


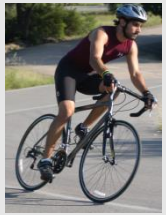

TEXAS CONNECTED FREIGHT CORRIDORS

Project Overview

31 March 2022

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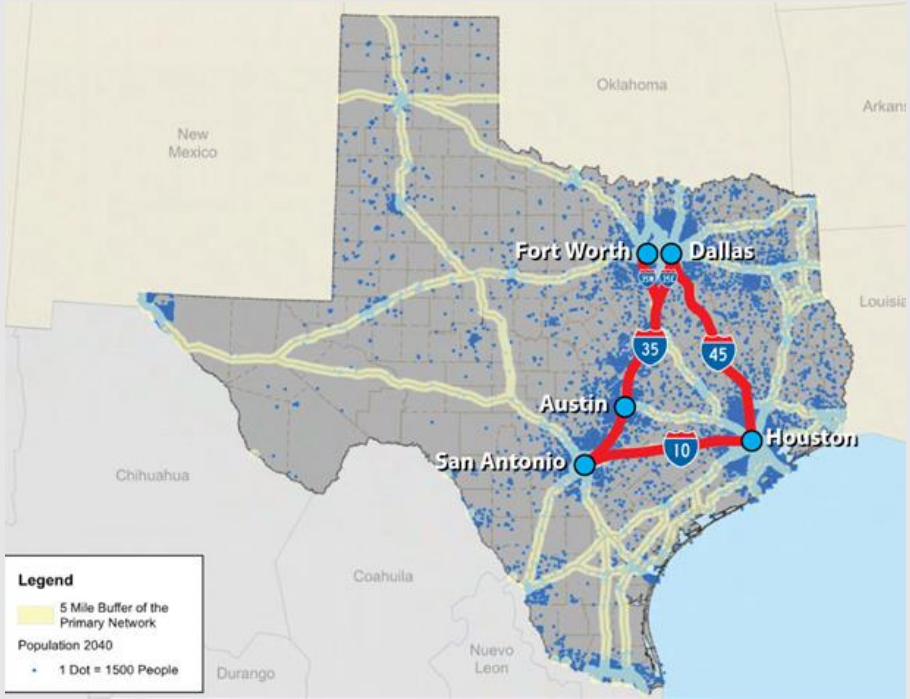
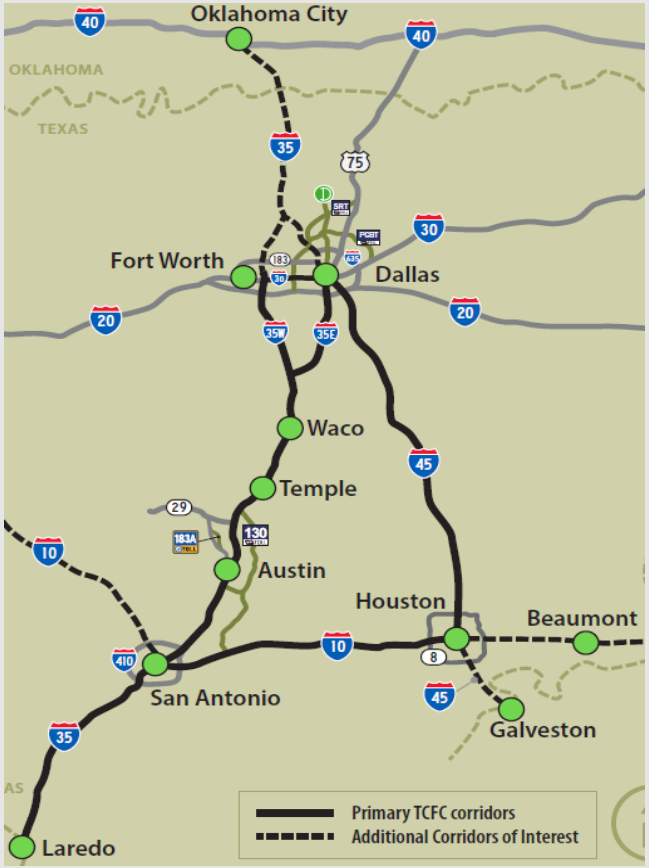
Texas Triangle Challenges

