

TTI@RELLIS BY THE NUMBERS



>1,400 test days annually

— in the areas of roadside safety, physical security, traffic operations, pavements and materials, and human interaction.



**Premier Industry Showcase
with 1,000+ VIP visitors**
hosted annually at RELLIS.



**~200
students
trained**
annually at
RELLIS facilities.

**~\$15 million in
research projects under
way annually** at RELLIS.



**~\$36 million in
research projects
under contract** to be
conducted at RELLIS.

**~55 annual crash
tests** conducted
historically on the TTI
Proving Grounds.

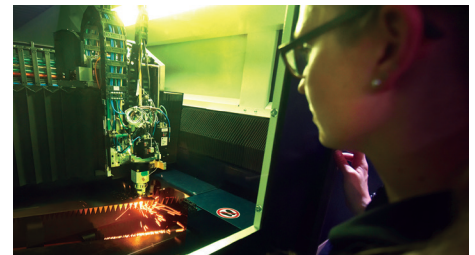


105 MASH* crash tests
conducted in FY 2018.

*Manual for Assessing Safety Hardware (MASH), a new roadside safety standard, was implemented in December 2017.

Focus Areas with Research @RELLIS

- Advanced Transportation Operations
- CARTEEH University Transportation Center
- Center for Transportation Safety
- Constructed Facilities
- Connected and Automated Transportation
- Roadside Safety and Physical Security
- Roadway Safety
- Sediment and Erosion Control
- Signs and Markings
- Transportation Planning
- Traffic Operations
- Pavements and Materials
- Human and Behavioral Studies
- Safe-D University Transportation Center
- Vehicle Emissions

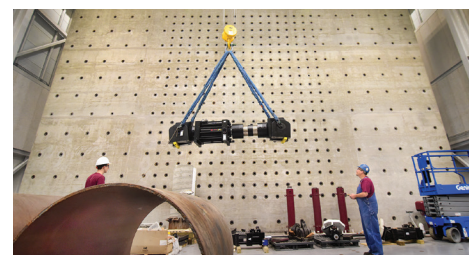
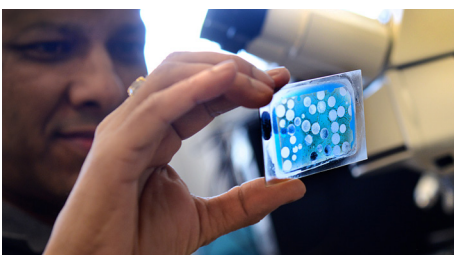


TTI Major Research Sponsors @RELLIS

- Environmental Protection Agency
- National Academies of Science
- Texas Department of Transportation (TxDOT)
- U.S. Department of Transportation
- Other State Departments of Transportation

TTI Major Private Partners @RELLIS

- | | | |
|-------------|---------------------|--------------------------------|
| • 3M | • Navistar | • Southwest Research Institute |
| • BNSF | • Neology | • Toyota |
| • DENSO | • Nissan | |
| • Econolite | • Schröder Lighting | |





Texas A&M Transportation Institute Headquarters

The new 179,381-square-foot TTI headquarters houses a drive-in Visibility Research Laboratory, Driving Simulation Laboratory, and meeting, collaboration and office spaces for about 450 College Station-based researchers, staff and students.



TEES/TTI Center for Infrastructure Renewal

This 135,573-square-foot facility is a joint initiative of TTI and the Texas A&M Engineering Experiment Station (TEES) and was completed in April 2018. The facility includes TTI-managed laboratories to reduce cost and extend infrastructure safety, resiliency and durability, as well as prepare for the introduction of connected and autonomous transportation.



TTI Visibility Research Laboratory

This drive-in laboratory, at the TTI headquarters at the RELLIS Campus, is used to test retroreflective materials and coatings, lights and other technologies designed to improve nighttime and inclement weather visibility for travelers.

