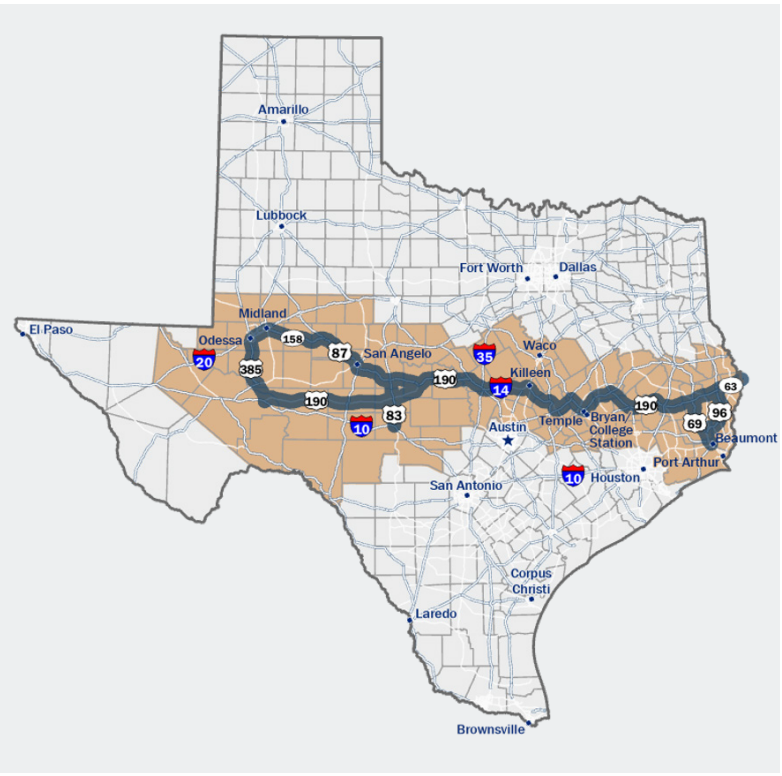
Texas Department of Transportation



I-14 SYSTEM IN TEXAS

IMPLEMENTATION PLAN AND REPORT

MARCH 2024

This page intentionally left blank

Table of Contents

List of Figures

List of Tables

List of Acronyms

Term	Definition
AASHTO	American Association of State Highway and Officials
AID	Accelerated Innovation Deployment
ATTAIN	Advanced Transportation Technology and Innovation
BTTS	Bicycle Tourism Trails Study
CAGR	Compound Average Growth Rate
CAV	Connected Autonomous Vehicles
CMV	Commercial Motor Vehicle
COG	Councils of Governments
CPI	Consumer Price Index
CPT	Corridor Prioritization Tool
CRIS	Crash Records Information System
CSJ	Control Section Job
EV	Electric Vehicle
FAHP	Federal Aid Highway Program
FAST	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FIDC	Freight Infrastructure Design Criteria
FM	Farm-To-Market
GIS	Geographic Information Systems
I-14	Interstate 14
IIJA	Infrastructure Investment and Jobs Act
INFRA	Infrastructure for Rebuilding America
ITS	Intelligent Transportation Systems
LED	Light Emitting Diode
LiDAR	Light Detection and Ranging
MOTRAN	Midland Odessa Transportation Alliance
MPH	Miles per Hour
MPO	Metropolitan Planning Organization

Term	Definition
MVMT	Million Vehicle Miles Traveled
NEPA	National Environmental Policy Act
POV	Privately Owned Vehicles
PS&E	Plans, Specification & Estimate
RID	Roadway Inventory Database
ROW	Right-Of-Way
RPO	Rural Planning Organizations
SH	State Highway
TPAS	Truck Parking Alert System
TPP	Transportation Planning and Programming
TSMO	Transportation System Management and Operations
TxDOT	Texas Department of Transportation
US	United States
UTP	Unified Transportation Program
VPD	Vehicles Per Day

Interstate 14,
Bell County

Introduction

CHAPTER 1

This page intentionally left blank

1.0 Introduction

The Interstate Highway System is a network of controlled-access highways that are part of the National Highway System. Congress authorized the creation of the Interstate 14 (I-14) system across Texas, Louisiana, Mississippi, Alabama, and Georgia shown in **Figure 1**, through the passage of the Fixing America's Surface Transportation (FAST) Act of 2015 and the Infrastructure and Investment in Jobs Act of 2021 (IIJA). Through that legislation, Congress identified numerous state and United States (US) highways to be upgraded to interstate standards as well as existing interstate highways where the I-14 system could be concurrent. The Texas Department of Transportation (TxDOT) has prepared the I-14 System in Texas Implementation Plan to upgrade a series of highways identified by Congress to interstate standards and ultimately add them to the Interstate Highway System. This new interstate system, approximately 1,027 miles long when completed, will enhance connectivity in the southern United States and improve mobility between urban and rural population centers, military installations, maritime ports, and economic sectors (including energy, international trade [maritime and border], timber, and agriculture). This document provides background about this system, summarizes existing and forecast conditions within the roadway network, and provides an implementation plan consisting of recommended near, mid and long-term projects and additional planning studies. The I-14 System in Texas Implementation Plan will serve as a guide to TxDOT to continue planning and programming improvements for continued development and designation of the I-14 System in Texas.

Figure 1 – The National I-14 System

1.1 Interstate 14 System Overview and History

Within Texas, the I-14 System was first known as the Central Texas Corridor, a High Priority corridor designated by Congress in the FAST Act, and included portions of US Highway 190 and State Highway (SH) 63 that stretched across central and eastern Texas. In 2021, IIJA expanded the future I-14 System to include additional routes in Texas and other states. The new

interstate will connect existing and future interstates, including the future I-27 Ports-to-Plains and I-69 interstates, as shown in **Figure 2**.

Within Texas, the I-14 System is expected to be developed along or in the vicinity of the following existing highways as outlined in federal legislation:

- I-14 (Existing interstate located in Bell and Coryell Counties)
- I-20
- US 69
- US 83
- US 87
- US 96
- US 190
- US 385
- SH 63
- SH 158
- Farm-To-Market (FM) 305
- State Loop 338

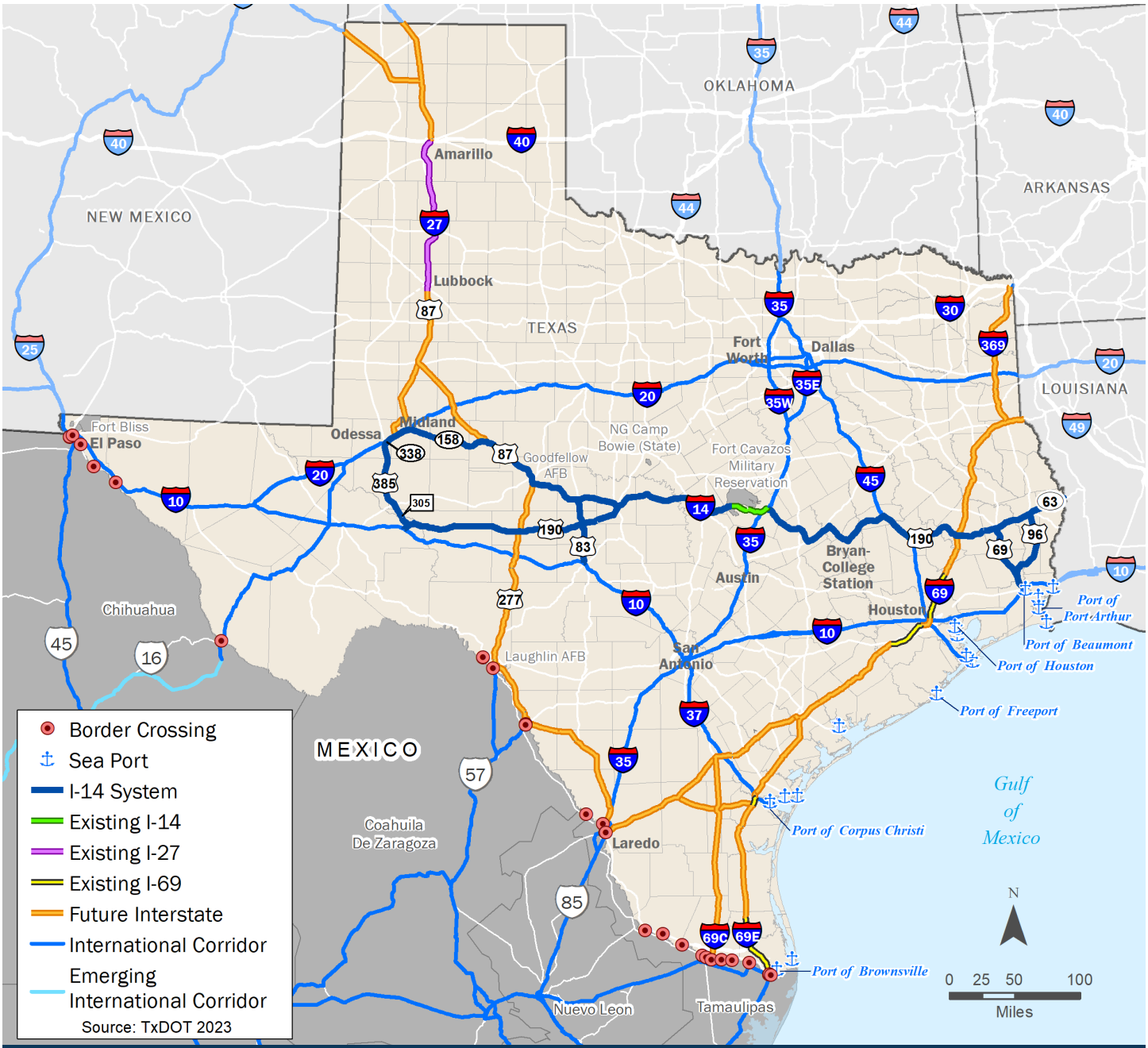


Figure 2 – Existing and Future Interstate System in Texas

Please note that sections of US 190 are concurrent with sections of I-35 and I-45, while sections of US 87 and State Highway 158 are concurrent with the future I-27 Ports-to-Plains system.

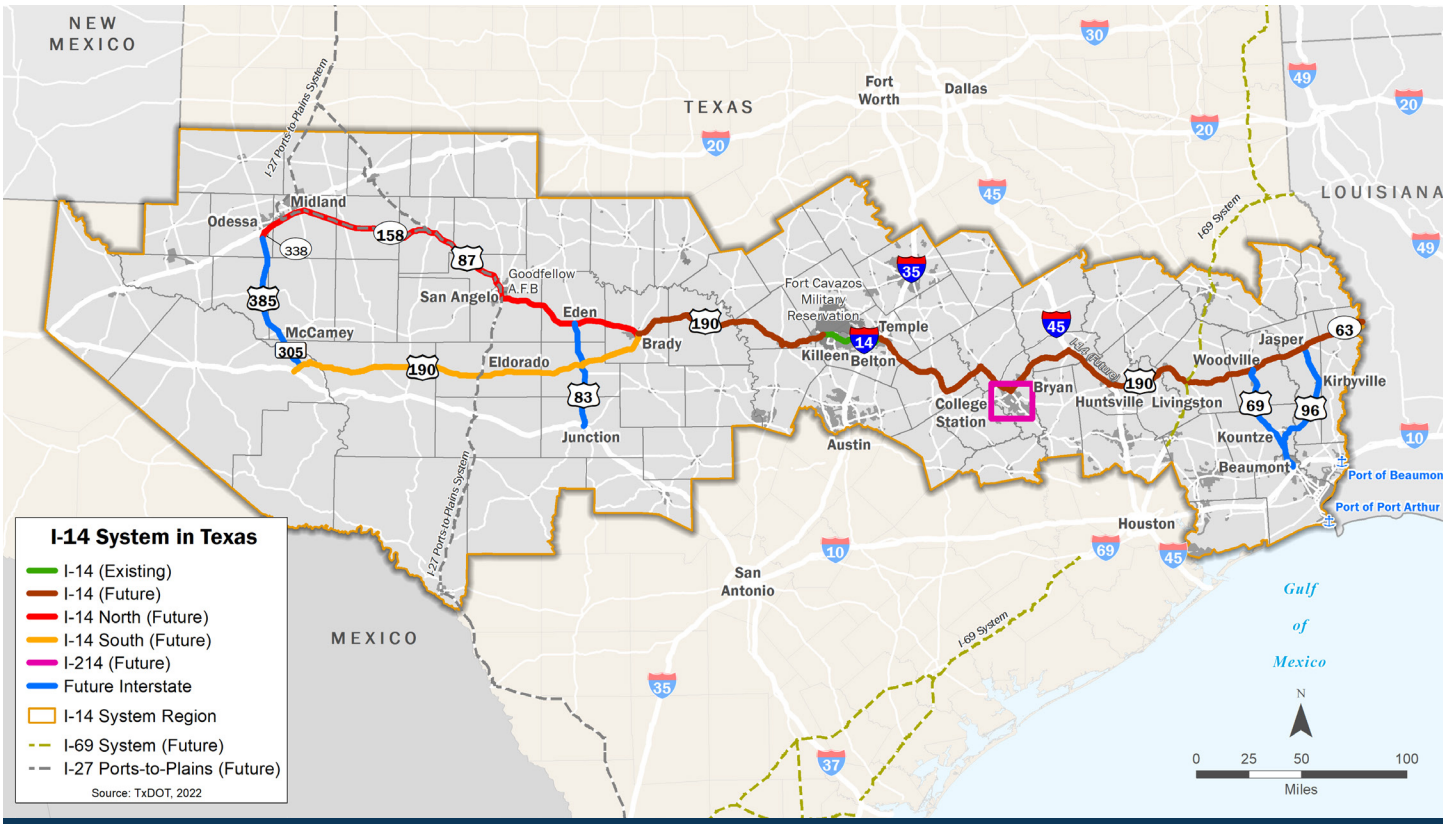


Figure 3 – I-14 System Region in Texas

The federal legislation provides a general route and final I-14 routing will require detailed studies to determine specific alignments. The IIJA designated the I-14 System in Texas for further development, along with future I-214 around the cities of Bryan and College Station. The evaluation of future I-214 is being conducted by the TxDOT Bryan District to determine upgrading and routing of a potential interstate facility.

