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# Texas Connected Freight Corridors (TCFC)

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# Table of Contents

**03** | Vision

**04** | Project Goals

**05** | Benefits

**06** | Overall Project Timeline

**07** | Core Team and Stakeholders

**09** | Project Updates

**14** | V2X Data Exchange

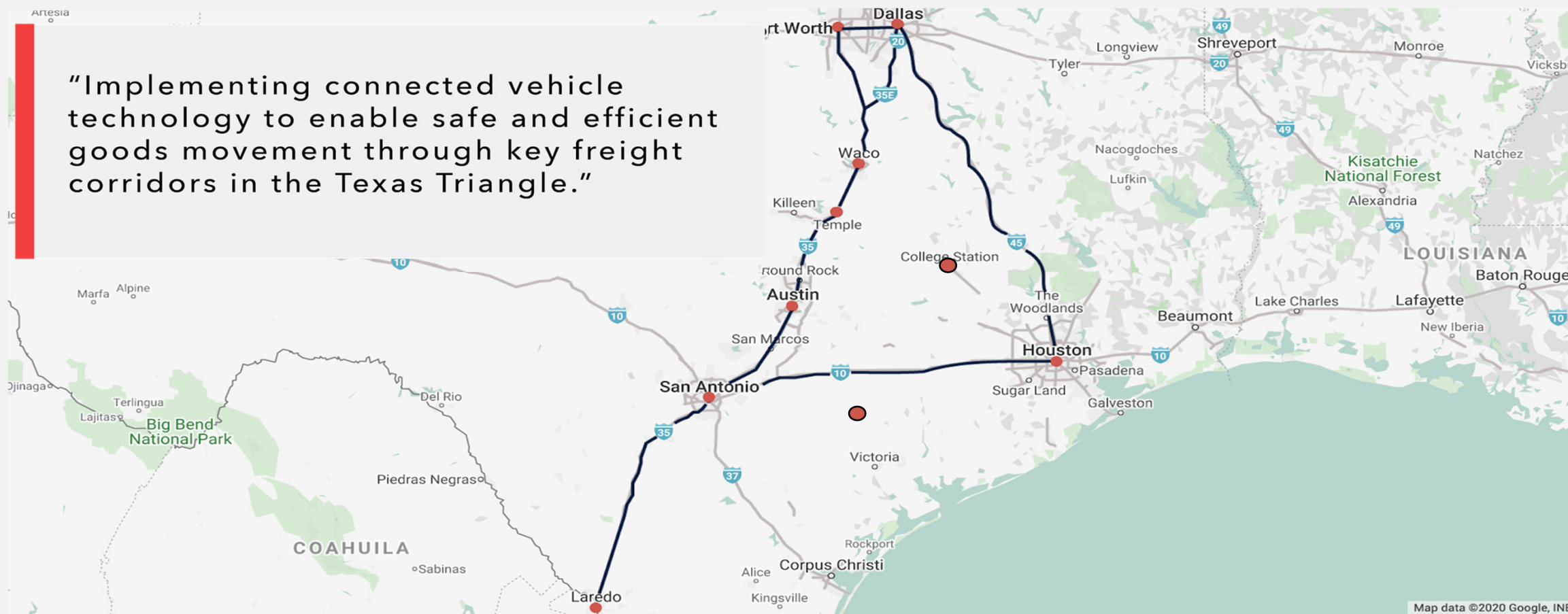
**15** | Phase 3 Tasks

**16** | SCMS

**17** | Contact

# Vision

"Implementing connected vehicle technology to enable safe and efficient goods movement through key freight corridors in the Texas Triangle."



# Project Goals



# Benefits

## BENEFITS



Gain access to **near-real-time information** on work zones, traffic queues, alternative travel routes, and wrong-way drivers

