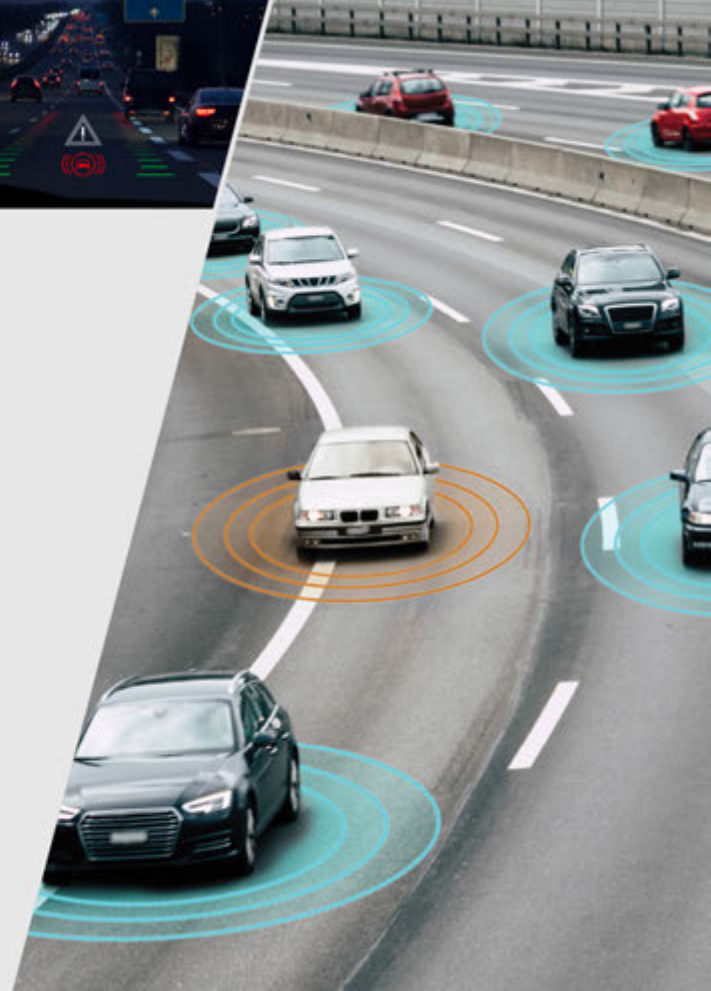


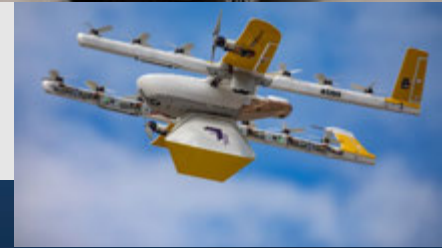


Innovation update

Strategy and Innovation



Autonomous Development



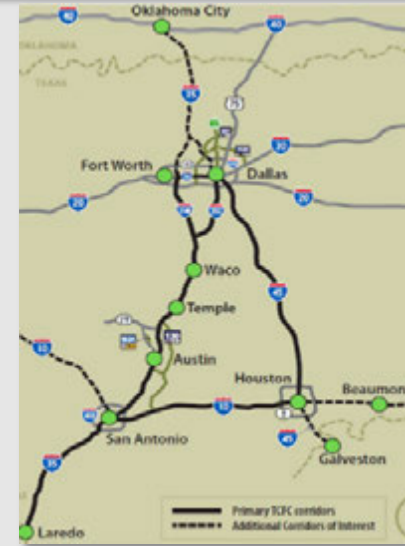