Figure 3 shows the proposed and existing I-14 System in Texas, as well as the 74-county area that comprises the I-14 System Region. This region spans across seven TxDOT districts, five metropolitan planning organizations (MPOs), five rural planning organizations (RPOs) and councils of governments (COGs), and over 40 cities. Texas is the only state that has a highway section designated as I-14 that is part of the existing Interstate Highway System. The existing I-14 is located between US 190E in Copperas Cove and I-35 in Belton, a distance of approximately 25 miles. For most of the I-14 System in Texas, the IIJA also specifies the interstate highway route number to be assigned to a section once it is determined to meet interstate standards by the Federal Highway Administration (FHWA) and receives route numbering approval from the American Association of State Highway Transportation Officials (AASHTO).

7 TxDOT Districts

Beaumont, Brownwood, Bryan, Lufkin, Odessa, San Angelo, Waco

5 MPOs

Bryan/College Station, Killeen-Temple, Permian Basin, San Angelo, Southeast Texas Regional Planning Commission

5 RPOs/ COGs

Brazos Valley COG, Central Texas COG, Concho Valley COG, Deep East Texas COG, Permian Basin Regional Planning Commission

1.2 Why is the I-14 System in Texas Important?

A regional interstate network is critical for supporting the resilience and connectivity of the most significant industries in the I-14 System Region (see **Figure 4**). The I-14 System region extends from the Permian Basin in the west, to the Louisiana border in the east, to the Port of Beaumont and the Port of Port Arthur, two of the nation's busiest ports, in southeast Texas.

Supporting National Defense Throughout the Multistate Corridor

The I-14 System will help support the movement of equipment and personnel between military installations and thereby support national defense. The I-14 System connects the Fort Cavazos Military installation and the Goodfellow Air Force Base to the Port of Beaumont and the Port of Port Arthur, which serve as strategic military ports. The national I-14 System is also in proximity to military installations and ports in the southern United States, including the Joint Readiness Training Center in Louisiana, the Port of Gulfport in Mississippi, Maxwell Air Force Base in Alabama, and Fort Moore in Georgia. In 2021, Texas military bases supported more than 600,000 direct and indirect jobs and added $68 billion to the state's GDP.[1] In 2021, Texas **maritime ports** accounted for $328 billion in trade value, including more than $200 billion in exports and $127 billion in imports.[2]

Supporting the Texas and National Economies

According to the Office of the Governor, the $2.4 trillion Texas economy is now the eighth-largest economy among the nations of the world—larger than Russia, Canada, Italy, and more. Upgrading the I-14 System of roadways to an interstate facility is critical to the economic prosperity and growth of counties along the corridor, in Texas, and across the nation. To remain economically competitive, industries in West, Central, and East Texas need access to an interstate-level facility that connects with expanding markets.

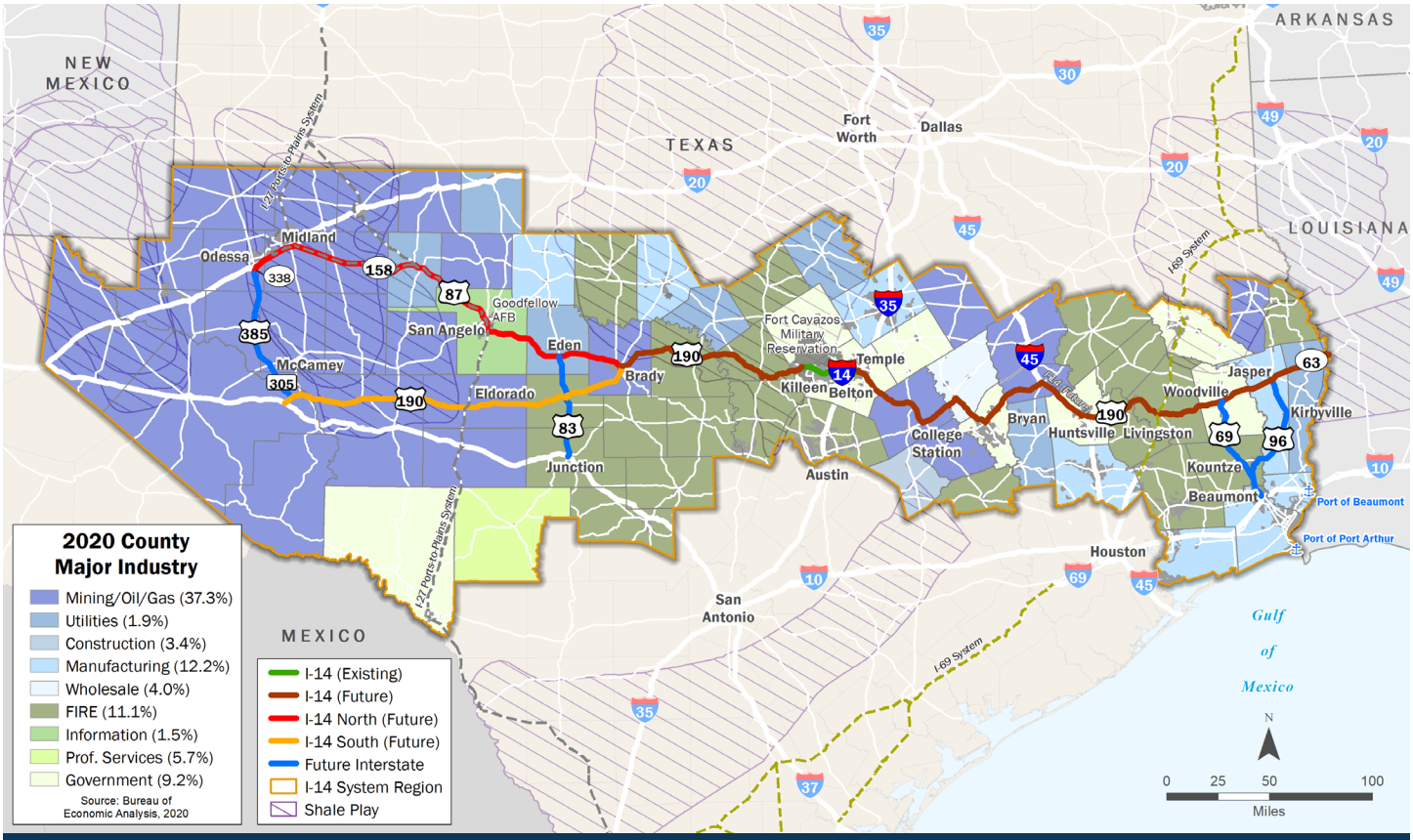


Figure 4 – 2020 Counties' Major Industries

[1]Texas Comptroller of Public Accounts, 2021 (https://comptroller.texas.gov/economy/economic-data/military/2021/snap-statewide.php)
[2]U.S. Census Trade Online, 2021

Figure 5 – Benefits of an Interstate Highway

The industries expected to economically benefit as a result of an upgraded interstate include those that significantly contribute to this region's economy today: energy, military, agriculture, timber and trade, as well as industries that heavily depend on the transportation of goods, like warehousing and manufacturing.

Energy Production

The I-14 System enhances connectivity to energy sectors in the state and facilitates the transportation of supplies for development of energy products to refineries in the Texas Gulf and to border crossings and seaports for exports to global markets. Many of the roadways are within or in proximity to multiple shale plays and basins for oil and natural gas exploration and extraction: Permian Basin, Fort Worth Basin, and Texas-Louisiana-Mississippi Salt Basin. There are also wind energy generation facilities adjacent to the I-14 system of roadways, predominantly near US 87 in Concho and McCulloch counties. In Upton County between Crane and McCamey near US 385 is the Roadrunner Solar Plant, owned by Enel Green Power. It is the largest solar energy generation facility in Texas with almost 500 megawatts of generation capacity (Enel Power, 2024).

Supporting Safe and Efficient Mobility Throughout Texas

The I-14 System will provide increased **safety, mobility, and connectivity** through a controlled access system, and will improve **travel time and reliability** due to uninterrupted traffic flow. This is important in the context of connecting communities to economic and recreational opportunities, in addition to increasing resiliency to the roadway network in the event of an emergency evacuation. Communities located along the Gulf of Mexico coastline require access to reliable routes in order to successfully evacuate during a hurricane event. Upgrading existing hurricane evacuation routes (along the I-14 roadway network) to interstate standards will increase the capacity of the system to meet demand during emergency evacuations. The benefits of the I-14 System are summarized in **Figure 5**.

1.3 Why an Implementation Plan?

The FAST Act and IIJA state the type of interstate highway to be developed. The I-14 Implementation Plan provides a strategic approach for TxDOT for developing the I-14 System in Texas. TxDOT will develop the system through a series of incremental upgrades over near, mid and long-term planning horizons that will span decades. Currently, there is no dedicated funding to develop the I-14 System. Each project will need to compete with other statewide projects for funding in the state's annual project selection process.

This planning document serves the following purposes:

- Provides context for the planned upgrades by summarizing existing and forecast conditions and trends in the region that will inform local decision-makers about project-related opportunities and challenges.
- Reviews the efforts that TxDOT took to engage with stakeholders and communities who live, work, and travel along the proposed I-14 System in Texas to better understand their needs and priorities.
- Displays the I-14 Implementation Plan for upgrading existing roadways to interstate standards that will become the I-14 System in Texas.

1.4 Interstate Design Standards

Interstate highways are subject to a uniform set of geometric and safety design standards throughout the country established by the FHWA and AASHTO.

These interstate design standards generally include:

- Full control of access, requiring the need for frontage roads in urban and rural areas
- No driveways connecting to mainlanes
- No stop signs or traffic signals on mainlanes
- Design speed: 50+ miles per hour (MPH) for urban; 70+ MPH for rural
- Limited access points, with grade separations as needed
- Wider right-of-way (200 feet - 500 feet)
- Vertical clearance: 18.5 feet or greater
- Lane width: 12 feet or wider
- Outside shoulder width: 10 feet or wider
- Entrance and exit ramps with deceleration and acceleration lanes

Figure 6 depicts interstate highway typical sections with and without frontage roads.

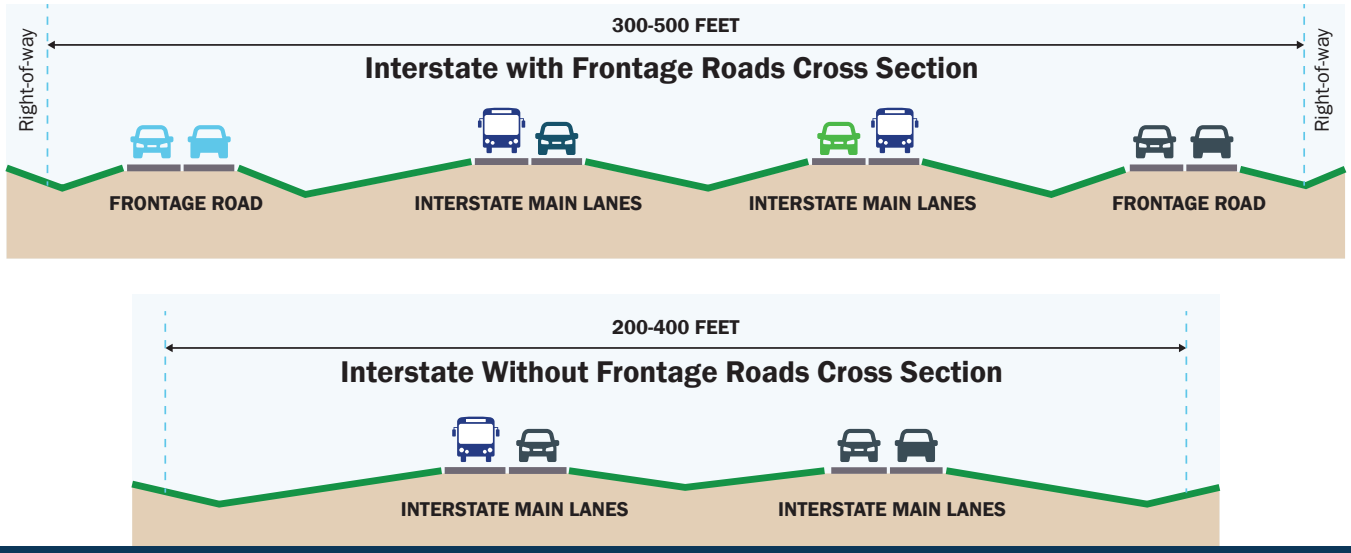


Figure 6 – Interstate Typical Sections

Organization of the Implementation Plan and Report

This implementation plan report is divided into seven chapters:

Chapter 1 provides an introduction to the I-14 System in Texas and the interstate implementation process.

