United States House of Representatives Committee on Transportation & Infrastructure Subcommittee on Highways & Transit

Written Testimony: Aligning Federal Surface Transportation Policy to Meet 21st Century Needs

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Introduction

Chairwoman Norton and Ranking member Davis, thank you for inviting me to be here today. My name is Darran Anderson and I am the Director of Strategy and Innovation at the Texas Department of Transportation (TxDOT) and am here on behalf of the Texas Innovation Alliance (Alliance). I appreciate the opportunity to provide testimony before the subcommittee today, and to share our experience creating and organizing the Texas Innovation Alliance.

In short, the Texas Innovation Alliance is an action network of local, regional, and state agencies, as well as research institutions who are galvanized to be a capability multiplier for mobility innovation. The mission of the Alliance is to strategically develop, launch, and sustain a portfolio of advanced mobility projects across the State of Texas, to improve the lives, safety, and economic prospects of Texans.

Texas Innovation Alliance Overview

Building upon the momentum of the USDOT Smart City Challenge, the Texas Department of Transportation and the City of Austin issued a call to action in 2016. Metropolitan regions from around the state stepped forward, uniting as the Texas Innovation Alliance to address the state's most pressing mobility challenges.

As Texas continues to grow, the Alliance proactively develops tools beyond traditional infrastructure, including innovative technologies, policies, and processes. Alliance partners include our largest cities -- Houston, Dallas, and San Antonio; small, but rapidly growing cities, such as Frisco; and regional partners, such as Bryan-College Station, and the Coastal Bend area. The Alliance is open to any Texas locality or region that is interested in pursuing mobility solutions (see Appendix A).

Individually, communities have limited capacity and capability to develop mobility solutions and prepare our infrastructure for the coming transformations. Together, we have the ability to leverage our resources and expertise. In fact, as I speak the Alliance is working on submission of an application for the Federal Highway Administration's Automated Driving Systems Demonstration Grant. Texas partners within the Alliance are taking a collaborative approach in offering a robust and diverse set of data, use cases, and deployments to help guide national Automated Vehicle guidance and rule making.

The Texas Innovation Alliance uniquely allows for this individualized problem identification and shared solutions. This enables Texas' cities and regions to connect with public and private sector partners; leverage investment to maximize impact at a lower cost; enable rapid deployment and sustainable solutions; develop best practices and lessons learned; and, build awareness and create unified communications.

Texas is at a pivotal moment — where the rate of population growth, infrastructure needs, and technological advancement are challenging our ability to provide quality mobility services. With five of the nation's fifteen fastest growing cities located in Texas and the population expected to nearly double by the year 2050, it is critical that we manage this disruption proactively rather than allow rapid urbanization to stifle our state's economy.

How Congress Can Help

While the Alliance is working well from a grass roots basis with state assistance and the resources of our research partners, the federal government continues to play a critical role in allowing for new technologies. We thank this committee for your work on MAP-21 and the FAST Act to streamline programs and gain efficiencies at the federal level. Texas has realized time and cost savings because of the flexibility afforded by converting 70 funding silos into today's six federal highway programs, and by providing states the opportunity to assume responsibilities under the National Environmental Policy Act. The Alliance is seeking to mirror those successes by not duplicating efforts, through sharing best practices, and through fostering an open exchange of what has and hasn't worked in their communities.

To help enable not only the Alliance's efforts, but for all cities, regions, and states seeking how to best use technology to improve transportation mobility, we offer these suggested improvements for consideration when reauthorizing the FAST Act:

- Make technology eligible for federal funding across all USDOT programs.
- Clarify that infrastructure-based ITS capital improvements equipment required for the implementation of Vehicle-to-Everything or V2X are an eligible use under the State Transportation Block Grant Program (STBGP). This would include:
    - Data collection and analysis;
    - Maintenance;
    - Integration;
    - Fiber and the data ecosystems to manage transportation operations; and,
    - The costs associated with systems, software, and equipment required for V2X implementation.
- We also support policy under the State Transportation Block Grant Program (STBGP) that would provide funding eligibility for advanced mobility improvements to include data infrastructure and analysis, smart mobility improvements such as smart truck parking, smart work zones, smart pavements, mobility-on-demand platforms, smart fleet, and alternative vehicle charging infrastructure.
- Finally, when a public entity applies for discretionary grants, such as the Advanced Transportation and Congestion Management Technology Development grant with

private sector partners, we would like to have our partners recognized by the Federal Highway Administration as sole source contractors for the purposes of the grant, if awarded. It is extremely difficult to bring in a private partner during the application process if they will later need to competitively bid to be part of the project. The current approach stymies, rather than promotes the use of Public-Private Partnerships.