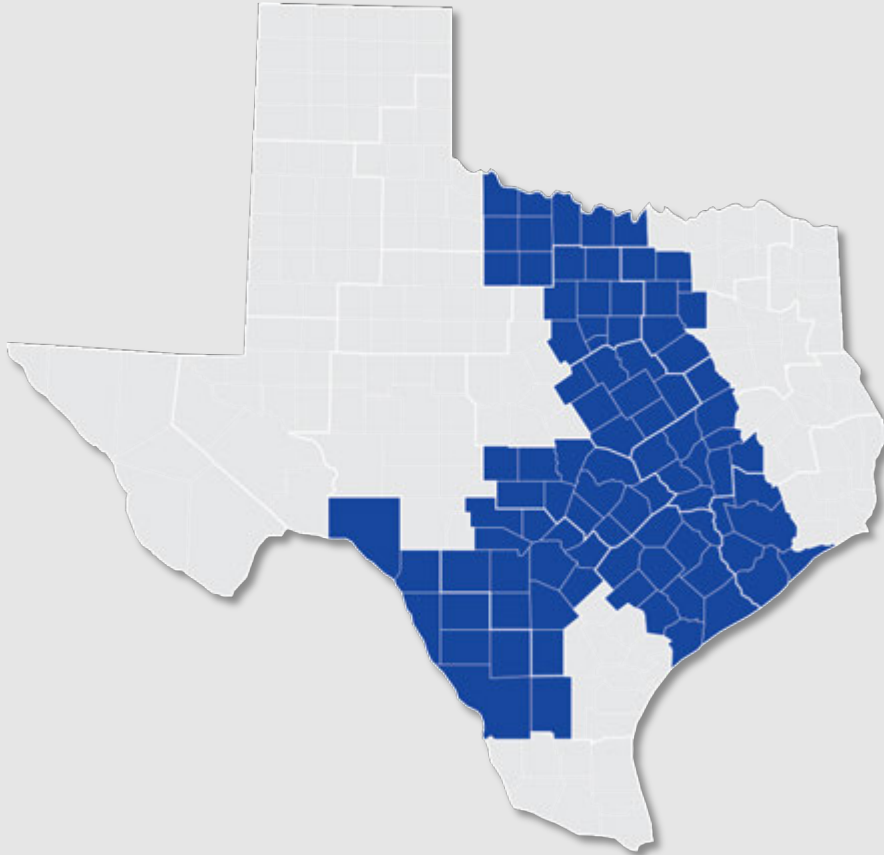
Electric and other Alternately Fueled Vehicles



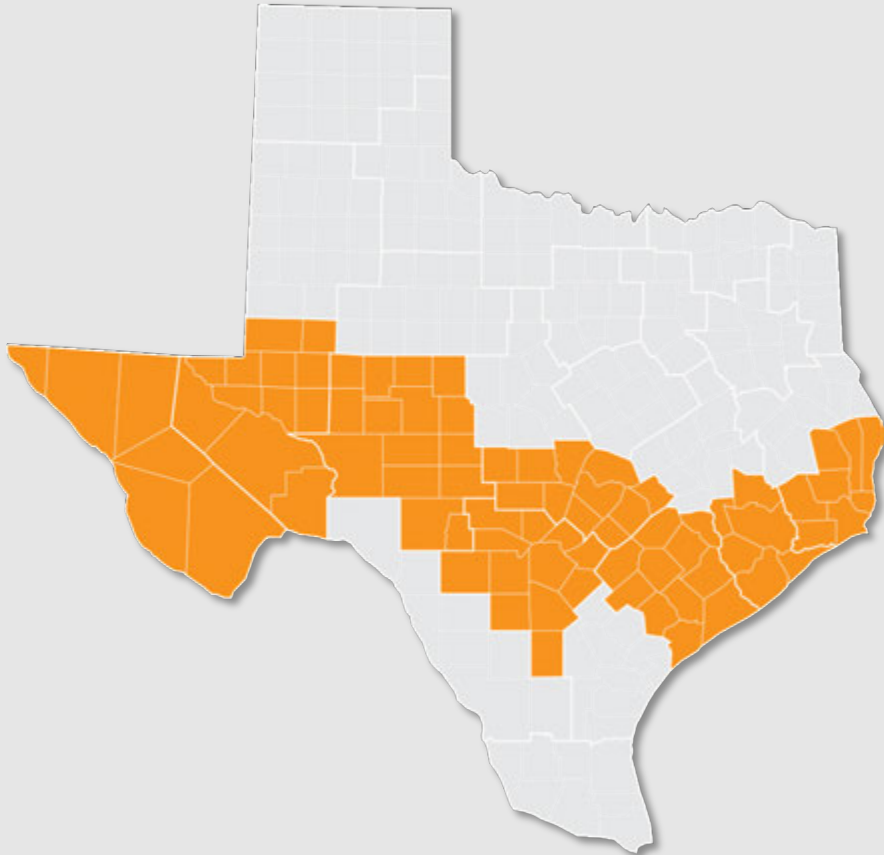
Connected, Virtual, Digital Infrastructure / Twin & Internet of Things (IoT)