TTI Driving Simulation Laboratory

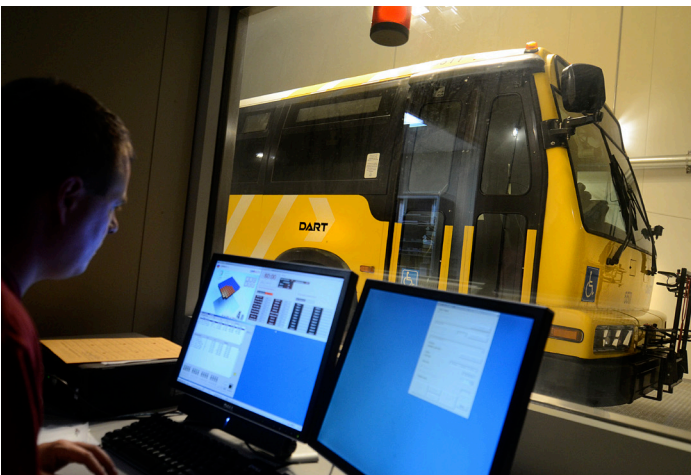
The Driving Simulation Laboratory, at the TTI headquarters at the RELLIS Campus, provides measurements of drivers' responses to roadway situations, in-vehicle technologies and driving-related tasks. Researchers can test a wider variety of roadway geometries and traffic conditions than are feasible in a test-track or field study.





TTI Smart Intersection

A state-of-art Smart Intersection supports research to develop and test connected vehicle applications, and traffic signal control and connected infrastructure interoperability. The intersection supported a TxDOT research project using dedicated short-range communications, cameras, sensors, a beta smartphone app, and other advanced technologies to provide verbal and audio alerts of turning buses to pedestrians and bicyclists to improve safety.



TTI Environmental and Emissions Research Facility

This facility is one of the largest drive-in environmental chambers in the country and the only one based at a university that can conduct tests using a full tractor-trailer or bus. The research and testing conducted in this facility help lower vehicle emissions, improve air quality, and provide reliable, consistent information for policy makers. The facility, which can replicate temperatures between -13°F to +131°F, can also be used to test equipment tolerance to extreme temperatures.



TTI Sediment and Erosion Control Laboratory

TTI's Sediment and Erosion Control Laboratory provides the transportation industry with a research and performance evaluation program for roadside environmental management. The program includes storm water quality improvement, erosion and sediment control, and vegetation establishment and management in this full-scale, indoor/outdoor facility.



TTI Instrumented Bridge

The full-scale instrumented bridge can be tested under static and dynamic truck loads to obtain important insight into its structural performance and live load distribution behavior for design, while also providing data to guide analytical and computational modeling. Static and dynamic load tests can be conducted with heavy vehicles, including loaded dump trucks and water tankers.



TTI Center for Computational Mechanics

Researchers in this Federal Highway Administration–designated center headquartered at the RELIS Campus use state-of-the-art analytical tools to accurately model crash tests on dedicated high-speed computers. These techniques enable researchers to design better, more cost-effective safety hardware at a lower cost to research sponsors by predicting how vehicles and safety devices will perform in collisions.



TTI Proving Grounds Research Facility

The TTI Proving Grounds has long been a place where TTI has conducted world-class research, technology development and testing for both TTI-developed and private-sector-developed technologies. These technologies span the areas of roadside safety and physical security, traffic engineering, emissions, sediment and erosion control, pavements and materials, structures, roadside signs and markings, and, more recently, connected and automated vehicles. The facility has multiple runways; aprons; and transportation-related pavements, signs and markings, soils, sensors, traffic operations, infrastructures and connected and automated vehicle testing sites. Plans are under way to instrument 8 miles of a nearby state roadway.



TTI Roadside Safety and Physical Security Program

Researchers in this program develop and test highway-safety devices, such as crash cushions, guardrails, breakaway signs and barrier systems, at the TTI Proving Grounds. Researchers in the program also test perimeter-security devices to prevent or control vehicles entering or exiting sensitive sites, such as U.S. embassies, power plants, refineries and military installations, as well as storefront bollards to prevent vehicles from crashing into businesses.

TTI'S MISSION

TTI delivers practical, innovative and sustainable solutions to improve the movement of people, data and goods through research, education and technology transfer.

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