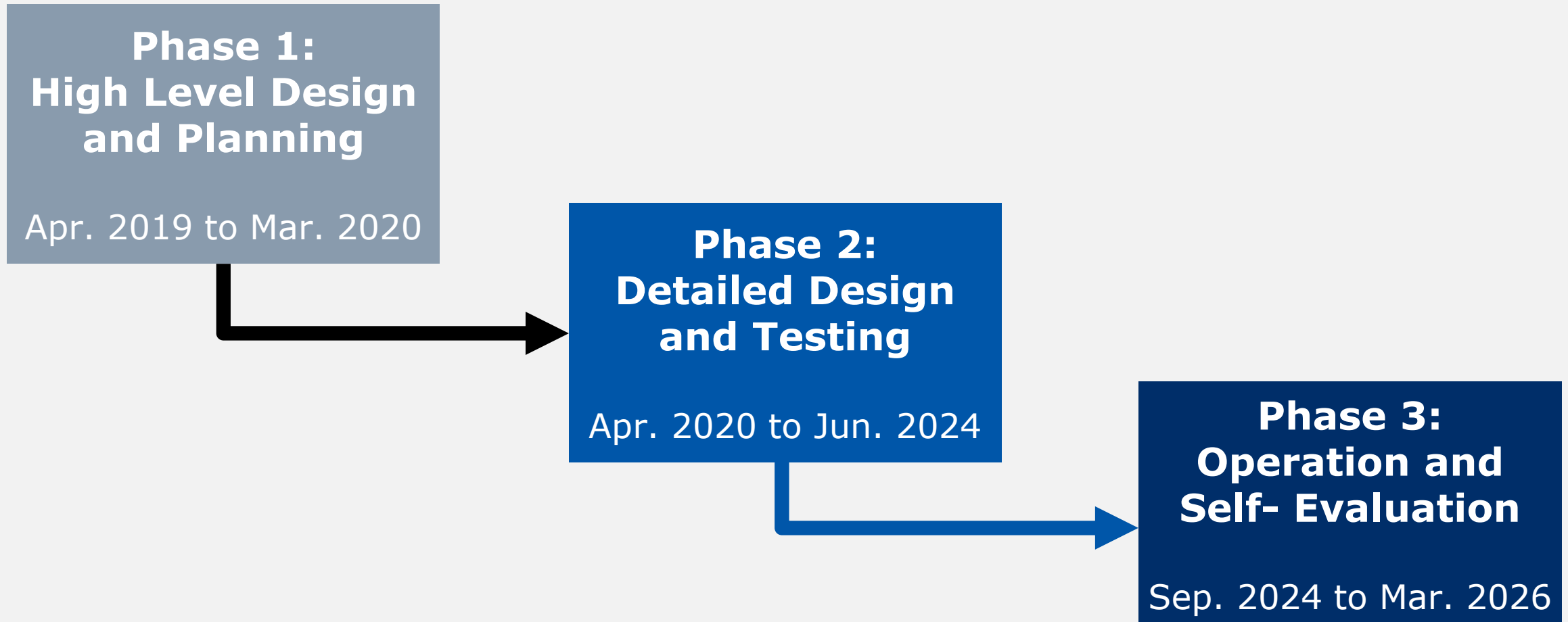


Achieve **proof of concept** before making a large connected vehicle technology investment

