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A USDOT NATIONAL UNIVERSITY TRANSPORTATION CENTER

Carnegie Mellon University



Selected Energy Research Projects

- Analyzing and Defending Cyberattacks on Electric, Hybrid, and AV Battery Systems
- Design and Demonstration of an Arterial-friendly Local Ramp Metering Control System
- Improving rush hour traffic flow by computer-vision-based parking detection and regulations
- Modeling and Enhancing Freight Mobility in the Philadelphia Region
- Municipal Fleet Vehicle Electrification and Photovoltaic Power In the City of Pittsburgh
- Platooning for Improved Safety and Efficiency of Semi-trucks
- Real Time Traffic Congestion Prediction and Mitigation at the City Scale
- Traffic Impact of CSX Pittsburgh Intermodal Rail Terminal and Mitigation Plans for McKees Rocks

Research Thrusts

- ✓ **Moving People and Goods**
- ✓ **Connected and Automated Vehicles**
- ✓ **Safety of Vulnerable Road Users**
- ✓ **Assisting the Disadvantaged**
- ✓ **Infrastructure Support**
- ✓ **Policy and Regulations**

Transportation **R & D & D:**
Research & Development & Deployment
 through partnerships

Selected Equity Research Projects

- Accessibility with Get Going
- Autonomous Food Delivery Impacts on Traffic & Sustainability
- Demand learning and supply optimization for last-mile transportation in disadvantaged neighborhoods
- Developing data collection systems to support community-driven integrated mobility services
- Helping Public Agencies Assess how Different Regulatory Structures for Shared Automated Vehicle Services Could Affect Access, Environmental Sustainability, and Profitability
- Helping Transit Agencies Assess Opportunities to Improve Access and Equity With Automated Vehicles
- Ridehailing Service Equity in Normal and Rare Conditions
- Smart and equitable parks
- Transit dependents, choice riders, and service criticality: analysis of determinants of bus ridership in the Philadelphia Region

POLICYMAKER GUIDE

Which Alternative Fuel Technology is Best for Transit Buses?

Possibilities for Deep Decarbonization of US Transportation Modes

Chris Hendrickson
 Director Traffic21 Institute
 Carnegie Mellon University



Optimal First and Last Mile Services: Case Studies for Robinson and Moon Townships