives that likely would not have come about in the absence of the Center. Similarly, through the Center's outreach to other U-M departments (e.g., the research and student grant competitions), we have increased awareness of and interest in transportation safety in departments that otherwise would have limited involvement in this area.

4.5 What is the impact on technology transfer?

The ATLAS Center's research program has a significant impact on technology transfer. Much of the Center's current research portfolio is focused on outcomes that represent indirect technologies (e.g., new processes, procedures, assessment data sets, training materials) rather than direct research technologies (e.g., tools or software). There are identified stakeholders and industry partners waiting to apply these research outcomes to practice and policy. For example, two ATLAS Center projects directed by Dr. Paul Green produced time estimates for a comprehensive set of in-vehicle tasks that drivers engage in (e.g., tuning a radio station, finding a song, entering a destination into a navigation system) including the time it takes for each element of the task (e.g., each reach, each button press, and so forth). These results have been used to revise the SAE Recommended Practice J2365 which is the procedure that the automotive industry uses to estimate task times and therefore distraction. This is critical to the industry because of the potential of many in-vehicle tasks to distract the driver from the driving task; both vehicle manufacturers and drivers need to know how long such tasks take so decisions can be made about what should and should not be done when a driver is engaged in the task of driving.

4.6 What is the impact on society beyond science and technology?

It is still too early to assess ATLAS Center's impact on society beyond science and technology. However, given the centrality of transportation safety in the movement of people, goods, and services, the Center clearly has an opportunity to impact society through its research, educational, and technology transfer outcomes, particularly with regard to the economic, health, and social costs that accrue from motor vehicle crashes and their associated injuries.

5. CHANGES/PROBLEMS

5.1 Changes in approach and reasons for change

There are no changes in the approach during this reporting period.

5.2 Actual or anticipated problems or delays and actions or plans to resolve them

Nothing to report.

5.3 Changes that have a significant impact on expenditures

Nothing to report for this period.

5.4 Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards

There are no changes in the use or care of human subjects. There are no plans for the use of vertebrate animals or biohazards in any center activities.

5.5 Change of primary performance site location from that originally proposed

There have been no changes in the primary performance sites or anticipated in the future.

5.6 Additional information regarding Products and Impacts

Nothing to report for this period

6. SPECIAL REPORTING REQUIREMENTS

There are no special reporting requirements.