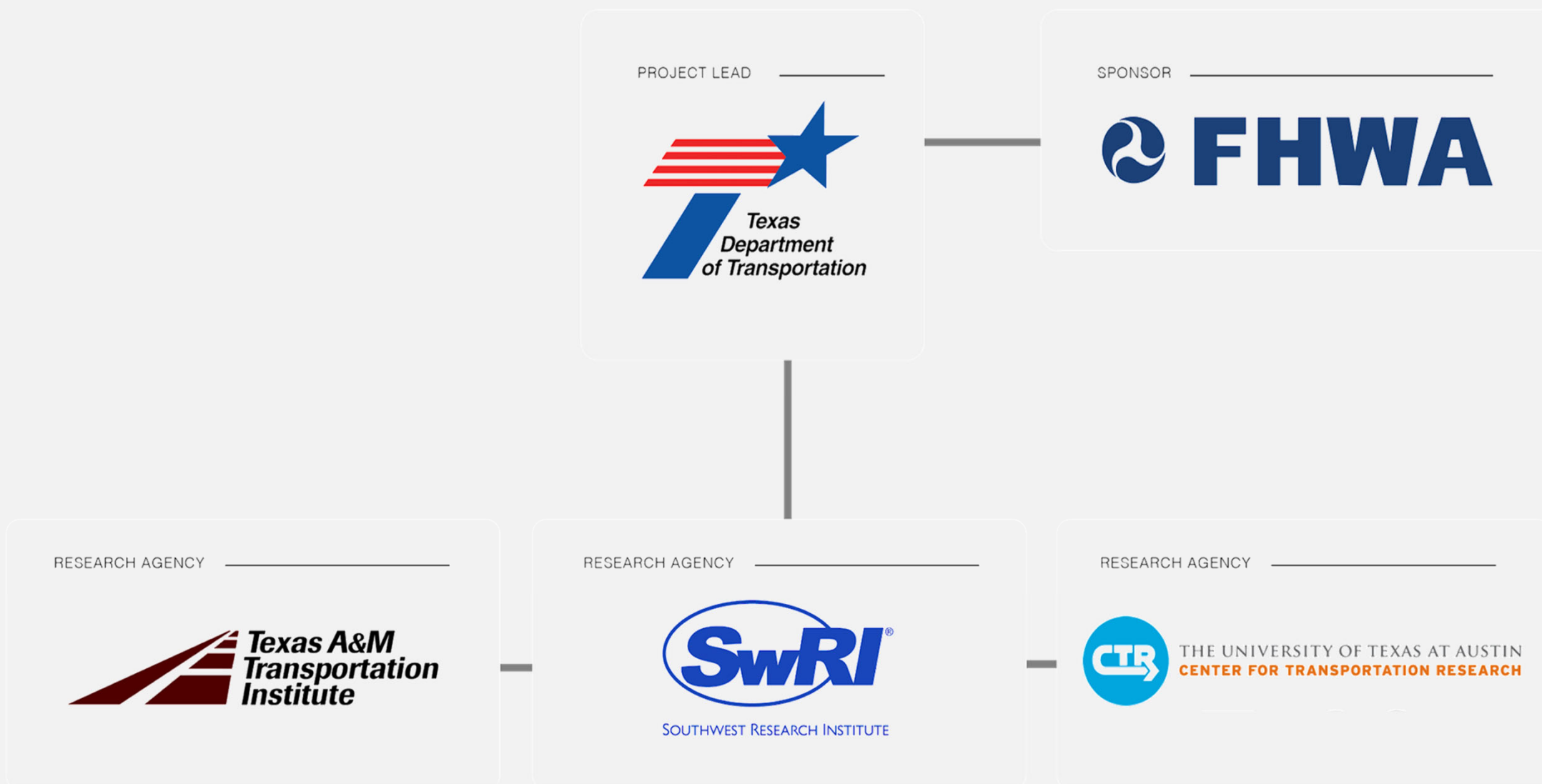


Contribute to a model that will set an example for future CV deployments and **develop national standards**

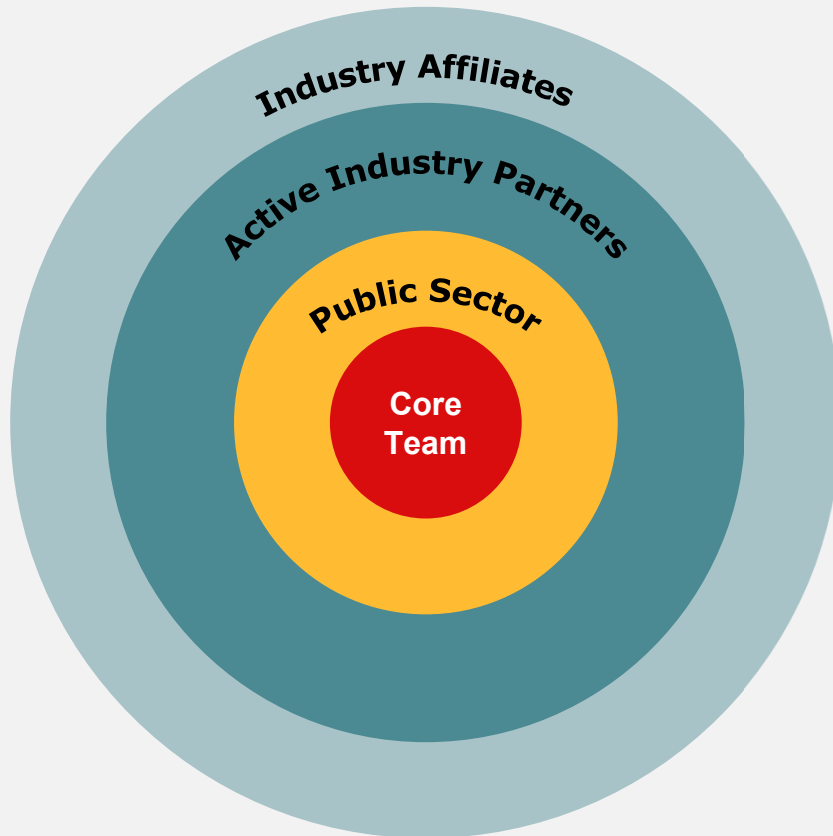
## Overall Project Timeline



## Core Team



# Stakeholders



## PUBLIC SECTOR

### TxDOT Districts

Austin, Bryan, Dallas, Fort Worth, Houston, Laredo, San Antonio, Waco, Yoakum

### Regional Agencies

North Central Texas Council of Governments, Houston TranStar, City of Austin, City of San Antonio, Department of Public Safety (DPS)