Chapter 2 summarizes the existing and future conditions that impact the I-14 System in Texas, including infrastructure, population, employment, traffic and safety, and freight movement.

Chapter 3 describes the stakeholder outreach and public involvement that occurred during the I-14 Implementation Strategy process and key takeaways from input provided during this process.

Chapter 4 describes the I-14 System in Texas Implementation Strategy approach.

Chapter 5 presents the I-14 System in Texas Implementation Plan, which is a blueprint for upgrading the I-14 System to an interstate facility.

Chapter 6 provides conclusions and key takeaways from the Implementation Plan and Report.

Chapter 7 presents a list of references.

This page intentionally left blank

US 87
west of Brady

Existing and Forecast Conditions

CHAPTER 2

This page intentionally left blank

2.0 Existing and Forecast Conditions

This section provides an overview of existing and future I-14 System in Texas conditions and trends including an evaluation of infrastructure conditions, as well as key factors influencing travel demand in the I-14 System in Texas, now and in the future.

Opportunities and constraints considered are noted for each topic (e.g., infrastructure conditions, environmental constraints, socioeconomic trends, traffic conditions, safety, and freight flows for the reference years of 2020, 2021[3], and 2050). The future analysis presents the No Build condition, which includes the existing roadways in the system in addition to any planned or programmed projects by TxDOT or MPOs in the corridor. The future traffic analysis also examines the Build condition, which includes proposed upgrades to the I-14 System network to freeway or interstate standards.

2.1 Infrastructure Conditions

The I-14 System in Texas will utilize multiple existing routes, which vary from two-lane and four-lane rural and urban highways. Evaluation of the mainlanes along the existing routes determined that 54% are two-lane highways, 44% are four-lane highways, and 2% have six lanes or more. **Figure 7** depicts the existing number of mainlanes along the proposed I-14 System in Texas.

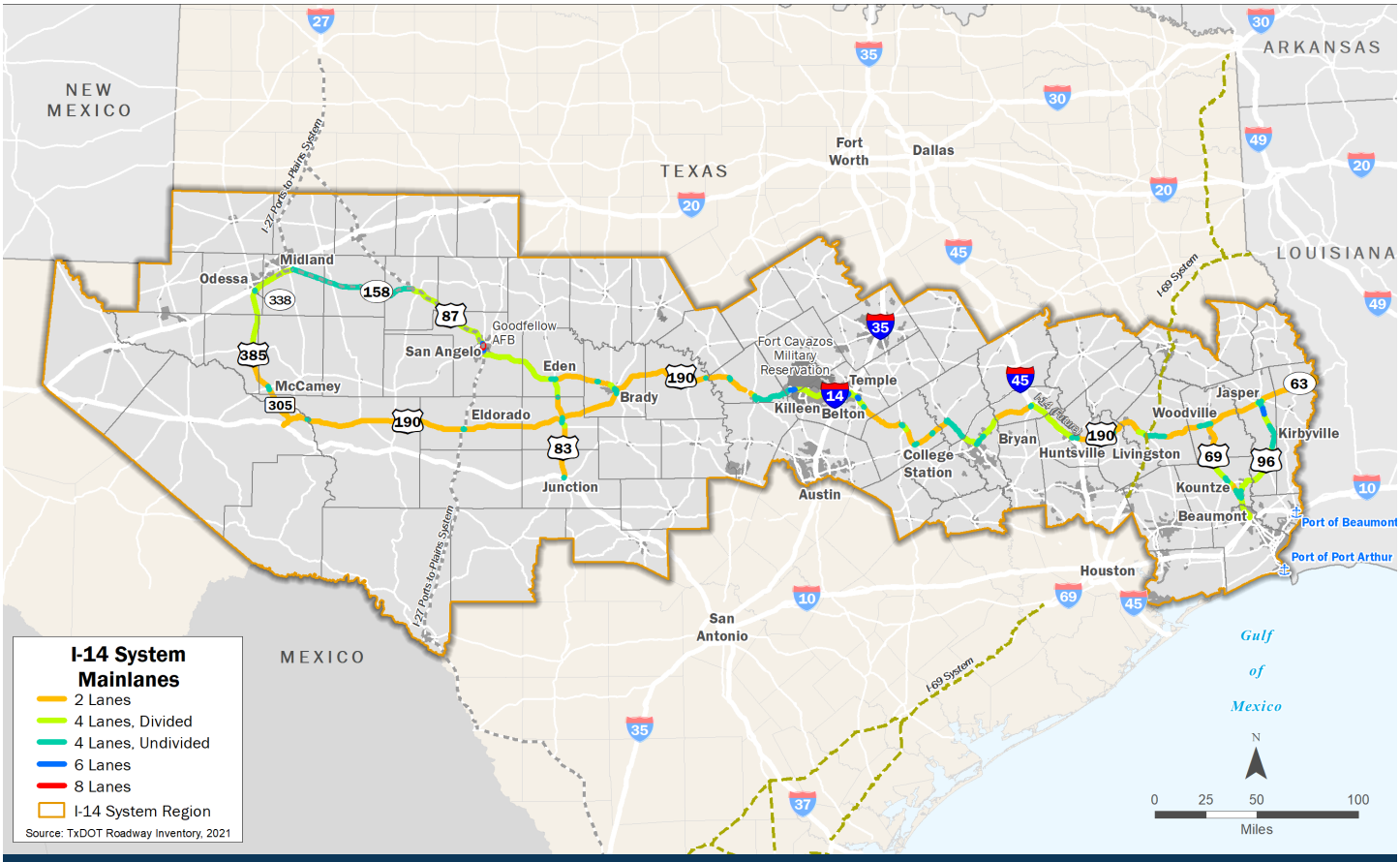


Figure 7 – I-14 System in Texas Mainlanes (Existing)

Table 1 lists the existing routes along the proposed I-14 System in Texas, with approximate mileage. These routes include Interstate Highways, U.S. Highways, State Highways Routes, and local roads such as Farm-to-Market Roads.

[3]Note: 2020 data were also used when 2021 data were unavailable at the time of drafting this report

Table 1 – Existing Routes along the I-14 System in Texas

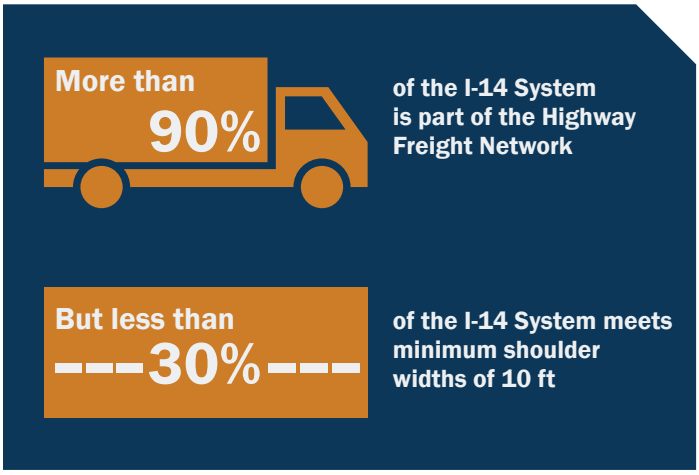
Interstate Highways	US Highways	State Highways	Farm-to-Market Roads
I-14* (25 miles)	US 69 (54 miles)	SH 63 (30 miles)	FM 305 (20 miles)
I-20 (22 miles)	US 83 (51 miles)	SH 158 (63 miles)	–
I-35* (6 miles)	US 87 (125 miles)	–	–
I-45* (25 miles)	US 96 (58 miles)	–	–
–	US 190 (497 miles)	–	–
–	US 385 (51 miles)	–	–
Total: 78 miles	**Total: 836 miles**	**Total: 93 miles**	**Total: 20 miles**

* Note: I-35 and I-45 are concurrent with US 190

Existing frontage roads for the I-14 System in Texas are along I-35, I-14 & US 190 from Temple to Killeen; US 96/US 69 from Lumberton to Beaumont; I-20 from Odessa to Midland; I-45 from Huntsville to Madisonville; and some along US 190 in Bryan. Approximately 5% of the existing frontage roads along the I-14 System in Texas are one-way and 5% are two-way as shown in **Table 2**.

Table 2 – Existing Frontage Roads along the I-14 System in Texas

One-Way (in respective directions of Mainlanes)	Two-Way (Bi-directional at least one side of Mainlanes)	No Frontage Roads
I-14 (20 miles)	I-20 (21 miles)	Various Routes (928 miles)
I-35 (6 miles)	I-45 (21 miles)	
I-45 (6 miles)	US 87 (7 miles)	
US 87 (1 mile)	US 96 (1 mile)	
US 96 (11 miles)	US 190 (2 miles)	
US 190 (9 miles)	–	
Total: 53 miles	**Total: 52 miles**	**Total: 928 miles**



2.1.1 Existing Texas Highway Freight Infrastructure

All existing routes of the proposed I-14 System in Texas are part of the Texas Highway Freight Network[4] – except for FM 305 from US 67 (City of McCamey) to US 190 (Upton County, Crockett County, and Pecos County). However, based on TxDOT roadway inventory database, only 28% (289 miles) of the existing mainlanes have an outside shoulder width of 10 feet or more along the I-14 System in Texas. This suggests that over 70% of the network is below the minimum shoulder width requirement of 10 feet outlined in TxDOT's Freight Infrastructure Design Criteria (FIDC) report, published in 2021.[5]

[4]Source: Roadway Inventory Data, TxDOT

[5]https://ftp.txdot.gov/pub/txdot/move-texas-freight/resources/final-report.pdf

2.1.2 Hurricane Evacuation Routes

The proposed I-14 System in Texas includes several existing designated hurricane evacuation routes. TxDOT has classified these hurricane evacuation routes into the following four types:

Types of Hurricane Evacuation Routes

Potential Contraflow Routes can permit vehicles to travel in the opposite direction of a lane's normal traffic flow during evacuation. This allows the evacuation surge to move inland efficiently. There are access control segments along the Potential Contraflow Routes that allow vehicles to enter and exit in opposite directions.

Potential Evaculanes Routes are extra wide shoulders in the inland direction and can be used as active thru lanes to increase the traffic flow capacity moving inland during evacuation. The shoulder along the Potential Evaculanes includes a federal hurricane symbol pavement marking that can also be found in the Standard Highway Sign Designs for Texas, 2012 Edition manual (revision of May 2021).

Potential Evaculanes Routes and Potential Contraflow Routes include an extra wide shoulder in the same traffic flow direction in addition to permitting vehicles to travel in the opposite direction of a lane's normal traffic.

A Major Evacuation Route is a route along a highway that has a typical section where additional traffic flow capacity could be implemented for an evacuation surge.

Table 3 shows designated evacuation routes along the I-14 System in Texas.

Table 3 – Designated Evacuation Routes

I-14 System in Texas Route	Type of Evacuation Route	TxDOT District	Limits of Hurricane Evacuation Segment	Length of Hurricane Evacuation Segment
US 96	Major Evacuation Route	Beaumont	From US 287 (Lumberton) to US 190 (Jasper)	57 Miles
US 96/US 69/ US 287	Major Evacuation Route	Beaumont	I-10 (Beaumont) to Neely Drive (Lumberton)	11 Miles
US 69/US 287	Potential Evaculanes Route	Beaumont	I-10 (Lumberton) to US 190 (Woodville)	43 Miles
US 190	Major Evacuation Route	Beaumont	US 96 (Jasper) to FM 256 (Woodville)	17 Miles
US 190/I-45	Potential Contraflow Route	Bryan	From SH 30 (Huntsville) to SH 21 (Madisonville)	25 Miles
US 190/SH 6	Major Evacuation Route	Bryan	From SH 21 (Bryan) to E Brown Street (Hearne)	19 Miles
US 190/US 79	Major Evacuation Route	Bryan	From SH 6 (Hearne) to SH 36 (Milano)	28 Miles
				Total: 200 miles

Figure 8 maps hurricane evacuation routes along the I-14 System in Texas.

