Synthesis of Research Results and Technology Trends

to Inform Federal, State, Regional and Local Policies

for Smart Mobility of People and Goods

Phase 3

Stan Caldwell and Chris Hendrickson

**Research Description**

Carnegie Mellon and its University Transportation Center partner institutions (Community College of Allegheny County, The Ohio State University, and the University of Pennsylvania) have a variety of research projects underway or completed on a diverse set of topics. Individual researchers publish research results and transfer technology for their individual projects.

This research project is intended to track disruptive technologies impacting transportation, assess a variety of policy alternatives and to synthesis research results from the full range of CMU and partner research efforts to inform smart mobility policy. It is also intended to identify new research opportunities for smart mobility work. The research work is conducted through a variety of activities:

* Meetings with civic and business leaders and government policy makers to discuss transportation challenges and advise on applicable smart mobility policies. These meetings include southwestern Pennsylvania, state, regional, national and international leaders and policy makers. Leverage the Mobility21 Deployment Partner Consortium of over 100 members.
* Presentations and publications providing policy analyses of smart mobility alternatives, such as connected and automated vehicle policies or multi-modal operational policies.
* Active participation in policy-making groups such as the Pennsylvania Autonomous Vehicle Task Force, Smart Belt Coalition, and the Pittsburgh Mobility Collective.
* Interaction with researchers at Carnegie Mellon and elsewhere to identify new opportunities for research and transportation policy improvement. Included in this activity is participation in national organization such as Transportation Research Board Executive Committee and the Leadership Circle of the Intelligent Transportation Society of America.
* Research national and international disruptive transportation technology trends and associated policies. Synthesize and disseminate this information through the Traffic21/UTC blog, social media and industry recognized Smart Transportation Dispatch weekly email newsletter.

**Personnel**

The project involves effort by Stan Caldwell and Chris Hendrickson:

* Stan Caldwell is an Adjunct Associate Professor for Transportation and Policy and serves as Executive Director of Carnegie Mellon’s [Traffic21 Institute](http://traffic21.heinz.cmu.edu/) which is housed in the Heinz College and Executive Director of the Technologies for Safe and Efficient Transportation  and Mobility21 National University Transportation Centers (UTCs) which are housed in the College of Engineering.  Both Traffic21 and the UTCs are co-housed and co-staffed, and Stan manages the day-to-day operations of the three research centers.  These centers fund and coordinate faculty from across the University in interdisciplinary transportation research.  The research centers maintain a primary focus on deploying transportation research and technology in the community and work with public and private partners to use Pittsburgh, Pennsylvania, and the region as a smart transportation test bed.  Through the work of these centers Stan has taken a nationally active role in the emerging intelligent transportation industry and serves on the Leadership Circle of the Intelligent Transportation Society of America and developed the industry recognized [Traffic21 Blog](http://traffic21.heinz.cmu.edu/category/blog/).  He is also on the Executive Committee of the Council of University Transportation Centers, founding member of the Smart Belt Coalition and member of the Pennsylvania Autonomous Vehicle Policy Tasks Force.
* Chris Hendrickson is the Hamerschlag University Professor Emeritus, Director of the [Traffic 21 Institute](http://traffic21.heinz.cmu.edu/) at Carnegie Mellon University, member of the National Academy of Engineering and Editor-in-Chief of the ASCE Journal of Transportation Engineering. His research, teaching and consulting are in the general area of engineering planning and management, including design for the environment, system performance, construction project management, finance and computer applications.

**Expected Impacts**

This project is intended to continue the influence transportation decision making and policies with regard to new technology implementation and the improvement in mobility of people and goods both in Pennsylvania and nationally. Progress is assessed from activities such as meetings, presentations and publications as well as policy changes, technology implementations and new research projects. The first two phase of the project have resulted in accomplishments such as written policy brief and impact such as polices adopted by partners such as the Pennsylvania Department of Transportation and the City of Pittsburg as result of this research.

**Budget**

Salary for SC and CTH to equal regular project amount.

**Matching Funds**

The Traffic21 sponsored Smart Mobility Challenge is a direct complement to this research activity and the Hillman Foundation funding for the challenge can be used as matching funds.

Carnegie Mellon University’s [Traffic21 Institute](http://traffic21.heinz.cmu.edu/) and its affiliated US DOT National University Transportation Center for Mobility, Mobility21, are sponsoring a challenge to demonstrate how innovative technology can improve mobility using southwestern Pennsylvania as a test bed.

This challenge is inspired by Traffic21’s years of successful collaboration with the City of Pittsburgh to become a globally recognized smart city test bed and the desire to demonstrate how suburban and rural communities can also benefit from innovative transportation.

**Data Management Plan**

This project does not involve extensive data resources. The primary data involves text and presentation. These documents will be managed and updated in accordance with overall Mobility21 center data management plan.