The Nexus of TxDOT, its Research Partners, and the Texas Innovation Alliance

In 2017, Governor Greg Abbott signed Senate Bill 2205 which cleared the way for driverless vehicles to legally operate on Texas roadways. Laws such as SB 2205 ensure that rapidly evolving technology on the whole spectrum of operation remains safe on Texas roadways. To that end, TxDOT has a coordinated effort to research, review, and test emerging technologies that will someday have a great impact on the transportation network, thereby informing the focus of the Texas Innovation Alliance. This effort includes reliance on some of our other state technology leaders, such as:

The Texas Connected and Automated Vehicle (CAV) Task Force was created in January by Governor Greg Abbott and is led by TxDOT. This task force will serve as a repository of information for all on-going Connected and Automated Vehicle projects in Texas and will facilitate progress in advancing CAV technology through hosting industry forums and reporting lessons learned through public and private entities' efforts to implement CAV technology.

For example, the Southwest Research Institute, located in San Antonio, is working with other academic partners in Texas to collaborate with Texas' new CAV Task Force. The Institute is a leader in Connected and Automated Vehicle (CAV) research and technologies and has worked with USDOT and Texas universities to provide a full-service test track for these technologies.

The State Transportation Innovation Council (STIC) along with TxDOT's Research Program contributes valued and innovative research ideas with the potential to bring solutions and opportunities to Texas. Areas of focus such as resiliency, improved traffic management systems, predictive analytics, as well as emerging technologies such as the impacts of artificial intelligence to TxDOT operations, and physical innovations or changes needed to accommodate autonomous and connected vehicles on our system are all research areas that inform the Alliance.

The STIC also facilitates the rapid implementation of innovative technology and shares its deployment outcomes at all levels of state government and throughout the

private and non-profit sector, including the Alliance, to ensure smart, efficient investment in Texas highway and transportation infrastructure.

The Texas Technology Task Force is directed by the Texas State Legislature to explore all types of emerging technologies, including automated and connected vehicle technologies, and recommend those technologies on which TxDOT should concentrate for future use in Texas' infrastructure.

Conclusion

As we usher in the next generation of technologies, a paradigm shift has already begun in transportation. An entrepreneurial approach is needed for Texas to take a leadership position, enabling our state to support a 21st century workforce and to continue attracting and growing businesses.

It is worthy to note that local leadership from the Alliance's regional team partners, including mayors, councilmembers, Metropolitan Planning Organization board members, and transit board members, have all emphasized that the local and regional governments are a key enabler to achieving our mobility goals, but that federal authority to resource new technology in our core funding is extremely important.

Additionally, our research partners such as those in the Texas Innovation Alliance, including the Southwest Research Institute, the Center for Transportation Research at the University of Texas at Austin, and the Texas A&M Transportation Institute are also key in identifying those technologies that will cause disruption and rapidly change our landscape.

On behalf of the Texas Innovation Alliance, I thank the Committee for the opportunity to testify today regarding the work we are doing in Texas not only to explore technology and innovation to enhance mobility, but to bring them to fruition. With a people-first, problem-based approach partners of the Texas Innovation Alliance are committed to working together to align local, regional, and state priorities for the benefit of our communities. Recognizing the value of collaboration, the Alliance stands together in pursuit of innovation and applies an entrepreneurial approach to be the leading model in developing new mobility solutions.

TEXAS INNOVATION ALLIANCE

An action network of local, regional, and state agencies and research institutions who are galvanized to be a force multiplier for mobility innovation.

Our mission is to strategically develop, launch, and sustain a portfolio of advanced mobility projects across the State of Texas.

TEXAS INNOVATION ALLIANCE

FORCE MULTIPLIER

1 Marketplace

11 Metropolitan Areas

40 Public Agencies & Research Institutions

Texas is the leading marketplace for catalyzing community-based, advanced mobility projects.

The Texas Innovation Alliance is the nexus of public agencies, industry, and research institutions and serves as a resource for prioritizing challenges, developing new mobility solutions, and progress a portfolio of advanced mobility projects.

The Texas Mobility Summit is an annual event where transportation leaders come together to discuss common challenges, showcase active and shovel-ready projects, and open the door to public-private partnership opportunities.

SHARED SOLUTIONS

Connect with public and private sector partners.

Leverage investment to maximize impact at lower cost.

Enable rapid deployment and sustainable solutions.

Develop best practices and lessons learned.

Build awareness and create unified communications.