- Texas Triangle contains ¾ of Texas' 27 million population – growing to 39 million people in 2040
- Seven of top 25 national freight bottlenecks
- Eleven of top 20 most congested roadway sections in Texas
- Doubling of freight tonnage from 2010 to 2040 (2/3rd by truck)
- More cross border trade value than CA, MI, ND, and AZ combined



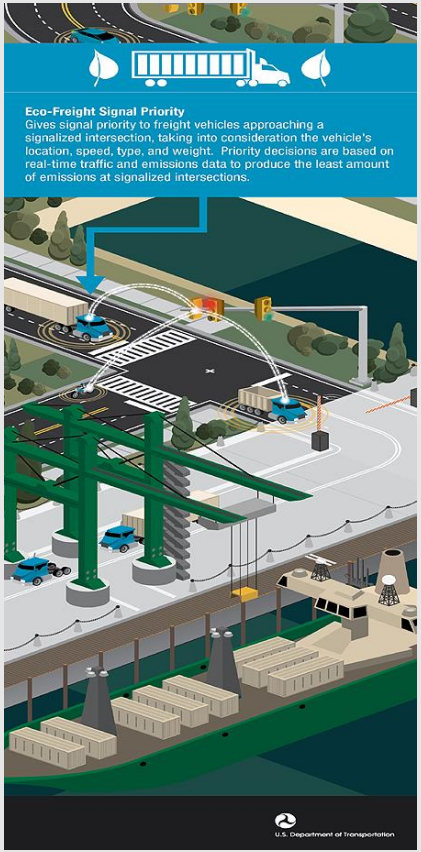
Texas Connected Vehicle Vision & Goals

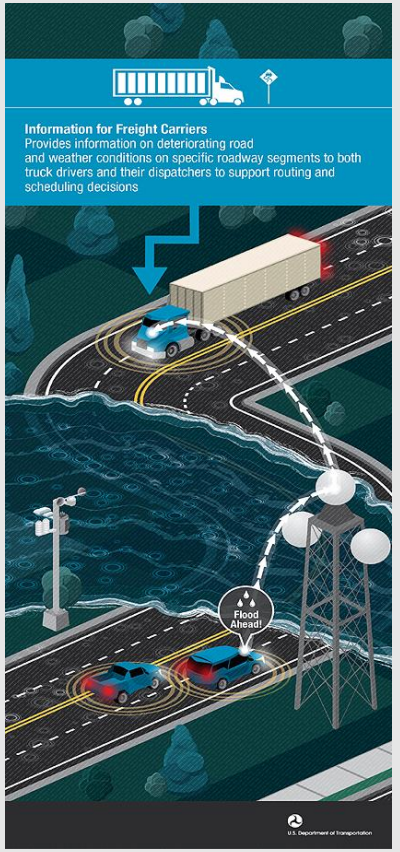
- The Texas vision is to create a sustainable connected vehicle environment covering the 865-mile Texas Triangle (including extension to Laredo) to support V2V and V2I safety and mobility applications
- Goals:
  - Promoting economic efficiency and safety of commercial vehicles and freight first, followed by passenger cars and other users
  - Creating Day One benefits through use of aftermarket devices and integration with existing on-board technologies
  - Minimizing infrastructure costs to state and local agencies



Texas Connected Freight Corridors Project

- Texas Proposal: Equip “Texas Triangle” with connected infrastructure technology (IH10, IH30, IH35 & IH45)
  - Equip 1,000 trucks and TxDOT fleet vehicles with on-board technology
- HEB flagship partner, approaching others for participation
- Provide freight operators and drivers with info and warnings to improve safety and mobility:
  - Warnings for traffic queues, work zones, low bridge heights, weather (heavy rain, ice, fog), wrong-way drivers
  - Equipped truck will get braking warnings from other equipped trucks
  - Info on traffic conditions, route guidance, border wait times