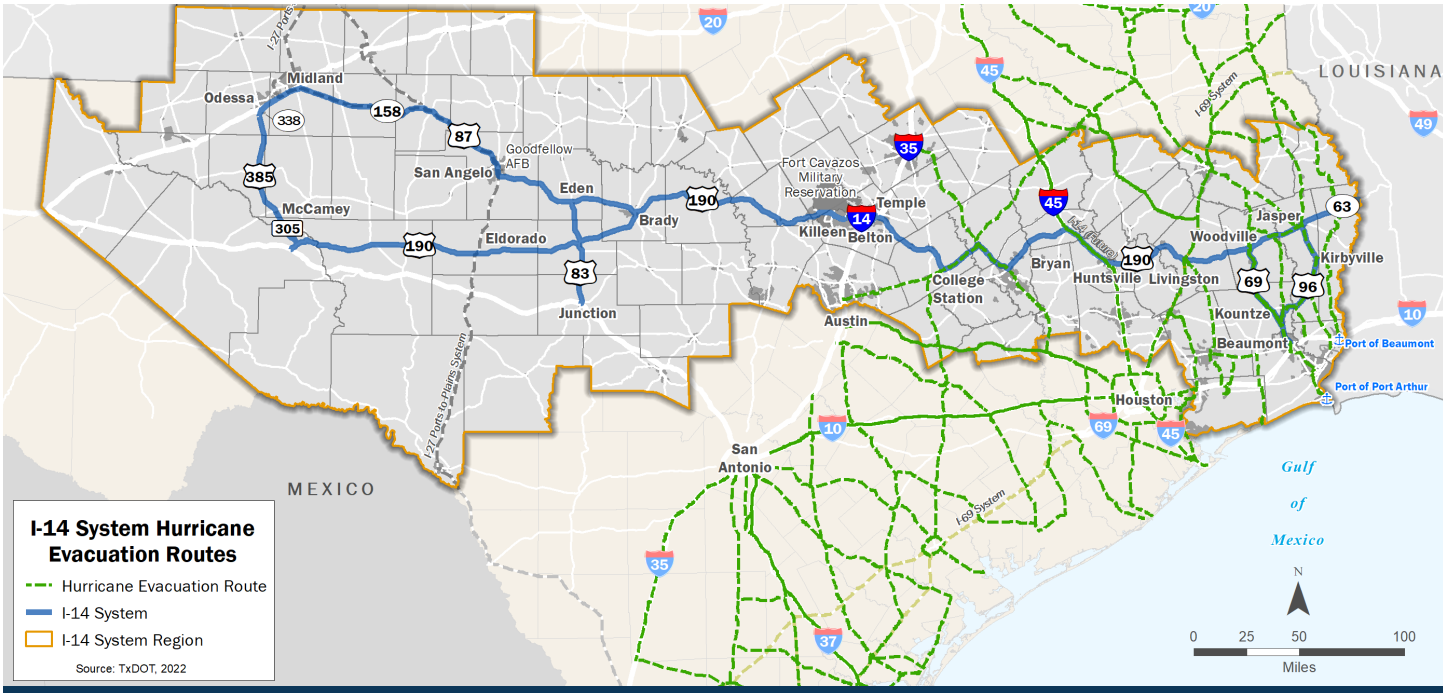


Figure 8 – I-14 System in Texas Hurricane Evacuation Routes

2.1.3 Truck Parking Sites and Safety Rest Areas

In 2020, TxDOT published a *Truck Parking Recommendations and Action Plan* which included the need for truck parking sites for all TxDOT districts. Existing truck parking sites were identified with their current capacity and the expected capacity in the future. Depending on the capacity and specific location of the existing truck parking sites, each site was recommended to expand/upgrade or to not expand/upgrade. There were also locations where new truck parking sites were proposed. The information and recommendations gained from this document will be taken into consideration during the I-14 project implementation.

Responsibility for the planning and development of TxDOT's safety areas resides with the department's Maintenance Division Safety Rest Area Program. TxDOT continues to update the state's safety rest areas by renovating/reconstructing existing facilities or constructing new facilities. Existing safety rest areas are located in the Bryan and San Angelo Districts at the following locations: US 87, Coke County north of Water Valley (serving both directions; San Angelo District); US 87, Concho County west of Eden (serving both directions; San Angelo District); I-45/US 190, Walker County (Northbound; Bryan District); I-45/US 190, Walker County (Southbound; Bryan District).

2.1.4 Multimodal Characteristics

The I-14 System provides important connectivity to the following:

- 5 commercial airports: international and regional carriers
- Freight rail: Union Pacific Railroad, BNSF Railroad, and Kansas City Southern; numerous short-line railroads
- 2 deep-draft seaports: improved access to interstate system/major markets
- Interstate highways on the state highway system: I-14 and I-20

Some of the major multimodal transportation facilities including commercial airports, Class 1 Railroads, and deep draft ports in the vicinity of the I-14 System are shown on **Figure 9.**

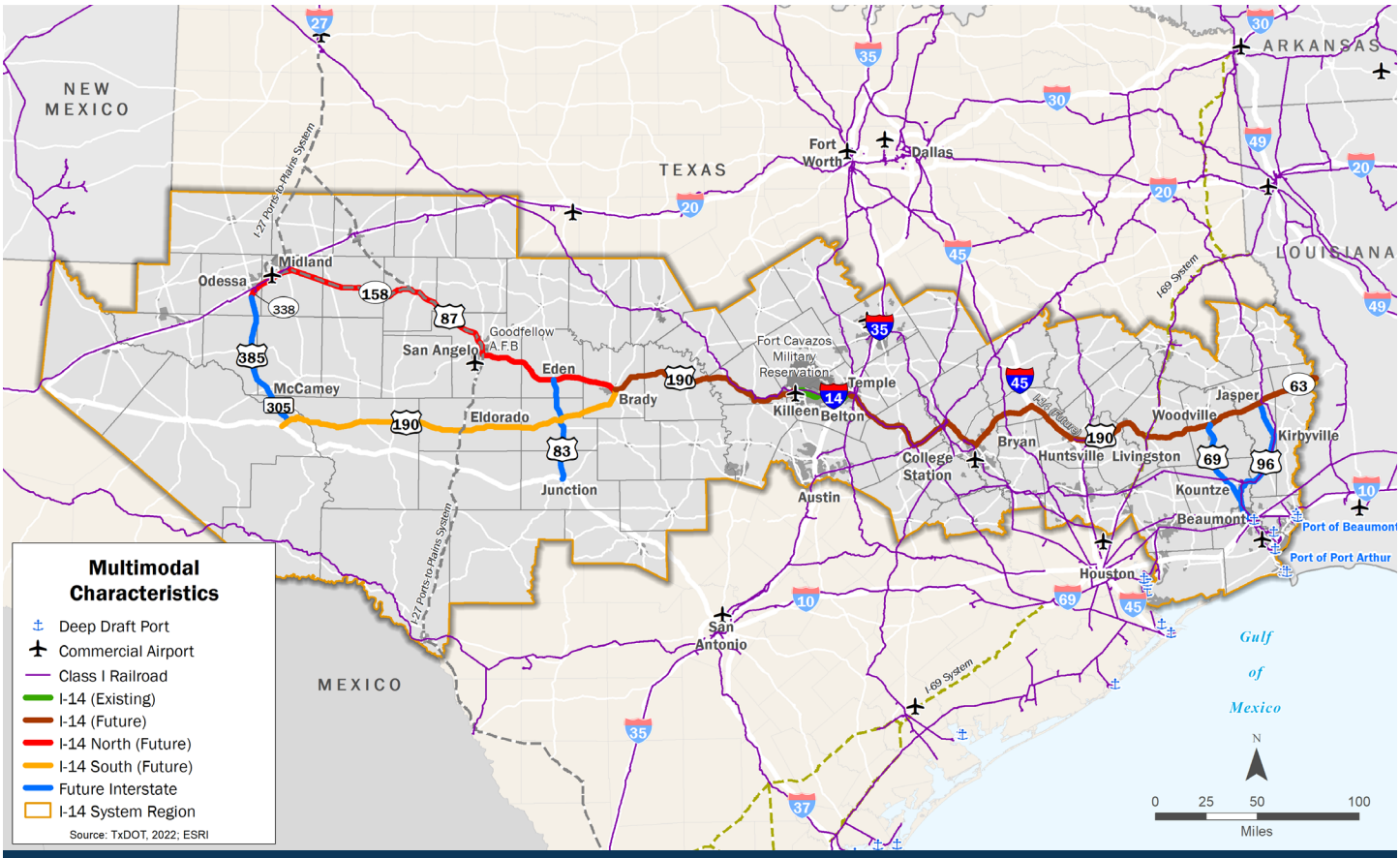


Figure 9 – Multimodal Transportation Facilities in the vicinity of the I-14 System

A. Airports

There are several airports in the vicinity of the I-14 System in Texas. Commercial airports providing passenger service include Midland International Air & Space Port, San Angelo Regional Airport, Killeen Regional Airport, Easterwood Airport (Bryan-College Station), and Jack Brooks Regional Airport (Beaumont). Most counties have a smaller community/general aviation airport serving the local aviation community.

B. *Railroads*

Three Class I railroads—BNSF Railway, Union Pacific Railroad, and Kansas City Southern—either intersect or operate parallel to some of the roadways of the I-14 System in Texas. Class I railroads are defined as national railroads that typically operate thousands of route miles, employ thousands of people, have revenues and capital budgets in the billions of dollars collectively, and are therefore critical to state, national, and international trade. There are also a few short-line railroads in proximity to the I-14 System, including Texas Pacifico Transportation Limited, Heart of Texas Railway and Sabine River and Northern Railroad. These are smaller railroads that operate shorter distances and connect shippers with the Class I railroad network.

C. *Ports and Maritime International Trade*

The I-14 System in Texas will be in proximity to two key deep draft ports in southeast Texas as it connects to I-10 in Beaumont when US 69 is upgraded to interstate standards. The Port of Beaumont is a deep draft (40-feet) port along the Sabine-Neches Waterway. It is ranked 8th in the United States in terms of tonnage. It is also the busiest military port in the world. The port is home to the U.S. Army's 842nd Transportation Battalion, overseeing military cargo shipments through the Gulf of Mexico and Western U.S.—including the Pacific Northwest and Alaska—and has been designated by the U.S. Maritime Administration

as a military strategic port within the National Port Readiness Network. Major commodities that transit through the port include petroleum and by-products, fertilizers and chemicals, food and agricultural products, primary manufactured goods, manufactured equipment, and machinery.

The Port of Port Arthur is a deep draft (40-feet) port located in Port Arthur along the Sabine-Neches Waterway. It is ranked 15th in the United States in terms of tonnage. Major commodities that transit through the port include forest products, aluminum, containers, petroleum products, steel, and military cargo. The port is designated by the U.S. Maritime Administration as a U.S. military strategic port within the National Port Readiness Network.

D. *Public Transportation*

The I-14 System region is served by numerous public transportation providers. Concho Valley Transit District, West Texas Opportunities, Inc., Brazos Transit District, Hill Country Transit District, and the South East Texas Regional Planning Commission provide public transportation in rural areas through scheduled or on-demand transport service. In urban areas, Midland Odessa Urban Transit District, Beaumont ZIP (Beaumont), and Port Arthur Transit offer fixed route bus and paratransit service.

E. Pipelines

Texas is the leading domestic producer of oil and natural gas. As noted in Section 1.2, there are multiple energy production areas within the I-14 System Region.

The petroleum industry in the state relies on pipelines as a primary mode for transporting these products from production wells to central collection points to larger processing facilities and storage terminals. In the I-14 System region, there are over 29,000 miles of crude oil pipelines and over 83,000 miles of natural gas pipelines (TX Railroad Commission, 2024).

F. *Active Transportation*

Pedestrians and bicyclists are not allowed to use interstate highways to travel along or on roadways where it is posted that those modes are not permissible. The I-14 System is generally rural and sparsely populated with limited bicycle and pedestrian infrastructure.

TxDOT conducted a statewide Bicycle Tourism Trails Study (BTTS) in 2018. Twelve BTTS routes were identified along or crossing the proposed I-14 System in Texas (TxDOT, 2024a).[6]

TxDOT is preparing a statewide bicycle analysis in support of the Texas Transportation Plan (Connecting Texas 2050) update and will cover the Bryan, Pharr, Laredo, and San Antonio districts. The district bike plans will analyze needs on the highway system, prioritize routes, and identify potential solution types. The final statewide bicycle analysis and four district bicycle plans are expected to be completed in 2024 (TxDOT, 2024b).[7]

G. *Highway Connectivity*

The I-14 System is compromised of existing highways, as documented in the FAST Act and the IIJA:

- Interstates: I-14 (Existing interstate located in Bell and Coryell Counties), I-35, and I-45
- US Highways: US 69, US 83, US 87, US 96, US 190, US 385
- State Highways: SH 63, SH 158, SL 338
- Farm-to-Market Roads: FM 305

The I-14 System is proposed to connect to the following future highways:

- Interstates: I-14 North, I-14 South, I-214, I-69, I-27 (Ports-to-Plains Corridor)

[6] https://www.txdot.gov/discover/bicycle-trails-maps/bicycle-tourism-trails-study.html
[7] https://www.txdot.gov/projects/planning/bicycle-pedestrian-planning-designing/statewide-bicycle-analysis-district-bicycle-plan-pilot.html

2.1.5 Electric Vehicle Infrastructure

In September 2022, the FHWA approved the Texas Electric Vehicle Infrastructure Plan. TxDOT also received approval from FHWA in June 2023 for the scoring and selection process for Phase 1 of the Texas EV Infrastructure Program. The state has begun planning 50 new EV charging sites across Texas.

