

Project Title: Transforming Transportation Planning and Policy for Safety

Recipient/Grant (Contract) Number: Carnegie Mellon University, Grant #: 69A3552344811

Center Name: Safety21 National University Transportation Center for Promoting Safety

Research Priority: Promoting Safety

Principal Investigator(s): Chris Hendrickson Carnegie Mellon University

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Project Partners:

- ITS America
- RIDC

Research Project Funding: \$200,000.00

Project Start and End Date: 07-01-2023 to 06-30-2024

Project Description:

Transportation policy studies and improved planning are essential for furthering goals of the University Transportation Centers and the US Department of Transportation. This project is intended to build upon long-standing and successful activities in these areas. Three tasks are envisioned. First, a database design and tracking process for Intelligent Transportation Systems (ITS) progress in the United States will be devised. This activity will be undertaken in partnership with ITS America. Second, research on safety policy improvements for battery electric vehicles will be initiated with the goal of producing a new policy brief on this topic. Audiences will be USDOT, USDOE and State officials. Safety concerns of interest include battery fires, vehicle sound, and vehicle weight. Third, project participants will continue to work with Regional Industrial Development Corporation (RIDC) in the planning for Pennsylvania Safety Transportation and Research Track (PennSTART). PennSTART will be a \$ 22M state funded transportation technology testing and traffic incident management training center in the Pittsburgh region. Connecting Pittsburgh and PennSTART is a 'Smart Corridor' that will also be used for testing in the real world. PennSTART capital expenditures will be used for project match. Carnegie Mellon researchers will include Chris Hendrickson (Hamerschlag University Professor of Engineering Emeritus), Corey Harper (Assistant Professor of Civil and Environmental Engineering), and Heather Cain (Research Administrator Civil and Environmental Engineering). The new Executive Director of Safety21 Center will be asked to participate as well. This project builds upon successful synthesis and policy projects undertaken with Mobility21 UTC funding that have resulted in six policy briefs, professional papers and numerous public presentations.

Outputs:

Outputs will include:

1. A report on the Design of a database and data sources lays the foundation for a unique and widely useful tool to provide reports on ITS progress.
2. Aiding the implementation of PennSTART to help transform the state of use for CAV and emergency personnel training.
3. As the numbers of electric vehicles in use grow, safety concerns associated with this novel drive train will become more important and pressing. A Professional paper and policy brief will inform decision makers and researchers about options to improve Bird's Eye View safety. A conference presentation of the work is also expected.

Outcomes/Impacts:

This project will have a variety of outcomes and impacts:

1. Designing the database and data sources for ITS progress lays the foundation for a unique and widely useful

tool to provide reports on ITS progress.

2. Aiding the implementation of PennSTART could help transform the state of use for automated and connected vehicles as well as emergency personnel training.

3. As the numbers of electric vehicles in use grow, safety concerns associated with this novel drive train will become more important and pressing. Professional papers and policy briefs can inform decision makers and researchers about pathways to help achieve safety goals such as zero roadway fatalities.