Connected Vehicle Applications – Proposed

USDOT Focus Areas	Proposed Applications		Proposed Locations
Multimodal ICM	Advanced Traveler Information System	Mature	IH35/SL340, Waco IH35/SL363, Temple IH35/SH130, Austin IH30
	Eco-Dynamic Routing	New	
	Work Zone Warnings	Mature	
CV at Pedestrian Crossings	Pedestrian/Animal Warning	New	IH35 in Austin
	SPaT Corridor for Improved Ped/Bicycle Safety	New	Riverside Dr., Austin
Unified Fare Collection/Payment System	Truck Parking Availability/Reservation	New	Rest Areas, IH35
Freight Community System	Border Wait Times	Mature	IH35, Laredo
Connected Communities	Truck Signal Priority	Mature	IH35, San Antonio
Infrastructure Condition Assessment	Low Bridge Height Warnings	New	IH35, IH45
Rural Technologies	Traffic & Road Info for Truck Platooning	New	IH35, IH45
	EEBL Alerts from Trucks Ahead	Mature	Austin/ San Antonio
	Traffic Queue Warnings	Mature	IH35, IH45, IH10, IH30
	Road Weather Warnings	New	IH35
	Wrong Way Driving (WWD) Alerts	Mature	San Antonio

Connected Vehicle Applications – Application Development

Tier 1	Work Zone Warning	Queue Warning	Wrong-Way Drivers	Advanced Traveler Information System (ATIS)
Tier 2	Freight Signal Priority	Road Weather Warning	Truck Parking Availability	Bridge Height Warning
Tier 3	Emergency Electronic Brake Light (EEBL)	Pedestrian & Animal Warning	Eco-Dynamic Routing	Border Wait Times

Selected for Development

Not Selected for Development

Project Budget & Schedule

- The USDOT awarded TxDOT $6.09 million
- The project has a requirement to match with equal state/local contribution
- TxDOT and its partners will match with in-kind contributions making the project over $12 million

Texas Connected Freight Corridors	Schedule																				
	CY 2019			CY 2020				CY 2021				CY 2022				CY 2023				CY 2024	
Task	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
1 - Planning and High Level Design	12 months																				
2 - Detailed Design, Build, and Test					36 months																
3 - Operate, Maintain, and Evaluate																	12 months				

