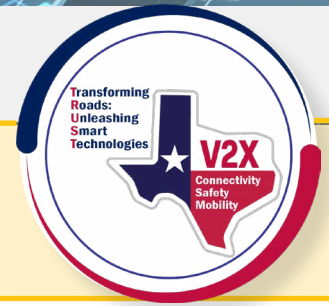


Saving Lives with Connectivity: Accelerating Vehicle to Everything (V2X) Deployment



USE CASE #3 Transit Fleet Integration

WHAT IS VEHICLE-TO-EVERYTHING (V2X)?

V2X functions like a group chat for the road. It allows cars, traffic lights, and other road users to communicate in real-time by sending messages to each other, and each message can carry different safety and roadway information.



Multiple transit buses queue at a as passengers board. (source TTI)

USE CASE #3 DESCRIPTION

Congestion at intersections can delay buses and reduce public transportation's appeal. This use-case helps improve transit operations by allowing buses to request minor adjustments to signal timing, helping them stay on schedule, reduce travel time, and operate more efficiently. By requesting transit signal priority, buses can move more reliably, supporting public transit for the community.

WHAT CAN I EXPECT FROM THIS USE CASE?

As a general road user, you may not notice much. Traffic signals will continue to operate normally. However, at select intersections in Bryan/College Station, this technology will help buses move more efficiently, such as slightly extending green lights or shortening red lights when a bus is approaching to help it stay on schedule.

HOW DOES IT WORK?

A transit vehicle submits a request to a V2X-equipped intersection asking for a slight adjustment to the signal. This request is translated into a V2X message which the intersection receives and responds to. This process is known as Transit Signal Priority.

Texas A&M Transit carries
~6.4 million
riders per year



Off-campus
bus ridership
averages **~30,000**
riders per day
during the academic year



Before-and-after
Transit Signal Priority
(TSP) study:

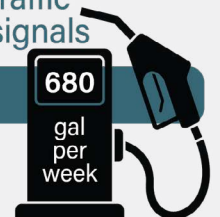
Giving buses priority at
traffic
signals



SAVED

resulting
in about

\$90,000 annual fuel savings



USER STORY

The Challenge: You are driving a bus full of students across town to campus. Traffic is heavy because it's game day weekend, and you're worried about falling behind schedule.

V2X Solution: You request priority, and the V2X-equipped intersection detects your approaching bus and adjusts the signal timing to clear the path ahead.

Outcomes & Benefits: You reach campus faster, reducing travel time and staying on schedule.

Transit Fleet Integration

TEXAS TRUST PROJECT

The Transforming Roads: Unleashing Smart Technologies (TRUST) project is a federally funded initiative led by the Texas A&M Transportation Institute (TTI).

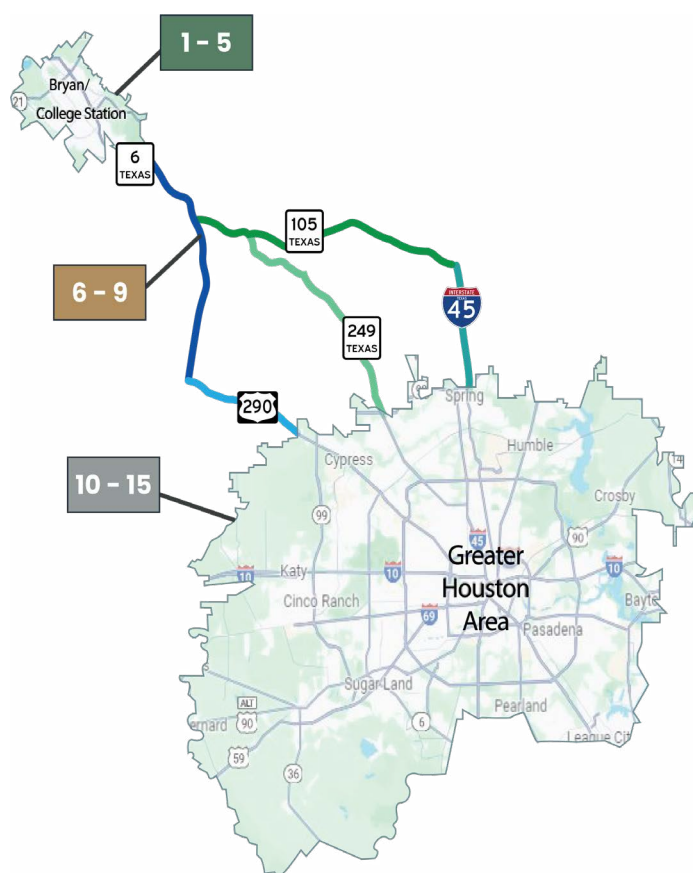
TTI, in partnership with state, local, and industry partners, is implementing V2X technology in Houston and Bryan-College Station through 15 real-world use cases that demonstrate how V2X can enhance safety, mobility, efficiency, and economic growth. TRUST aims to develop solutions that work across different technologies and regions, while sharing insights to help create a national blueprint to accelerate V2X adoption and implementation nationwide.

USE CASES

LOCATION:

BRYAN/COLLEGE STATION

1. SPaT-Enabled Intersections for VRU Identification and Protection
2. Traffic Signal Preemption and Priority
3. ***Transit Fleet Integration***
4. Every Day a Gameday
5. Enhanced Highway Construction Worker Safety



LEARN MORE ABOUT TEXAS TRUST & V2X

For more information on Texas TRUST and to explore V2X educational resources, project updates, and use cases, please visit: <https://v2xtexastrust.com/>

For a list of supporting references used in these materials, visit: [V2X Use Case Sources](#).



Robert Brydia, PMP
Division Head
System Operations and Technologies
Texas A&M Transportation Institute



Questions? Email us at v2xtexastrust@tti.tamu.edu