Texas Connected Freight Corridors



I-10 Coalition Corridor





Strategic Planning for Expedited Data Initiatives (SPEDI)

- Telematics Data Focused
- What external data can enhance our operations
- Plans for innovative telematics data projects

Innovation Planning

- Growing “Big Innovation” Focused
- Catalog of existing innovations
- Plans for new innovations

Current Innovation Pathways to TxDOT



INNOVATION SOURCES

TECHNOLOGY RECEPTORS



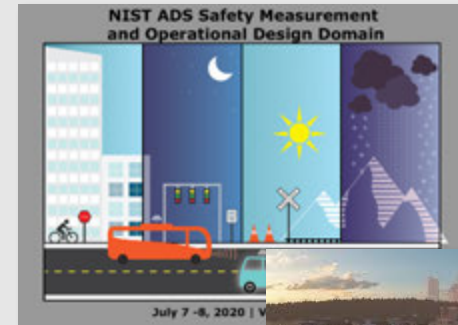
Connected & Autonomous Vehicle
Statewide Task Force

Cooperative and Automated Transportation
TxDOT Work Group

Address a globally transformational technology



- Addressing bicyclist safety through the development of crash modification factors for bikeway facilities
- Evaluation of the performance of rumble strips on pavements where seal coats have been applied
- Identify risk factors that lead to an increase in fatal pedestrian crashes and develop countermeasures to reverse trends
- Develop improved methods for eliminating striping on roadway surfaces
- Develop standardized operational evaluation of wrong-way driving detection technologies



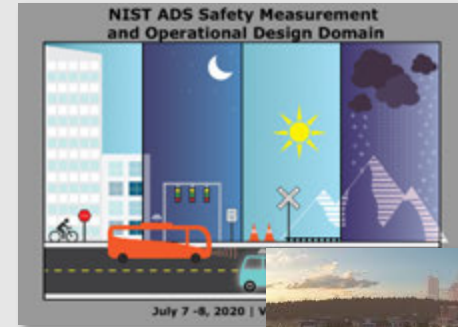


- Developing AI for congestion management
- Texas Connected Freight Corridors and the next applications to deploy
- Synthesis on pedestrian detection technologies
- ConOps on working with AV trucking companies for data sharing
- Defining Operational Design Domains (ODDs) for the Safe Blending of Levels 0-4 Connected and Autonomous Vehicles (CAVs) in the Traffic Stream
- Exploring the Use of Artificial Intelligence to Leverage TxDOT Data for Enhanced Corridor Management and Operations
- Determine Evacuation Planning Design for Disaster Resilience





- Improved queue warning system combining multiple data sources
- Using vehicle probe data to evaluate speed limits on Texas highways
- Real-time decision support tool for urban roadway safety improvement
- Assessment of HERO incident management programs





- Improving traffic signal system planning, design and management with big-data-enhanced Automated Traffic Signal performance metrics (ATSPM) system
- Expanding Connected Vehicle Data Framework (CVDF) Data Sources to Increase Applications and Use on Texas Roadways





- Responding to district needs, identification through innovation project
- Identifying longer duration needed understanding, to complement near term actions.... what's our vision for safety, operations, and related data, technology and innovation 5-10 years from now, and what questions do we need to answer to lead to resources and execution?



We hear about new technologies all the time.
How do we assess the maturity of these new technologies and determine their impacts on Texas transportation?