## PRIVATE SECTOR

### Active Industry Partners

HEB, Crete Carrier, TuSimple, Kodiak Robotics, PepsiCo

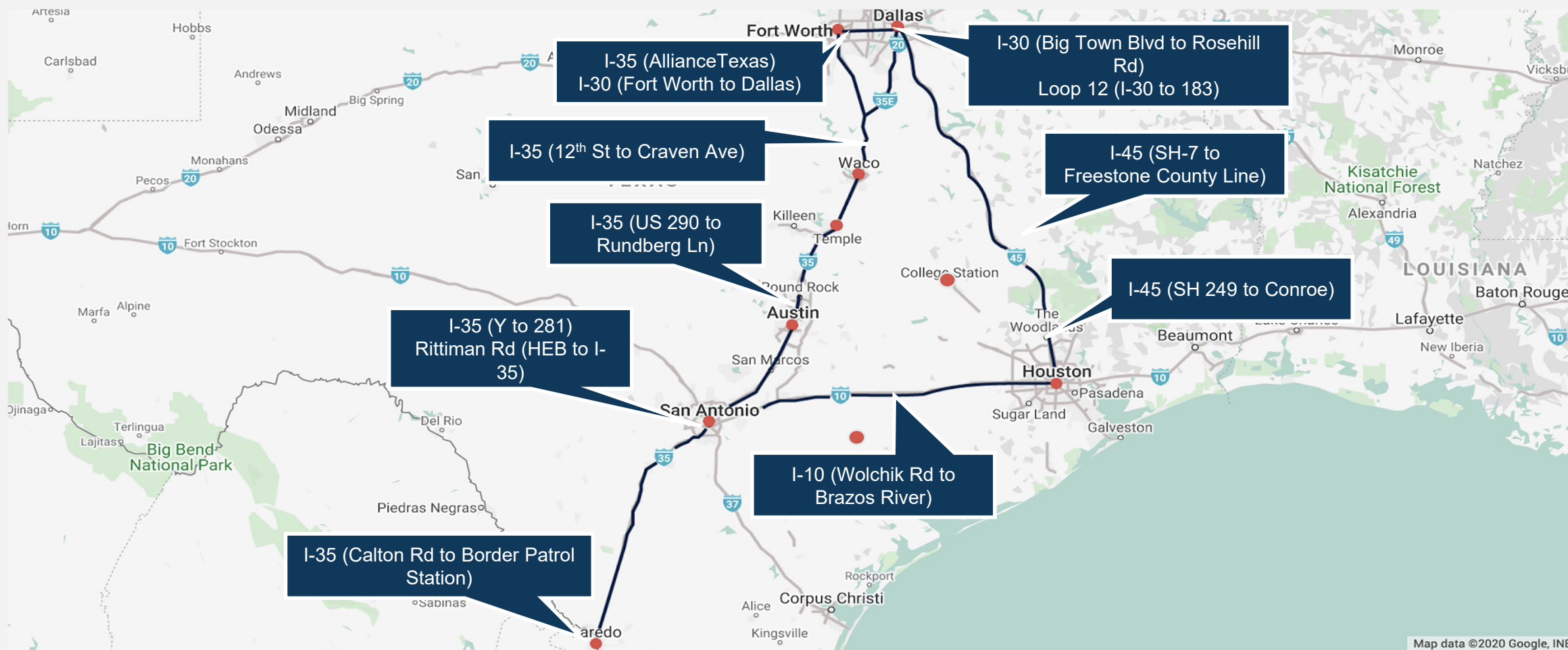
### Industry Affiliates

**Fleets:** Ford

**Telematics:** GeoTab, Omnitracs, PeopleNet, Drivewyze

**Other:** Volvo, Peterbilt, Daimler, Texas Trucking Association, AllianceTexas

# Project Corridors



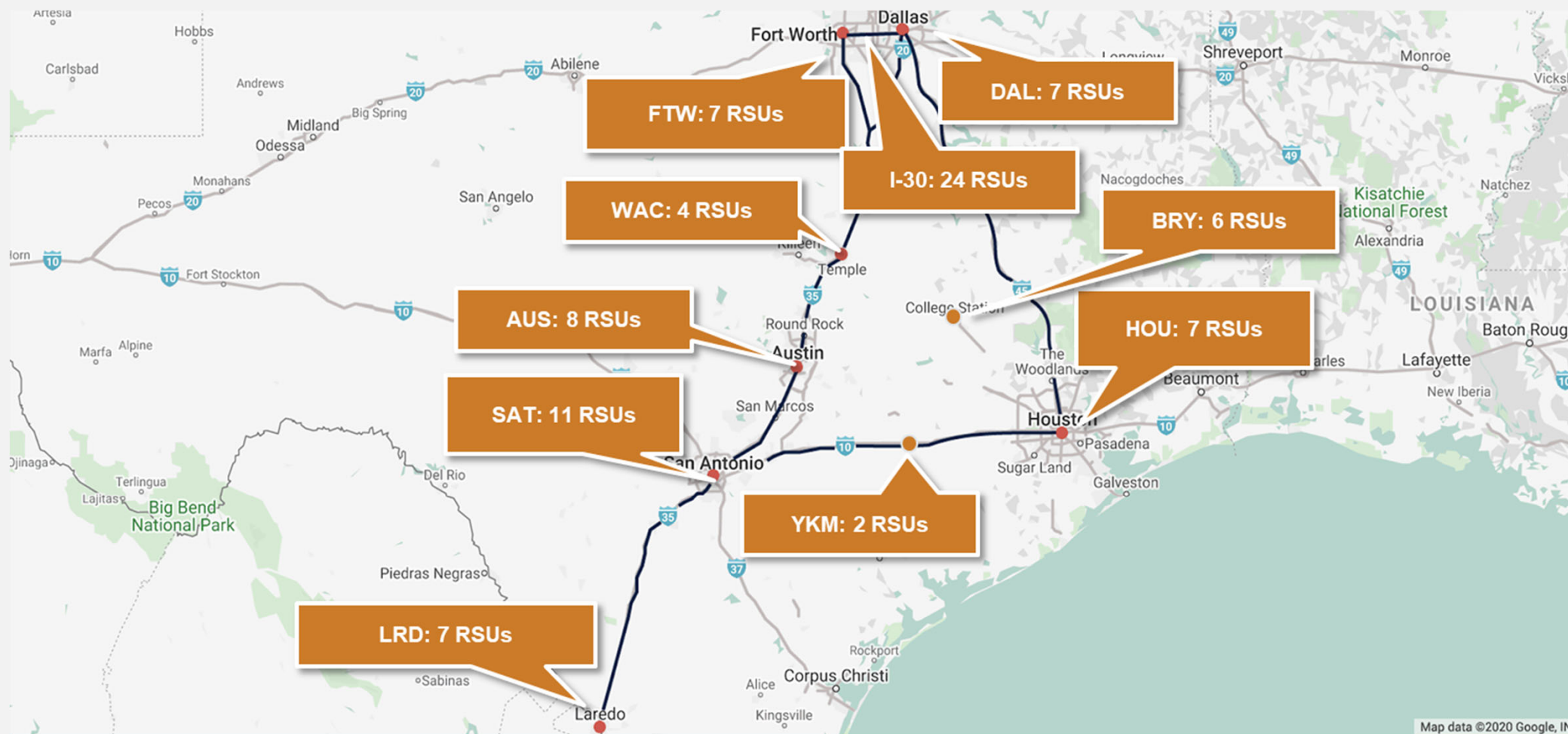
# Application Development

Tier 1	 <p>Work Zone Warning</p>	 <p>Queue Warning</p>	 <p>Wrong-Way Drivers</p>	 <p>Advanced Traveler Information System (ATIS)</p>
Tier 2	 <p>Freight Signal Priority</p>	 <p>Road Weather Warning</p>	 <p>Truck Parking Availability</p>	 <p>Bridge Height Warning</p>
Tier 3	 <p>Emergency Electronic Brake Light (EEBL)</p>	 <p>Pedestrian &amp; Animal Warning</p>	 <p>Eco-Dynamic Routing</p>	 <p>Border Wait Times</p>
	Selected for Development		Not Selected for Development	