2.2 Emerging Transportation Technologies

The technologies presented in the following subsections represent a subset of technological innovations that are available today to varying degrees. As the upgrade and redesign of this existing roadway network is planned to interstate standards, land use changes may influence the role of emerging technologies and should be evaluated in concert with the transportation and land use context of this I-14 region. There will also likely be opportunities for new technology not listed in this section to be considered and implemented as part of I-14 system development and operations.

2.2.1 Intelligent Transportation Systems

The development of ITS along Texas roadways is outlined in the 2050 Statewide Long-Range Transportation Plan. The operations of ITS services in Texas are twofold. They can be leveraged to provide travel safety and demand management capabilities, such as improving traffic congestion by offering travel choices. ITS also can facilitate large scale emergency management. They can also collect and process large amounts of data to assist in efficiently and safely managing and operating transportation infrastructure. ITS overlaps with several other TxDOT program areas, such as Connected Autonomous Vehicles (CAV) and TSMO. Current planning efforts include the ITS Strategic Plan, Emerging Transportation Technology Plan, Texas-Mexico Border Transportation Master Plan, and Texas Freight Network and Operations Plan. By using ITS in locations experiencing repeated collisions and areas of high congestion, TxDOT can promote statewide goals of improved safety and mobility along its corridors. Coordination with each of these developments and the TSMO Plans adopted by the TxDOT districts will assist in aligning with the Statewide Long-Range Transportation Plan goals as the I-14 implementation moves forward.

2.2.2 Connected Autonomous Vehicles

In January 2019, TxDOT announced the creation of a CAV Task Force to be a central point of information surrounding the growing presence of CAVs in Texas. This task force provides oversight of pilot programs implemented in cities across the state. The Texas Connected Freight Corridors Project is a current 4-year pilot program that covers the 865-mile Texas Triangle including I-45, which coincides with the I-14 project. The number of freight autonomous trucks on Texas roadways are expected to increase by 2024. This trend implies that interstates and key highways will experience the most automatic freight activity with the use of transfer hubs to switch to human drivers for first- and last-mile connections due to the simple operating environments of interstates and highways compared to more urban roadways. Transfer hubs along interstates will require rights of-way that lead to and from freight generators to support full-scale implementation. Current and future infrastructure design will also need to be considered to accommodate the changing demographic of traffic along Texas interstates, including traffic control devices (e.g., pavement markings) and physical infrastructure (e.g., preventive maintenance of physical distresses), as well as ITS and TSMO.

2.2.3 Transportation Systems Management and Operations

TxDOT has developed a Statewide TSMO Plan, and each district has developed its own plan identifying TSMO initiatives. Per the Statewide Plan, TSMO is an approach to improve safety and mobility for all modes of transportation by integrating planning and design with operations and maintenance to holistically manage the transportation network and optimize existing and future infrastructure. There are various TSMO district-wide initiatives/activities located within respective districts where the I-14 System in Texas is planned. As the I-14 System in Texas project moves forward, coordination with each district is recommended for changes to the identified TSMO initiatives, additional initiatives, or for implementation along the entire I-14 System. Additional TSMO activities will be considered for existing and future roadways to align with current

initiatives and future planning.

The installation of broadband within the highway right-of-way may be an eligible expenditure under Federal Aid Highway Program Funding (FAHP) funding under very limited conditions (e.g., the technology is used to meet a transportation-related purpose, such as connecting traffic control devices to an operations facility). Eligibility can also be related to projects that improve traffic flow, such as "channelization of traffic [and] traffic controls systems . . . " 23 United States Code (U.S.C.) § 101 (a)(4)(g). The U.S.C. defines transportation systems management and operations as a program "to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of the transportation system" Id. § 101(a)(30)(A).

2.2.4 Truck Parking Availability System

Truck Parking Availability Systems (TPAS) is an ITS application to assist truck drivers in locating available parking spaces in real-time so they can make informed decisions about their parking needs. The TPAS strategy includes monitoring real-time parking availability at strategic statewide public truck parking areas and publishing parking availability data for freight industry use. For example, a research team from the Texas Transportation Institute at Texas A&M University is evaluating a scanning Light Emitting Diode (LED) sensor from LeddarTech, which is a Light Detection and Ranging (LiDAR)-based detection system. The entry/exit system was placed at the entrance and exit of the parking lots at both of the I-45/US 190 Walker County safety rest areas north of Huntsville to count and keep track of both arriving and departing vehicles.

2.3 Environmental Features and Constraints

Environmental resources data sets were reviewed for the I-14 System Region from publicly available sources and documented on a constraints map for the I-14 System. Major features that were identified included lakes and reservoirs, national and state parks and forests, and potential hazardous material and waste sites along the I-14 System. **Figure 10** illustrates the major environmental features in proximity to the I-14 system, including:

- Lake Livingston (Lufkin District) and Steinhagen Reservoir (Beaumont District).
- Big Thicket National Preserve – Lower Neches River Corridor, Sam Houston National Forest, and Martin Dies Jr. State Park.
- The Alabama-Coushatta Tribe of Texas, which has a reservation located adjacent to US 190.
- Fort Cavazos military installation, which is adjacent to I-14 in Bell and Coryell counties.
- Two landfills within 250 feet of the I-14 System. These are located in the City of Copperas Cove Landfill in Bell County, and Texas Organic Liquid Transfer Station in Robertson County.

Although not inventoried due to the sheer number of them, particularly in west Texas, oil and natural gas wells along with wind energy generation turbines were observed on aerial photographs and during windshield surveys in proximity to the various I-14 System of roadways.

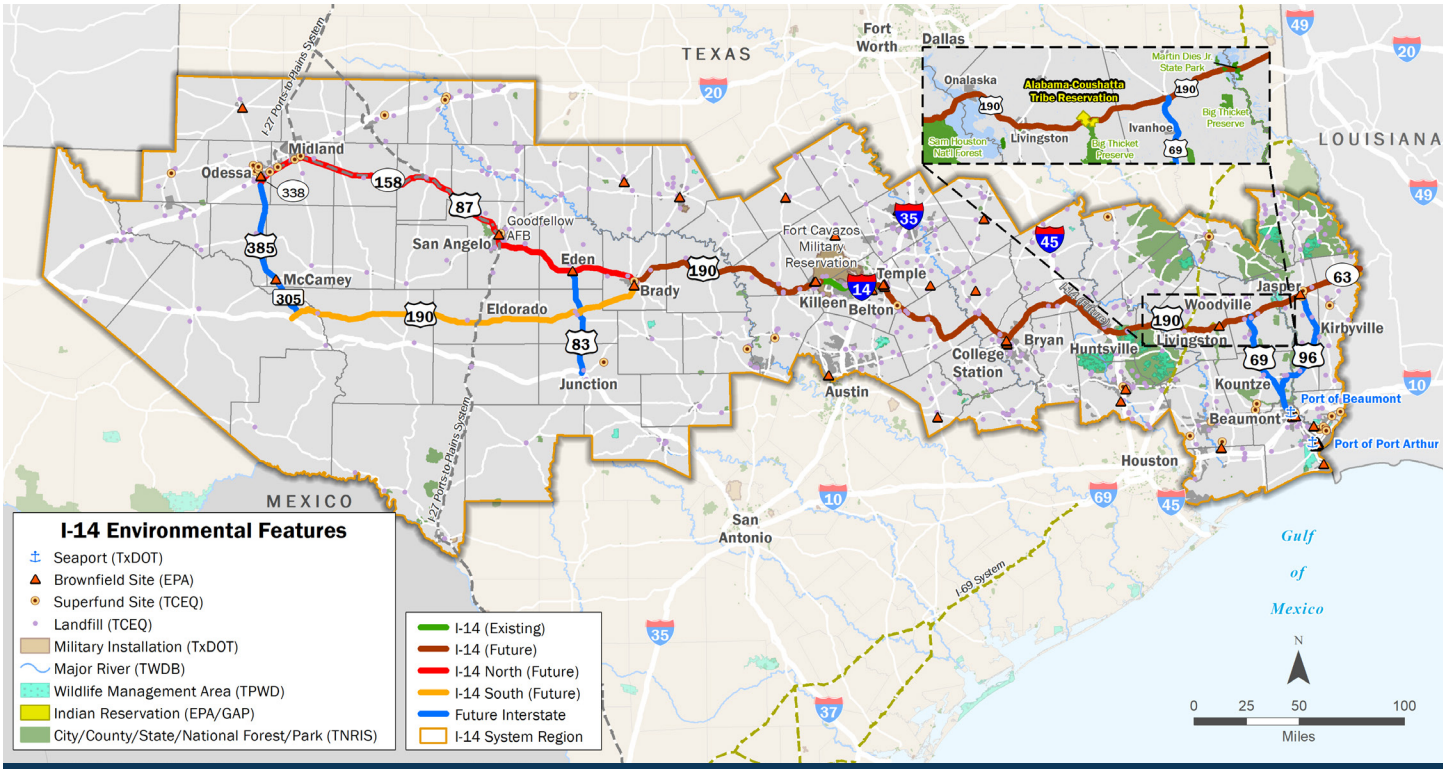


Figure 10 – I-14 System Environmental Features

2.4 Existing (2020) and Future (2050) Socioeconomic Trends

The following subsections summarize existing and future socioeconomic conditions for population, and employment, in the 74 contiguous counties comprising the I-14 System Region, comparing against statewide data. Existing conditions refer to year 2020; future conditions to 2050. Forecasts to 2050 do not reflect potential changes in land use and other regional trends potentially resulting from upgrading the highways to interstate standards.

2.4.1 Population

In 2020, the 74-county I-14 System region's population was 4.2 million, representing 14.5% of Texas' 29.2 million. Regional population was concentrated around the greater north Houston area (Montgomery County), north Austin suburbs (Williamson County), Bell County, Waco (McLennan County), Beaumont (Jefferson County), and Bryan-College Station (Brazos County).

Regional population is expected to increase from 4.2 million in 2020 to 6.2 million by 2050—a growth rate of 1.3% annually over 30 years.

Regional population is expected to increase 45.5% (1.3% compound average growth rate, or CAGR) to 6.2 million by 2050, for an additional 1.9 million over the next three decades. Texas' population is projected to increase 40.6% (1.1% CAGR) to 41.1 million, equating to an additional 11.9 million. Given the slightly accelerated regional growth as compared to the state, regional population is anticipated to increase from 14.5% of the state in 2020 to 15.0% by 2050. Regional growth is driven mostly by Montgomery and Williamson Counties, the two currently most populated counties. Excluding those two counties, the remaining area is forecast to grow 22.9% through 2050 (0.7% CAGR), which is approximately half the statewide rate. **Figure 11** and **Figure 12** shows existing and projected growth in the I-14 System in Texas.

