High-Profile Projects and Programs: Advanced Technology Division

Advanced Technology Division

The Advanced Technology Division identifies, develops, tests, and deploys **innovative technologies** to **improve the safety and security** of commercial motor vehicles.

Activities at a Glance

Field testing to understand impact and inform decision making

Education, **grants**, **rulemaking recommendations** to encourage adoption and maximize impact

Priority Program Areas

⭐ **Automated Driver Systems Research**
Automated CMV Evaluation (ACE) Program

⭐ **Roadside Enforcement Technology**
Sensors and Level VIII Inspections Operational Test

⭐ **Advanced Driver Assistance Systems (ADAS)**
Hands-on Testing and "Tech-Celerate Now"

⭐ **Innovative Technology Deployment (ITD) Grants**

Automated CMV Evaluation (ACE) Program

How can automated CMVs be **used safely,** and how can they help **improve safety**?

▶ **Test various use cases**

▶ **Refine best practices**

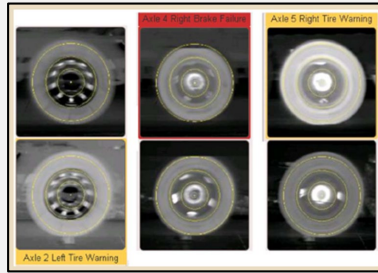▶ **Support standards development**

▶ **Inform regulatory activities**

Use Cases

☑ Roadside Inspection / Enforcement

☑ Work Zones

☑ Emergency Response

☑ Smart Trailers

☑ Port Drayage

☑ Vulnerable Road Users

Roadside Safety Enforcement Technology Research

How can **roadside sensors and cameras** help us identify **significant safety issues?**

Tire, wheel, and brake anomaly detection systems

Safety belt compliance systems

Level VIII
INSPECTION OPERATIONAL TEST

Can we carry out driver-level inspections electronically, without requiring vehicles to stop?

Are there safety, efficiency, and climate benefits?

ADAS Research & Outreach

Advanced Driver Assistance Systems (ADAS) research helps us understand and quantify the safety impact, informing safety-based decisions on technology adoption and regulations.

▶ **Evaluate the performance and real-world effectiveness to understand safety impact**

- Controlled vehicle testing
- Naturalistic vehicle testing

▶ **Encourage the adoption of technology to improve safety**

- Tech-celerate Now (national outreach campaign)
- Rulemaking proposals

ADAS technologies include:

- ✓ **Forward Collision Warning** (FCW)
- ✓ **Lane Departure Warning** (LDW)
- ✓ **Automatic Emergency Braking** (AEB)
- ✓ Pedestrian Collision Warning (PCW)
- ✓ On-Board Monitoring System (OBMS)
- ✓ Others

Innovative Technology Deployment

ITD Grant Statistics for FY 2024:

$34.2 Million Awarded

27 Awards Funded

23 States

Grant Priorities

- Core Compliance
  - Safety Information Exchange
  - e-Credentialling
  - e-Screening

- Work Zone Notification
- Federal Out-of-Service Order Detection
- Vehicle Out-of-Service Order Detection

- Truck Parking
- Data Quality Improvements
- Electronic Inspection
- Enhanced Data Sharing