# Equipment Procurement



# Roadside Unit (RSU) Installations



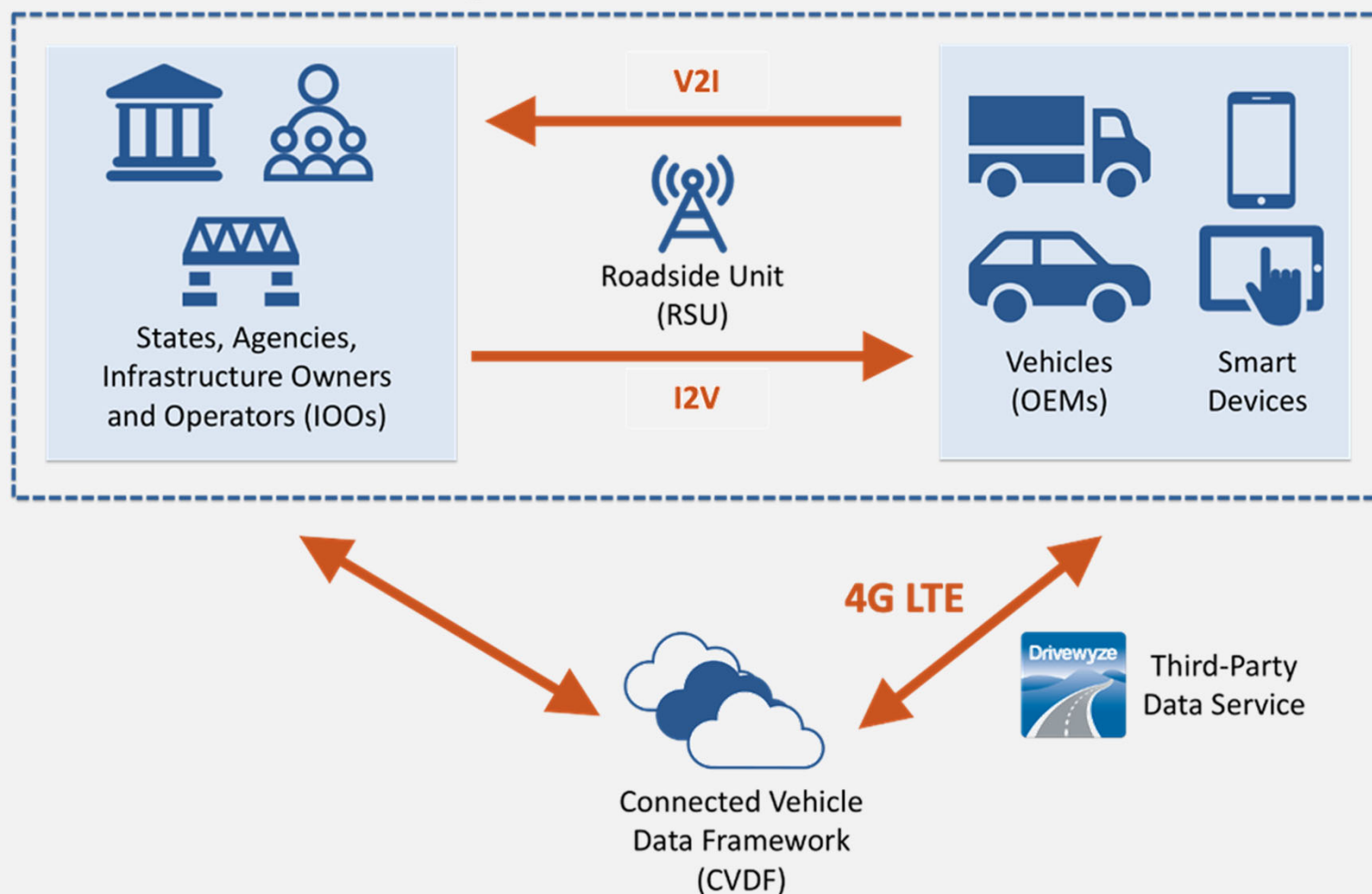
# Data Sharing Agreements with Freight Partners

## Freight Partner Data Sharing Agreements

- Data to support project performance evaluation
  - Average travel times, delay, and emissions calculations
- Outlined in Data Sharing Agreement
  - Trip Data (O/D, trip ID)
  - Speed, location, timestamp data
- Anonymized, no Personally Identifiable Information (PII)
- Stored temporarily on University servers and will not be subject to FOIA requests