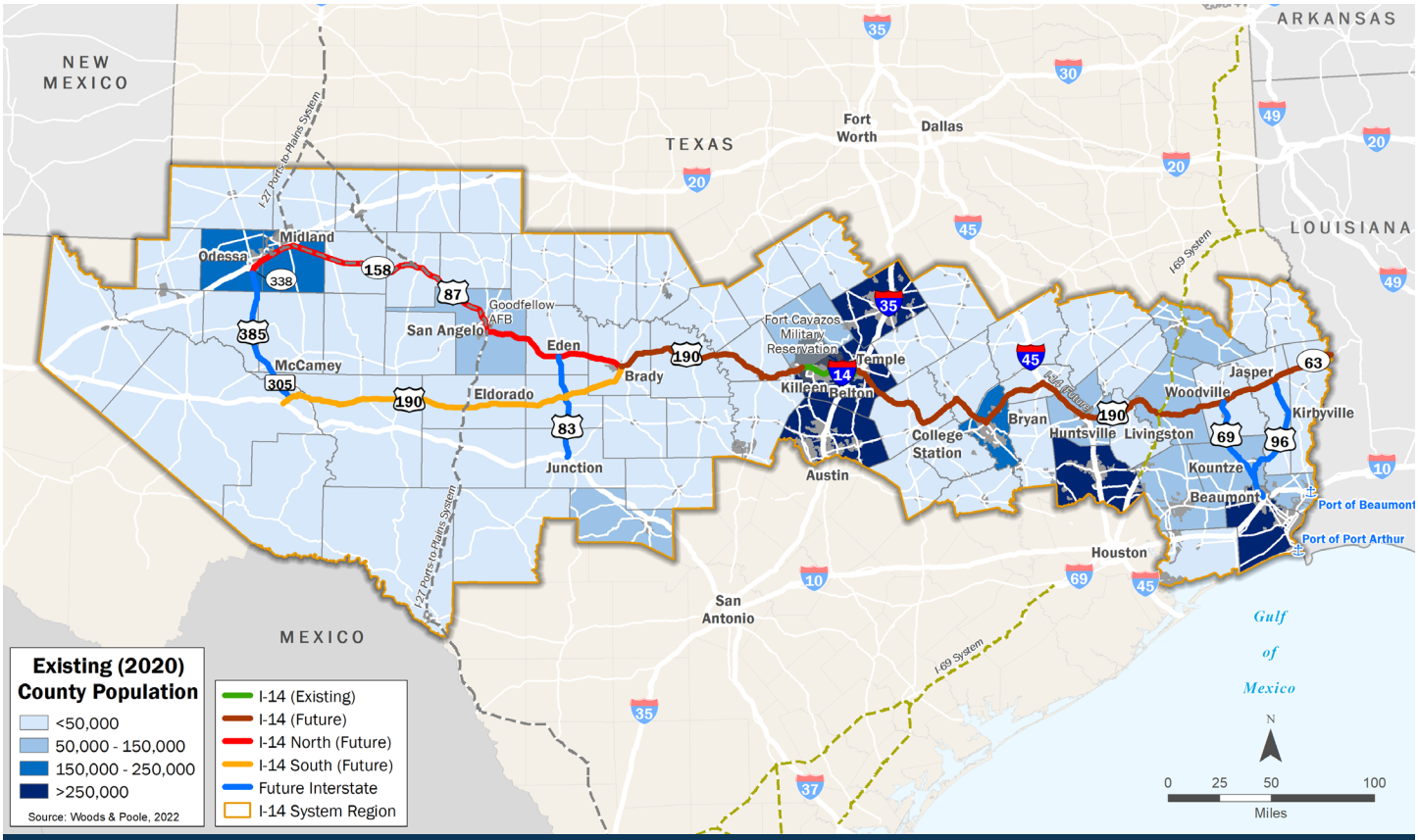


Figure 11 – Existing (2020) County Population

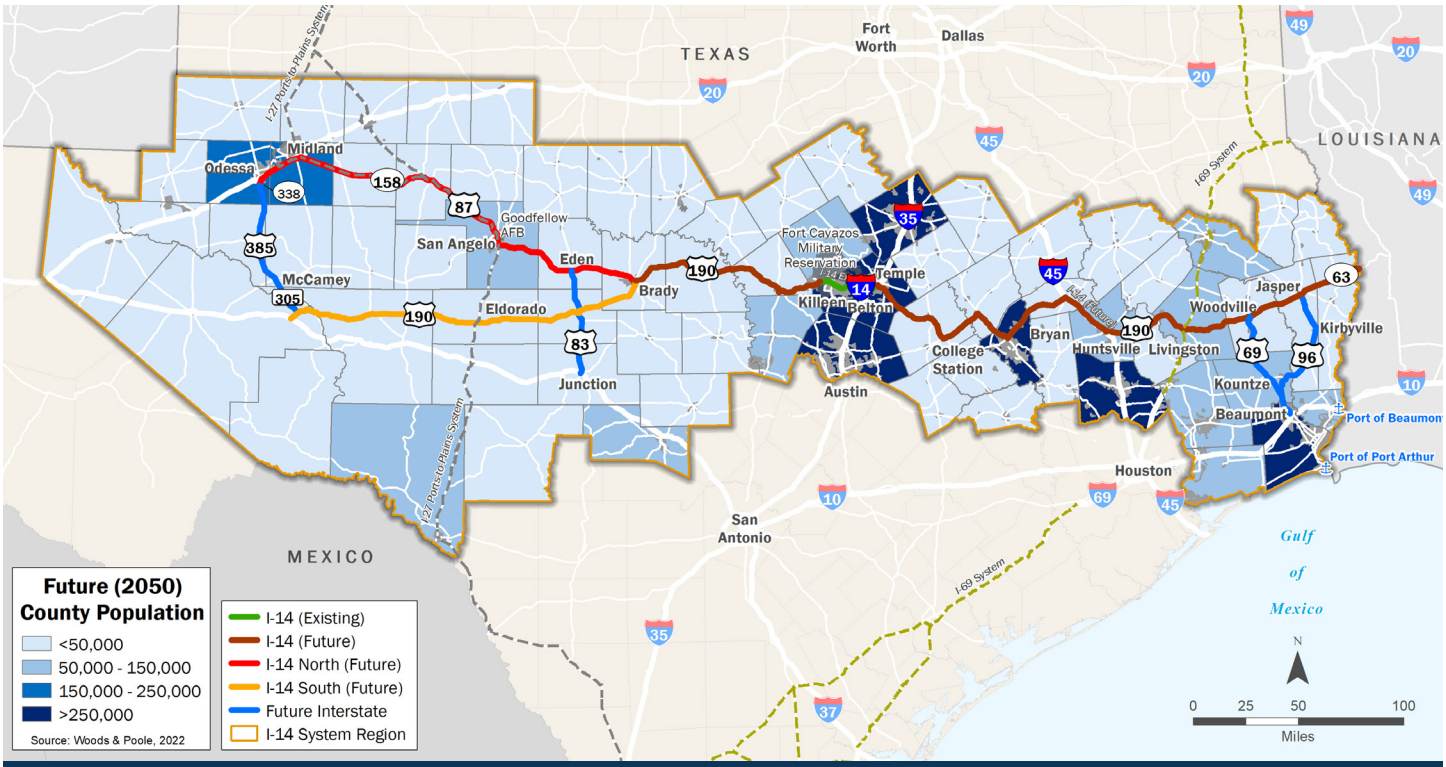


Figure 12 – Future (2050) County Population

2.4.2 Gross Regional Product

Gross regional product (GRP) was evaluated for existing and forecast conditions. It was measured as constant 2012 dollars (i.e., reflects real growth excluding inflation), per Bureau of Economic Analysis (BEA) definition and estimates. In 2020, GRP totaled $202B, representing 12.7% of Texas's Gross Domestic Product. The GRP for the I-14 Region is expected to increase 119.0% to $442.4B by 2050. The forecast growth is concentrated around the same urban areas as population.

2.4.3 Employment

In the I-14 System Region, employment totaled 2.2 million full-time equivalent jobs in 2020, comprising 12.8% of Texas' 17.2 million full-time equivalent jobs in 2020.[8] Regional employment is expected to increase 78.8% by 2050, increasing to 3.9 million. The 2% compound average annual employment growth rate is significantly higher than the regional average population growth rate of 1.3%. Texas' employment growth forecast is approximately identical to the region; as such, the regional proportion of state employment is expected to remain at 12.8% through 2050.

Similar to population, employment is especially concentrated around northern Austin (Williamson County) and northern Houston (Montgomery County). Employment is also concentrated around Killeen-Temple (Bell County), Waco (McLennan County), and Beaumont (Jefferson County). As with population, if excluding Williamson and Montgomery Counties' concentrated growth expectations, the remaining 72 regional counties' employment is projected to increase 51.9% by 2050, which is slower than statewide expectations. **Figure 13** and **Figure 14** shows existing and future employment (jobs) by county in the I-14 System.

Regional employment is projected to increase from 2.2 million jobs in 2020 to 3.9 million jobs by 2050 (an increase of 51.9%).

[8]Employment data were sourced from Woods & Poole Economics, Inc. 2020 and measured as full-time equivalent (FTE) jobs, which aligns with the Bureau of Economic Analysis (BEA) definition