Project Budget & Schedule – Overall Project Timeline

Phase 1: High Level Design and Planning

April 2019 to March 2020

Phase 2: Detailed Design and Testing

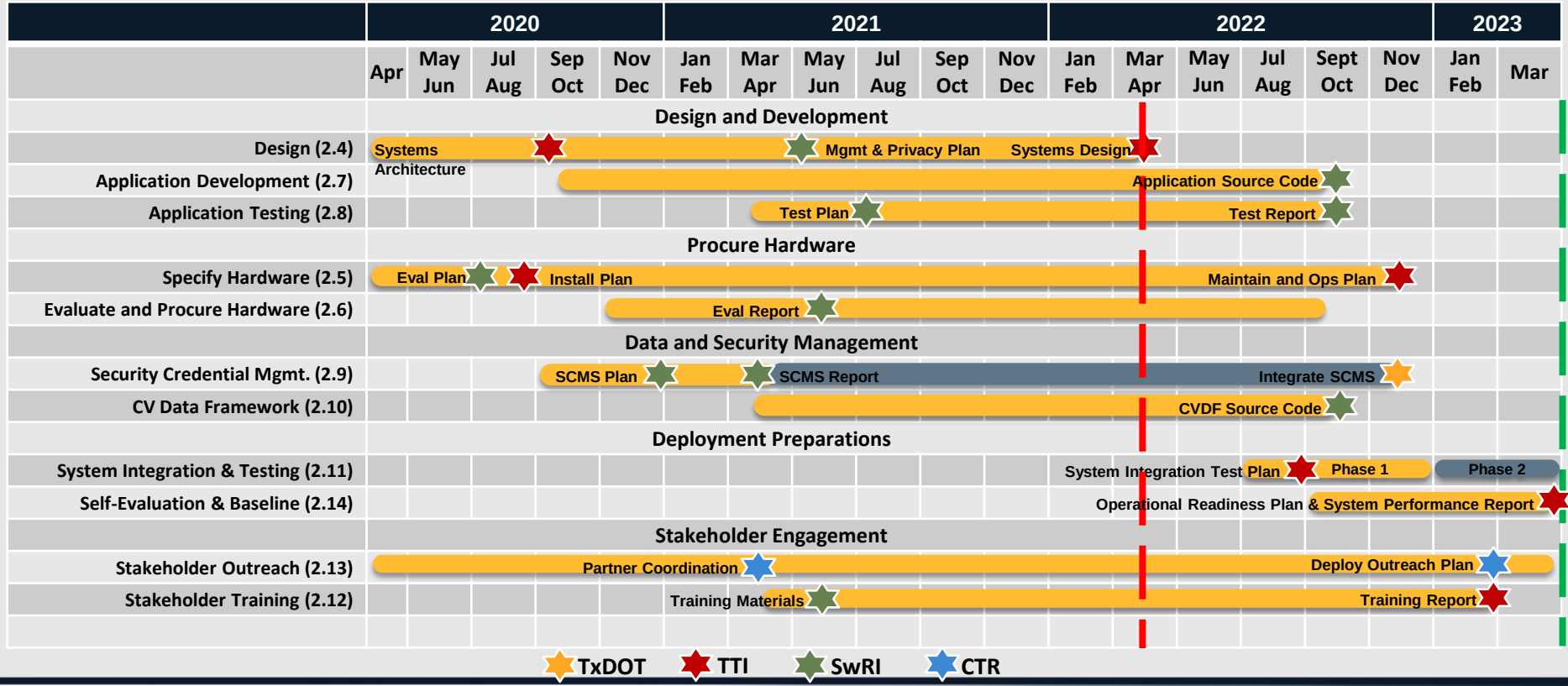
April 2020 to March 2023

Phase 3: Operation and Self- Evaluation

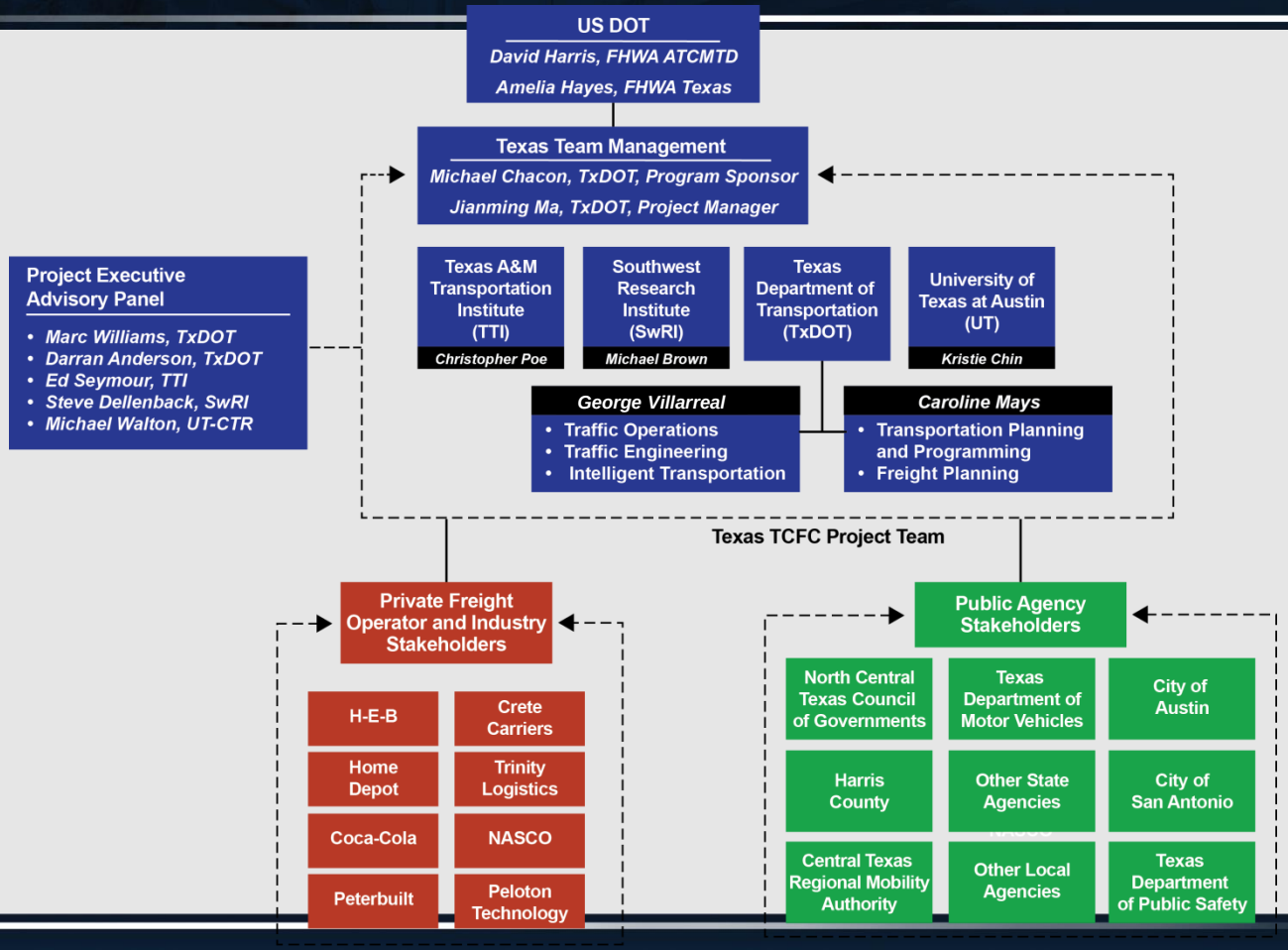
April 2023 to March 2024

Project Budget & Schedule – Task 2 Timeline and Workflows

All dates listed represent delivery of draft deliverables



Project Organizational Chart



Partnership

FHWA

SwRI®

Texas Department of Transportation®

Texas A&M Transportation Institute

North Central Texas Council of Governments

CTR THE UNIVERSITY OF TEXAS AT AUSTIN
CENTER FOR TRANSPORTATION RESEARCH

Public Sector Stakeholders

- Current

Private Freight Stakeholders

- Stakeholders included in Proposal-

- Project provides opportunities for expansion of private freight stakeholders

Companion Programs and Projects

- IH 35 Connected Work Zone
  - RSZW/LC
  - Lonestar™ CV module
- Western IH 10 Corridor Coalition
  - ConOps study for IH10 western connected freight corridor
- IH10 Corridor Coalition Truck Parking Availability System
  - ATCMTD 2018 Grant
- Small Cell Pilot Projects
  - Houston small cell pilot
- Texas Innovation Alliance
  - Community of practice: freight and logistics
- Texas ARC-IT Workshop
  - Update regional architecture to incorporate CV
- RSU Specifications and Standards
- TxDOT CAV Workgroup
- Texas CAV Task Force
- Statewide CAT Strategic Plan and Program Plan Development

Project Information Portal

- Project Kickoff Meeting held on November 5, 2018
- NTP issued on April 1, 2019
- Project information page on TxDOT website
  - Goals and Benefits of Project
  - Scope of Project
  - Additional Information
    - Project Proposal
    - Project FAQs
  - http://www.txdot.gov/inside-txdot/division/traffic/freight-corridors.html

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