VALUE TO TEXAS

PUBLIC AGENCIES

The Alliance is a trusted forum where public agencies work together to identify common challenges and develop shared solutions by:

- Developing innovative policies and strategies for the future
- Making critical decisions across local, regional, and state levels
- Coordinating on deployment, research, and funding activities

INDUSTRY

The Alliance is a one-stop-shop for Texas mobility that welcomes industry and enables partners to navigate the landscape by:
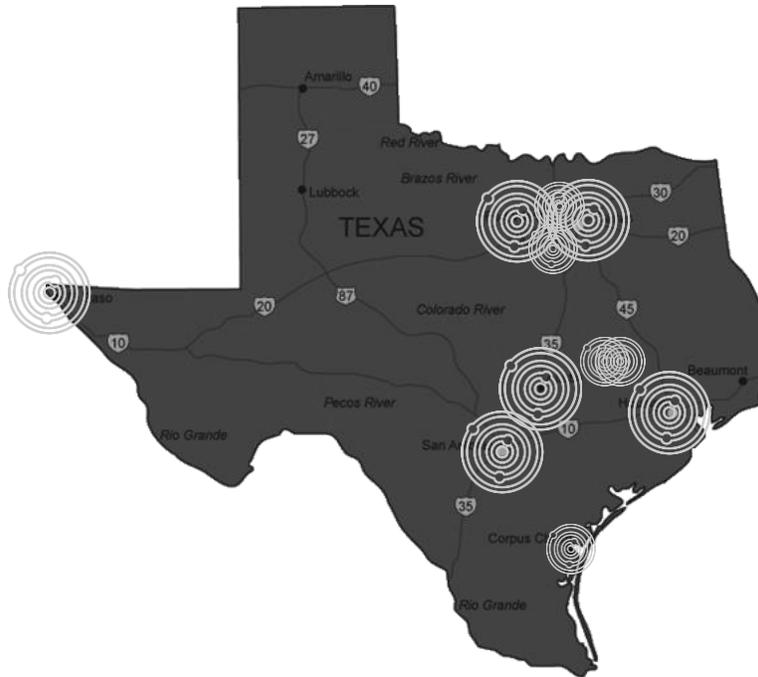
- Engaging stakeholders to assess needs and ensure partnership fit
- Getting to market in alignment with local and state goals
- Sustaining and scaling solutions beyond demonstration phases

COMMUNITIES

The Alliance is a civic organization with strong local roots and includes communities in the open innovation process by:

- Informing policymakers and the public on core issues
- Conducting community engagement workshops
- Organizing technology demonstrations to gather input

Texas Department of Transportation

ARLINGTON | AUSTIN | BRYAN-COLLEGE STATION | COASTAL BEND
DALLAS-FORT WORTH | EL PASO | FRISCO | HOUSTON | SAN ANTONIO

Connected & Automated Vehicles. With its enabling legislation, Texas is leading the safe deployment of automated vehicles in real-world environments. The City of Frisco and City of Arlington have partnered with Drive.ai to provide on-demand passenger pickup. In addition, Houston, Bryan-College Station, San Antonio, and Austin have planned initiatives underway along key corridors and campuses.

Seamless Mobility. As Texas continues its patterns of rapid growth, Texas cities and transit agencies – DART, DCTA, FWTA, Houston METRO, Capital Metro, and Via Metropolitan Transit Authority – are embracing innovation by developing on-demand service models and new partnerships with the private sector such as Via, Lyft, Uber, and several dockless mobility companies.

Real-Time Data. Public agencies are saving time, money, and lives across Texas by equipping travelers with information at their fingertips. From helping drivers during flash flooding in Tarrant County to improving congested freight routes in Corpus Christi and measuring transportation economic impacts in El Paso, the state is leveraging data to make better planning and investment decisions.

Equity & Access. Transportation can be a barrier for those seeking to access jobs, medical care, schools, and other critical services. Bryan-College Station is coordinating dispatch of health and human service agency transportation services, Tarrant County is exploring partnerships with ridesharing companies for non-emergency transport, and regions have begun take steps to advance telemedicine.

Freight & Logistics. With more than 3,700 deaths on Texas roadways in 2017, the Texas Connected Freight Corridors initiative is improving safety for all travelers by instrumenting the Texas Triangle with sensors and wireless communications technology to enable connected vehicle applications such as dynamic routing, freight signal priority, and improved emergency response.

Energy & Sustainability. Many Texas regions face the growing challenge of air pollution from mobile sources as congestion and traffic demand intensify. Texas utilities and transit agencies are exploring ways to electrify fleets, strategically install charging infrastructure, and maximize the $209 million received from the VW Settlement.