# V2X Data Exchange

## Traditional CV Data-Sharing Method



## **Phase 3 Tasks**

### **3.1 Project Management**

Co-Leads: SwRI, TTI, CTR

### **3.2 System Operation & Maintenance**

Lead: SwRI; Support: TTI

### **3.3 Data Collection & Analysis**

Lead: TTI; Support: SwRI, CTR

### **3.4 Performance Measure Reporting**

Lead: TTI; Support: SwRI, CTR

### **3.5 Stakeholder Outreach**

Lead: CTR; Support: SwRI, TTI

### **3.6 Participant Education & Training**

Co-Leads: SwRI, CTR

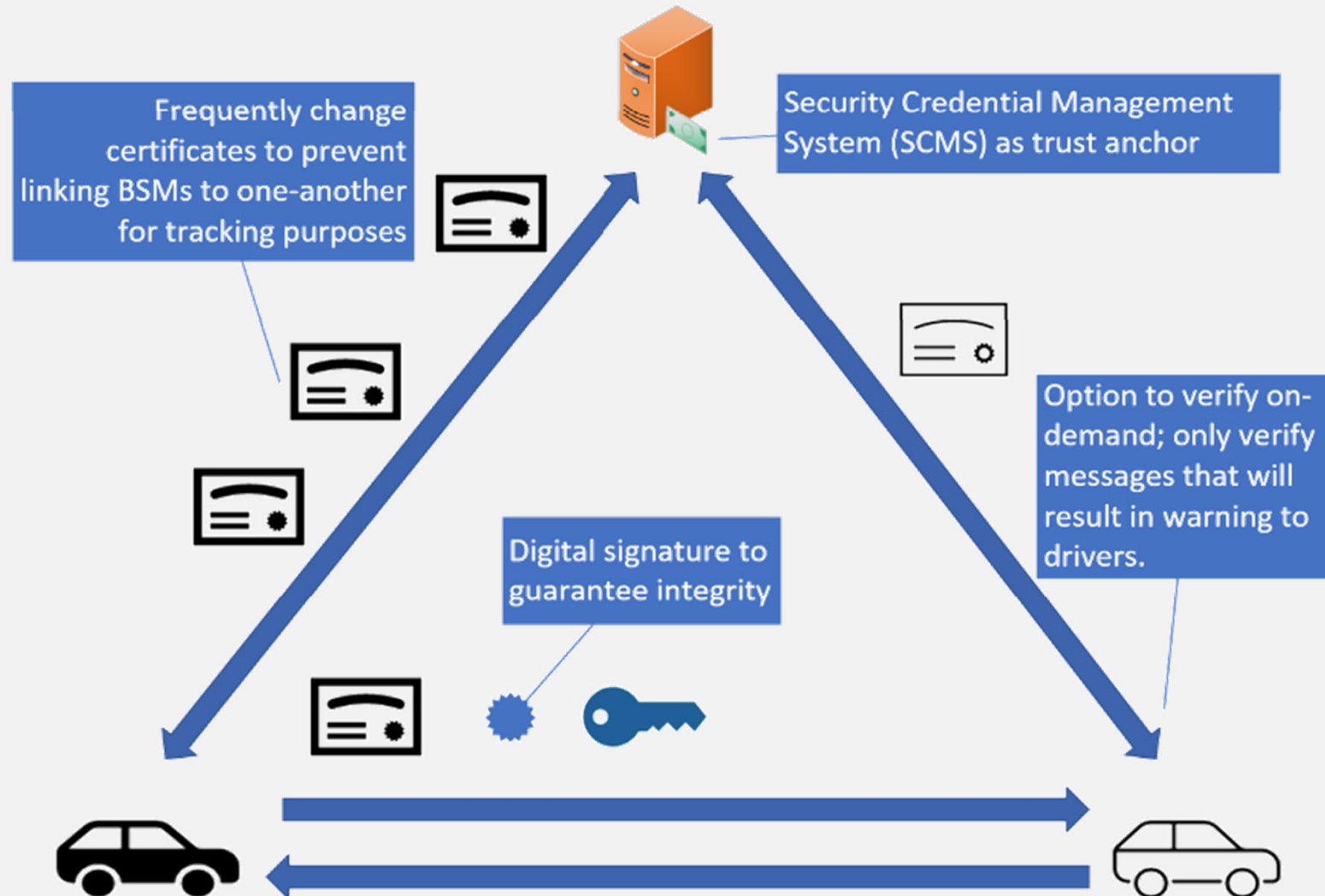
### **3.7 SCMS Deployment**

Lead: SwRI

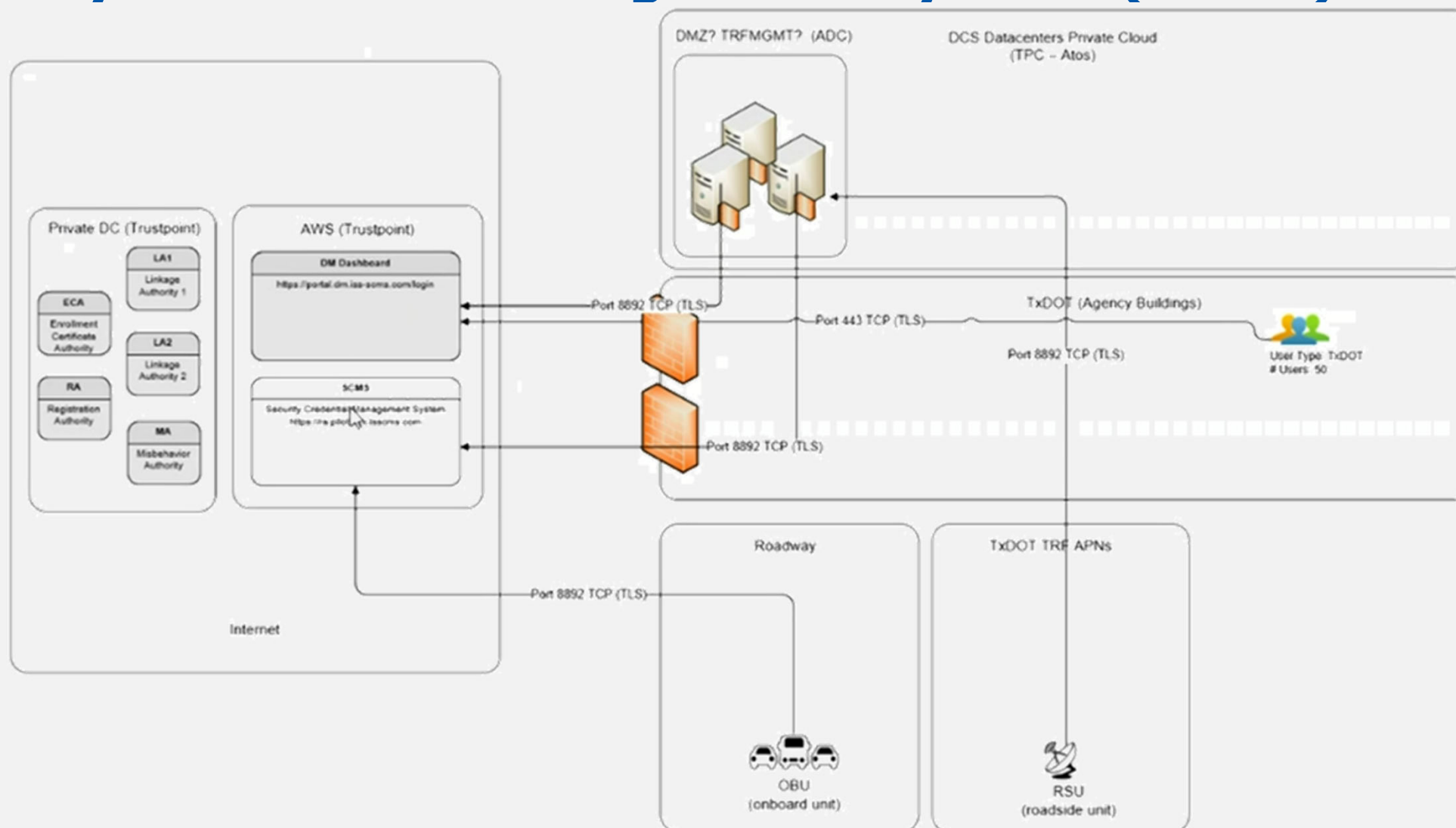
### **3.8 System Integration & Testing**

Lead: TTI

# Security Credential Management System (SCMS)



# Security Credential Management System (SCMS)





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# Thank you!

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