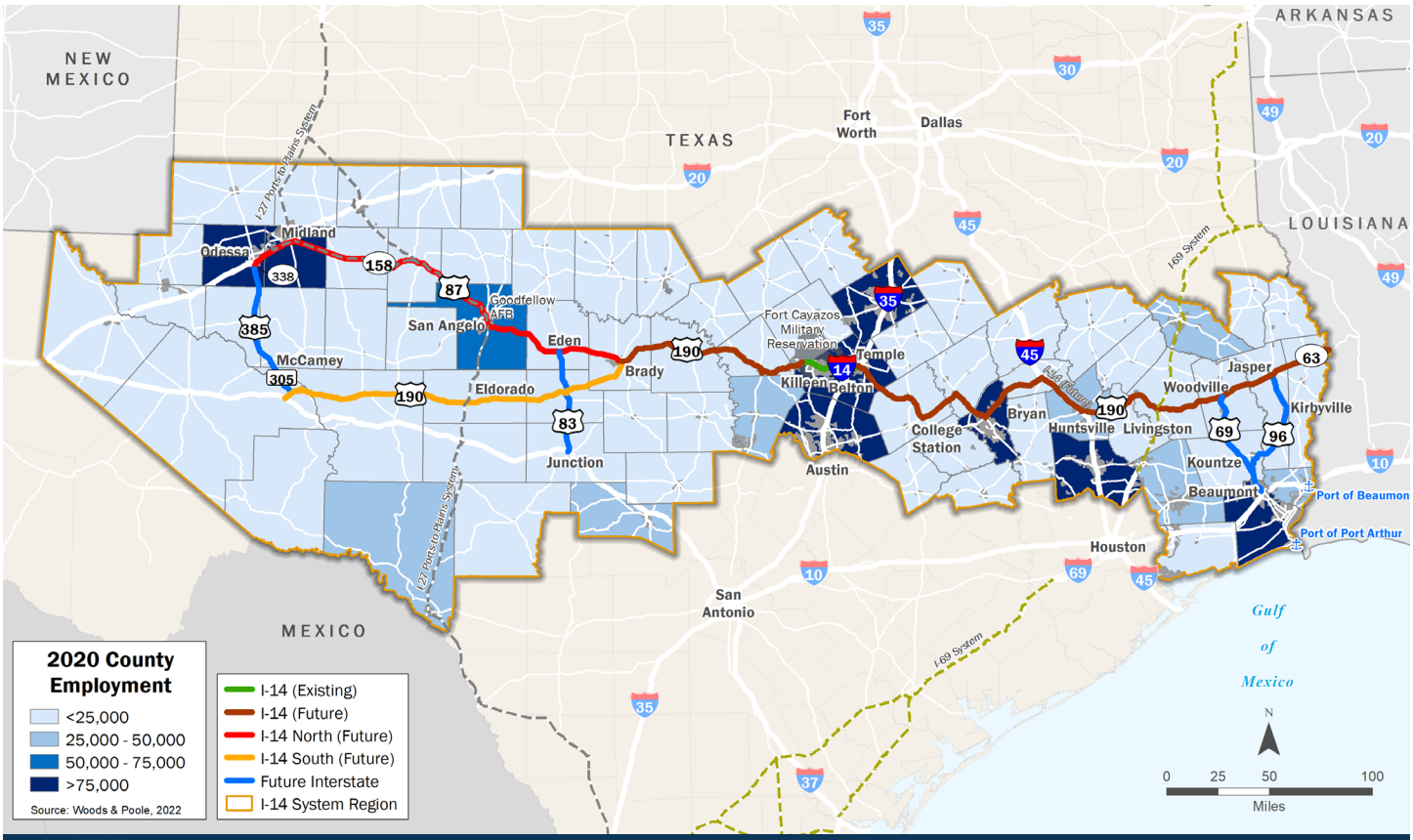


Figure 13 – 2020 County Employment

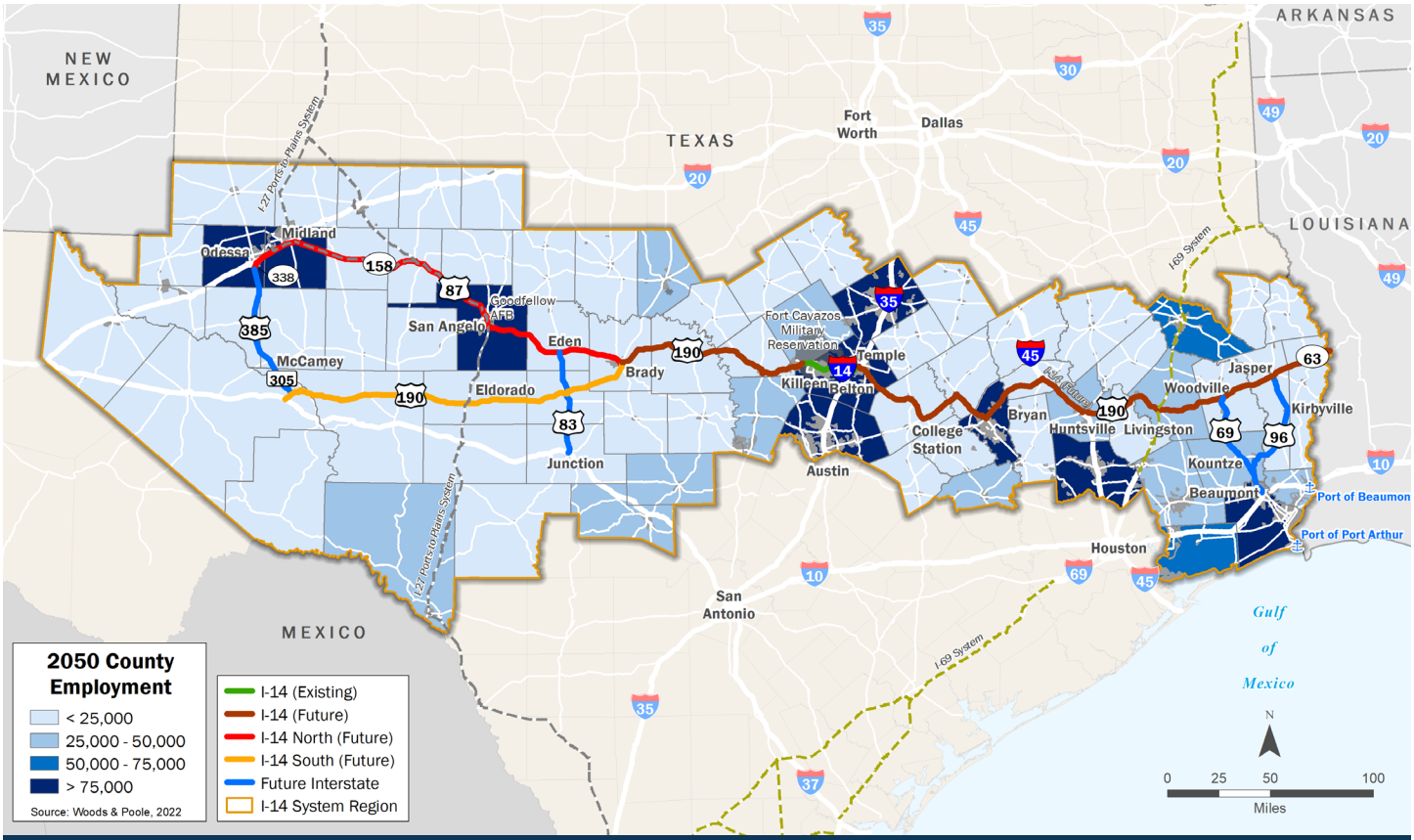
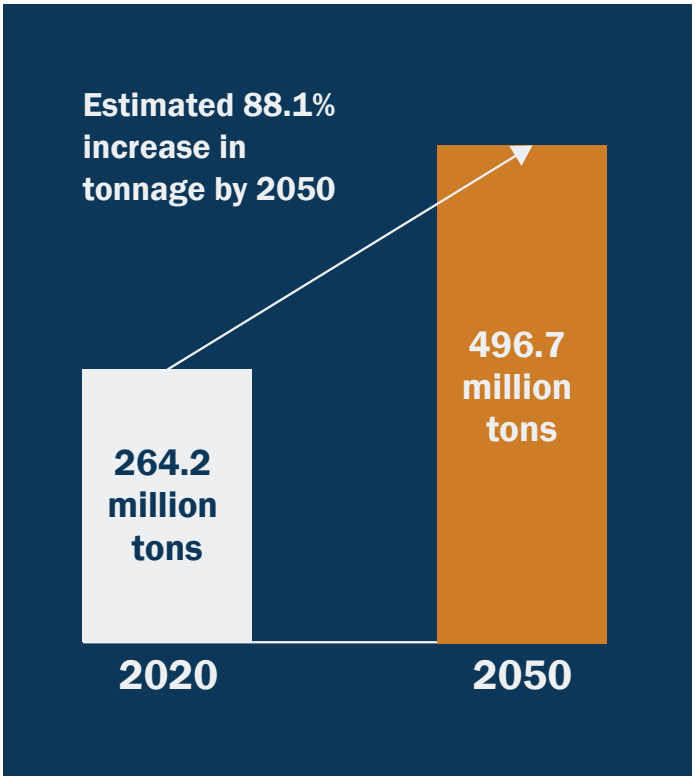


Figure 14 – 2050 County Employment

2.5 Existing (2020) and Forecast (2050) Freight Trends



This section summarizes existing and forecasted truck tons by major roadway segment and county origin/destination. The estimated tonnage movements are concentrated in the same areas as population, and employment, Beaumont (Jefferson County), the greater north Houston area (Montgomery County), the greater north Austin area (Williamson County), Killeen-Temple (Bell County), and Waco (McLennan County). In 2020, 264.2 million tons[9] were directly shipped (outbound) and/or received (inbound) in the I-14 System in Texas. Such truck ton movements are estimated to almost double by 2050, at 88.1%, or 2.1% annually, close to the expected employment growth.

Transearch data indicates that the system's ton-miles (network density) would increase 151.5%, or 3.1% annually, between 2020 and 2050. This is higher than the 2.1% annual growth in regional tons (inbound/outbound/intra-regional), which suggests that average truck movements will increase the distance per trip over time. **Figure 15** and **Figure 16** shows 2020 and 2050 truck tons by segment, while **Figure 17** and **Figure 18** shows 2020 and 2050 county truck tons.

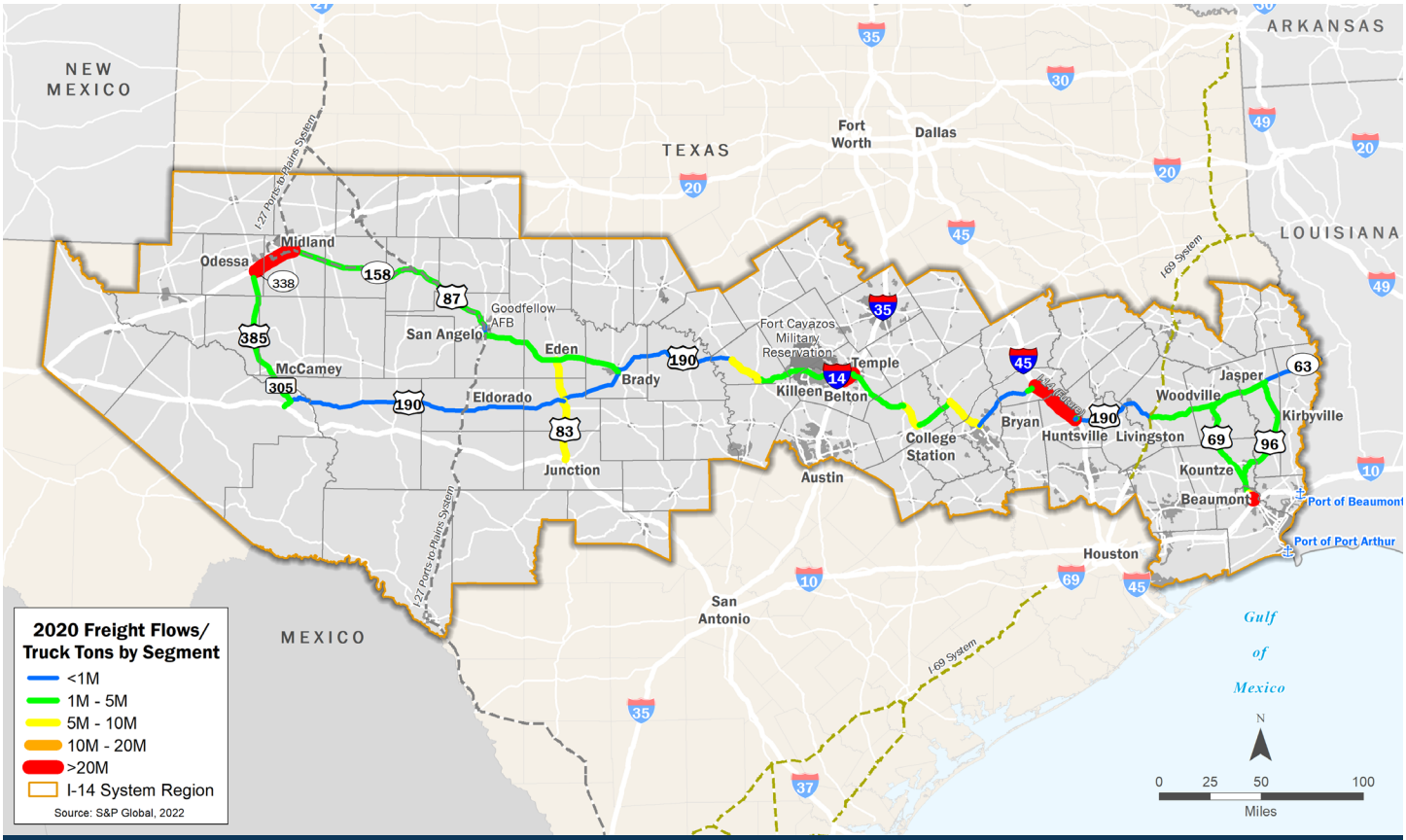


Figure 15 – 2020 Truck Tons by Segment

[9]This figure includes intra-regional movements without double-counting inbound county A-to-B as synonymous with outbound county B-to-A

