

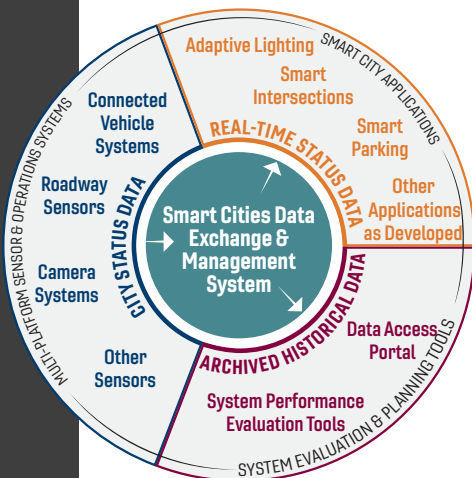
### About Us

*VTTI's Division of Technology Implementation (DTI) leads industry and government partners through early-stage pilot implementations and evaluations of transportation and smart cities technologies, including connected and automated vehicle systems. Our division:*

- Participates** in the investigation of transportation-related technology requirements, selection of vendor solutions, development of hardware and software solution components, systems integration, data collection, data analysis, performance analysis, and cost/benefit estimation
- Leads** outreach activities that join partners into consortia to collaboratively resolve the legal, policy, operational, and technical issues required to conduct an effective implementation
- Specializes** in the development of customized web and mobile applications that are used for a variety of transportation research purposes

### Programs

- Technology Implementation Research
- Infrastructure-Based Safety Systems
- Application Development



### Our Impact

**Innovation** - As one of the key emerging innovations in transportation, Automated Driving Systems (ADS) have the potential to improve safety by reducing opportunities for human error while increasing operational efficiencies, leading to substantial societal benefits. DTI is leading a \$7.5M Federal Highway Administration grant to develop and demonstrate innovative solutions to enable Level 4 + ADS to handle complex and currently unsolved operational scenarios with infrastructure or public safety.

**Implementation** - We collaborate with government and industry partners to deploy cutting-edge technologies in real-world environments, gathering data to understand the benefits, quantify performance, and develop guidance to overcome barriers to broad-scale implementation. VTTI partnered with VDOT and industry partners to launch an initial deployment of connected vehicle-to-everything (C-V2X) technologies on the roadways within the Virginia Connected Corridors in Northern Virginia and the Virginia Smart Roads. C-V2X communications can help deliver critical safety messages between vehicles and infrastructure with minimal latency.



**Industry Best Practices** - With significant contributions from VTTI, the National Academies of Science, Engineering, and Medicine have published the first national guidelines for using light-emitting diode lamps to light U.S. roadways.

**Research** - DTI is currently leading an effort to develop and pilot smarter work zone technologies, including smart personal protective equipment, mobile base station units to broadcast work zone information to connected vehicles, and integrated channelizing devices. The data collected will allow researchers to optimize the system and prepare for real-world deployment.

**Data** - DTI collected data includes naturalistic data from a low-speed automated shuttle operating in Northern Virginia, data from a study that focused on shared e-scooters on the Virginia Tech campus, a smart intersection system data on vehicle and pedestrian movements on the Virginia Tech campus, and 5,000 miles of roadway lighting measurements

### About VTTI

For 35 years, VTTI has been conducting research to save lives, time, and money and protect the environment. In our world-class facilities, we investigate, invent, design, develop, refine and test transportation systems of the future. As one of seven premier research institutes created by Virginia Tech to answer national challenges, VTTI is continually advancing transportation through innovation and has affected public policy on national and international levels.

To learn more about our work and get more involved, please contact us at:

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