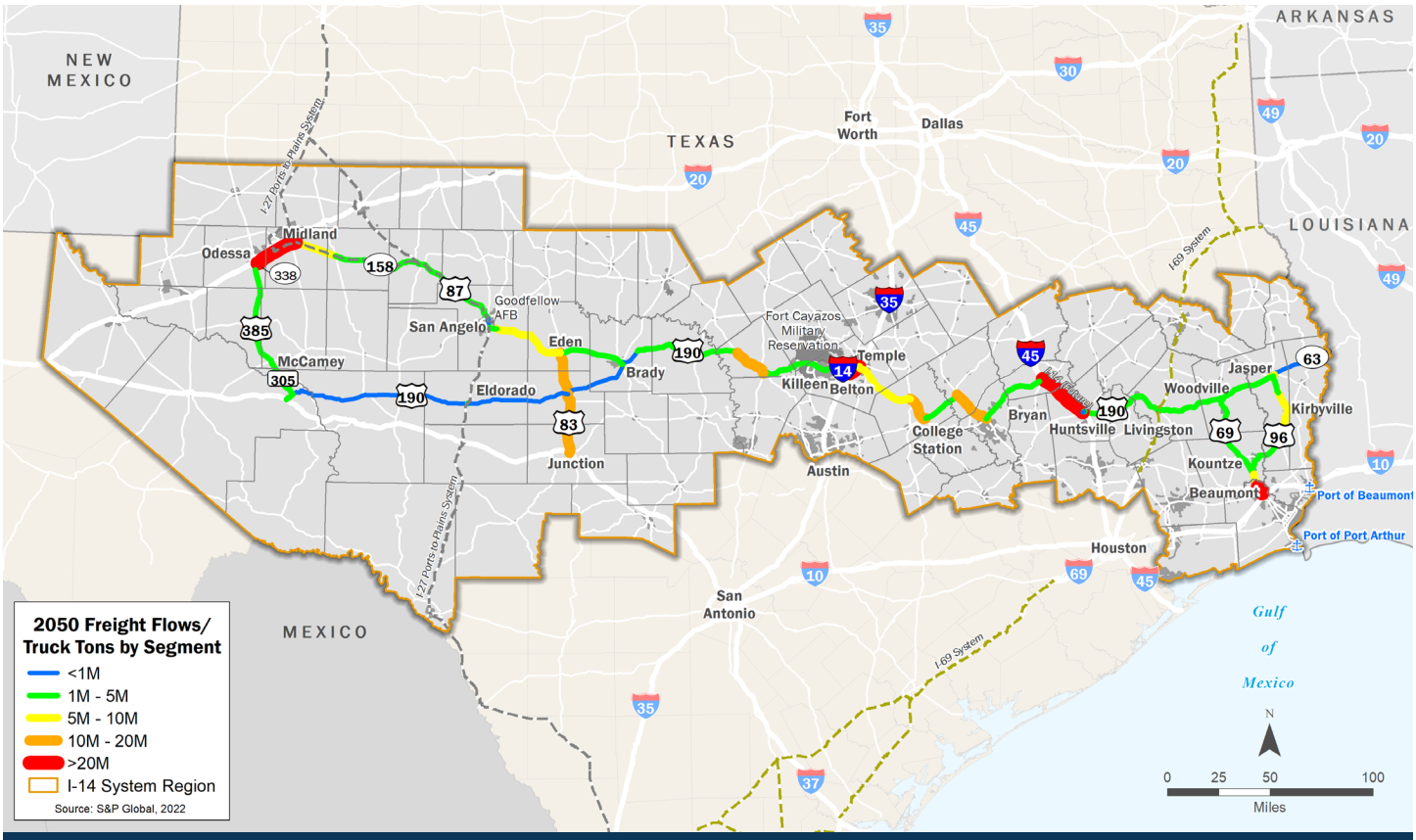


Figure 16 – 2050 Truck Tons by Segment

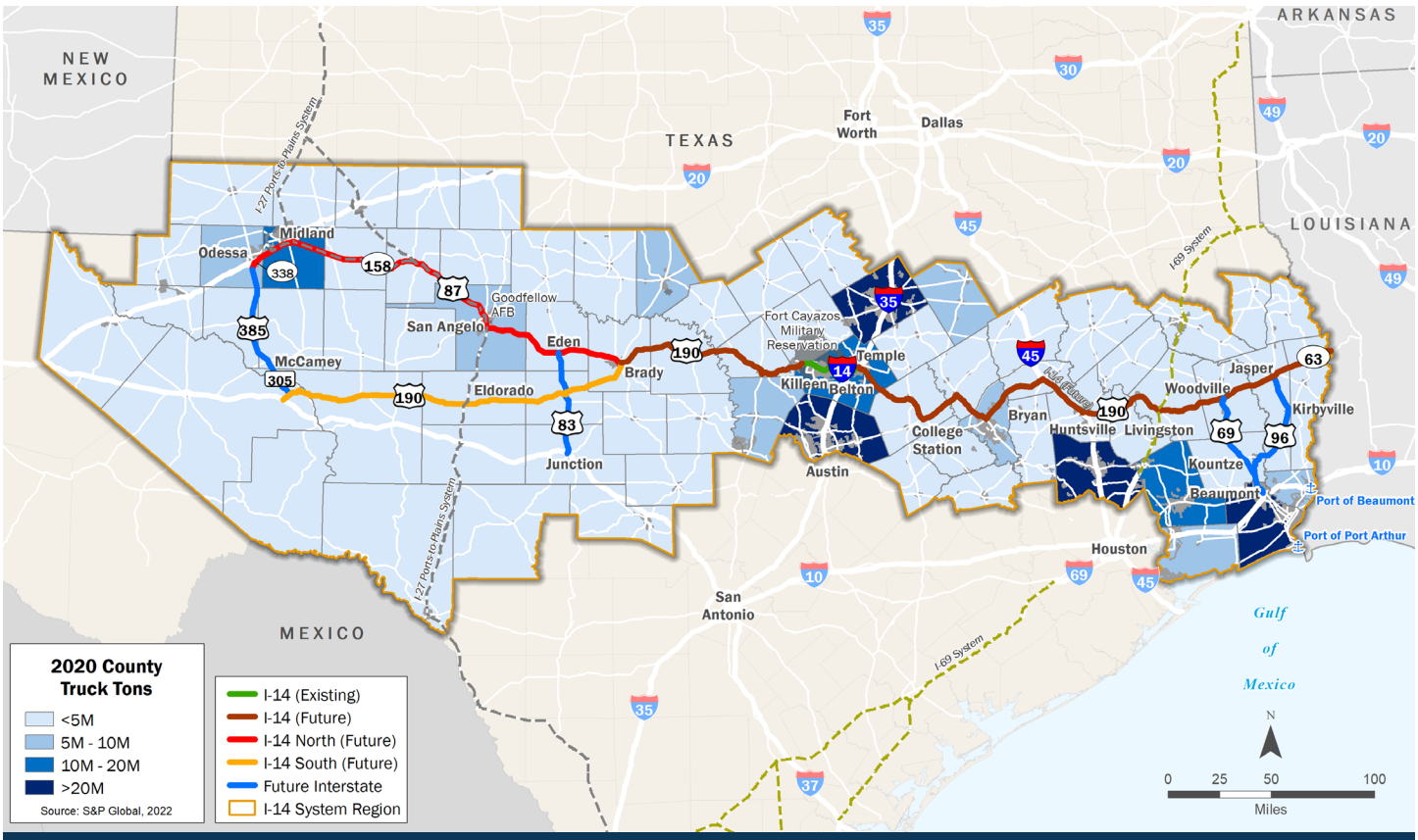


Figure 17 – 2020 County Truck Tons

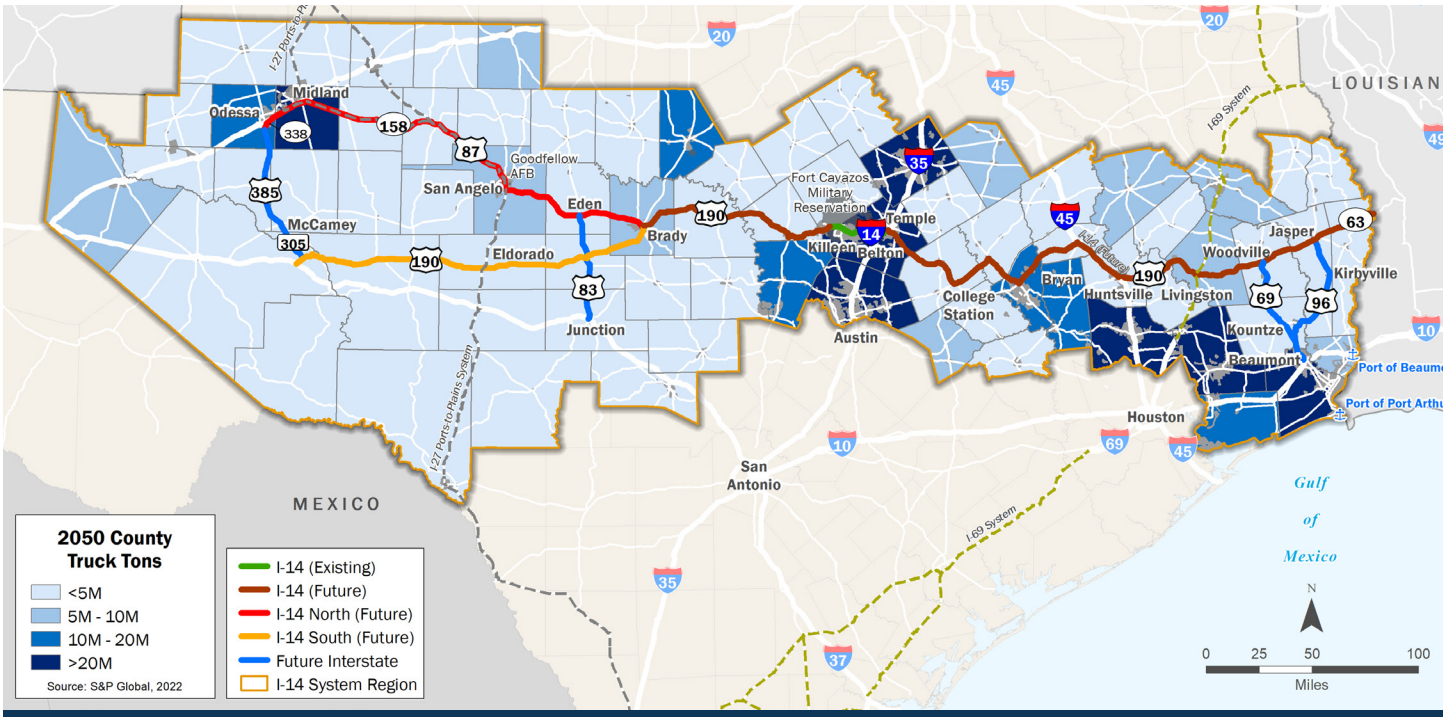


Figure 18 – 2050 County Truck Tons

2.6 Existing Safety Conditions

The results of the safety analysis for crash data obtained from TxDOT's Crash Records Information System (CRIS) show a total of 30,913 recorded crashes on the existing I-14 System roadways between the years 2016 and 2022. System-wide, 20,745 crashes (67%) were recorded in urban areas, while 10,168 crashes (33%) were recorded in rural areas.

There were a total of 441 recorded fatal crashes between 2016 and 2022. Within the I-14 System, 187 fatal crashes (43%) were recorded in urban areas, while 254 fatal crashes (57%) were recorded in rural areas. Most fatal and non-fatal crashes were concentrated at the eastern and northwestern areas of the I-14 System. The leading causes of these crashes were failure to yield the right-of-way to emergency vehicles or overall failure to yield, conflicts near private driveways and/or stop signs, pedestrian crashes, turning on red, turning left, lane departures, and unsafe driving speeds. Crashes are heavily concentrated at the following locations:

- North of Beaumont along US 69/US 287 and US 96
- East of Livingston
- East of Huntsville to Polk County line
- Northeast of Bryan
- West of Temple
- Midland
- Odessa

2016 – 2022 Total Urban and Rural Crashes

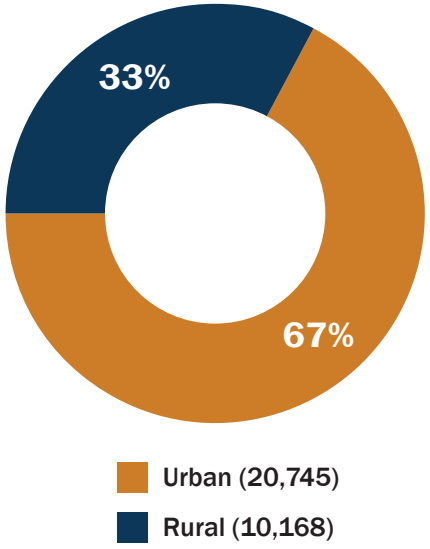


Figure 19 shows the density map for crashes along the I-14 System.

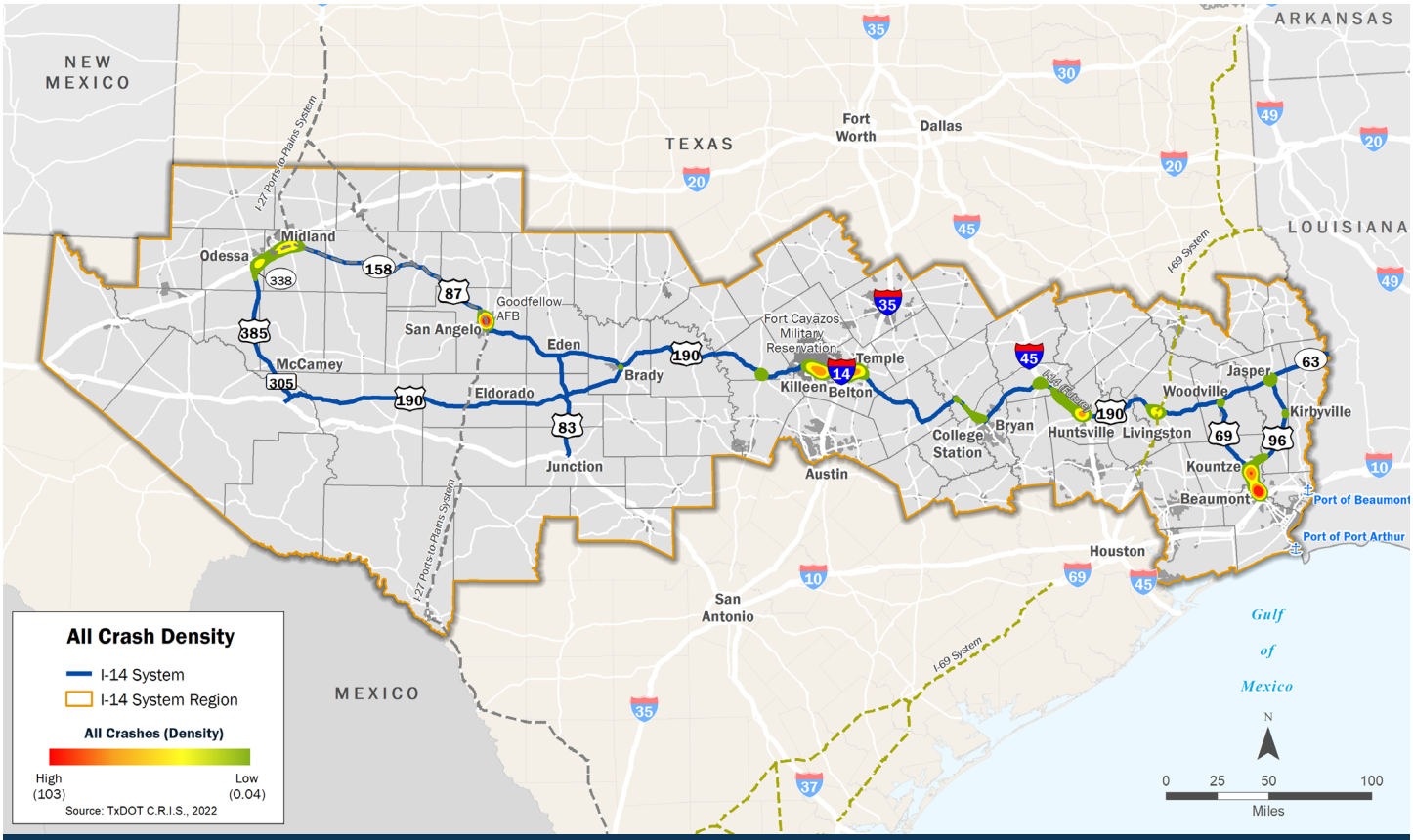
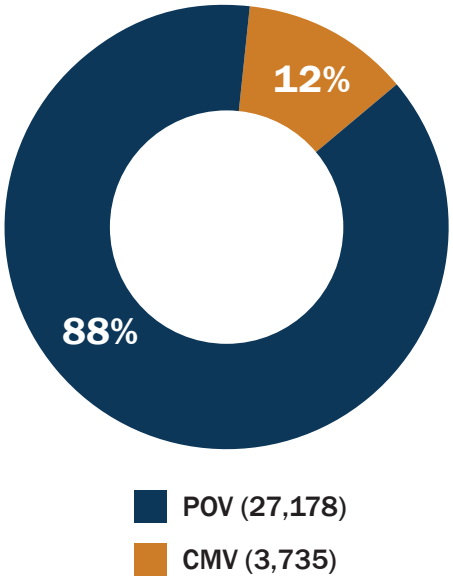


Figure 19 – All Crashes Density Map (2016–2022)

2016 – 2022 Total CMV and POV Crashes



The CRIS also provides data about crashes involving commercial motor vehicles (CMVs) and privately owned vehicles (POVs). On average, trucks represented 21.6% of the existing traffic on the I-14 System roadways. POV crashes accounted for approximately 88% of total crashes (27,178), while CMV crashes accounted for 12% of the total crashes (3,735).

Most fatal CMV fatal crashes occurred in rural areas and were heavily concentrated in the following areas:

- North of Beaumont along US 69/US 287 and US 96
- East of Livingston
- East of Huntsville to Polk County line
- Northeast of Bryan
- West of Temple
- Midland
- Odessa

Figure 20 shows a density map for fatal CMV crashes.

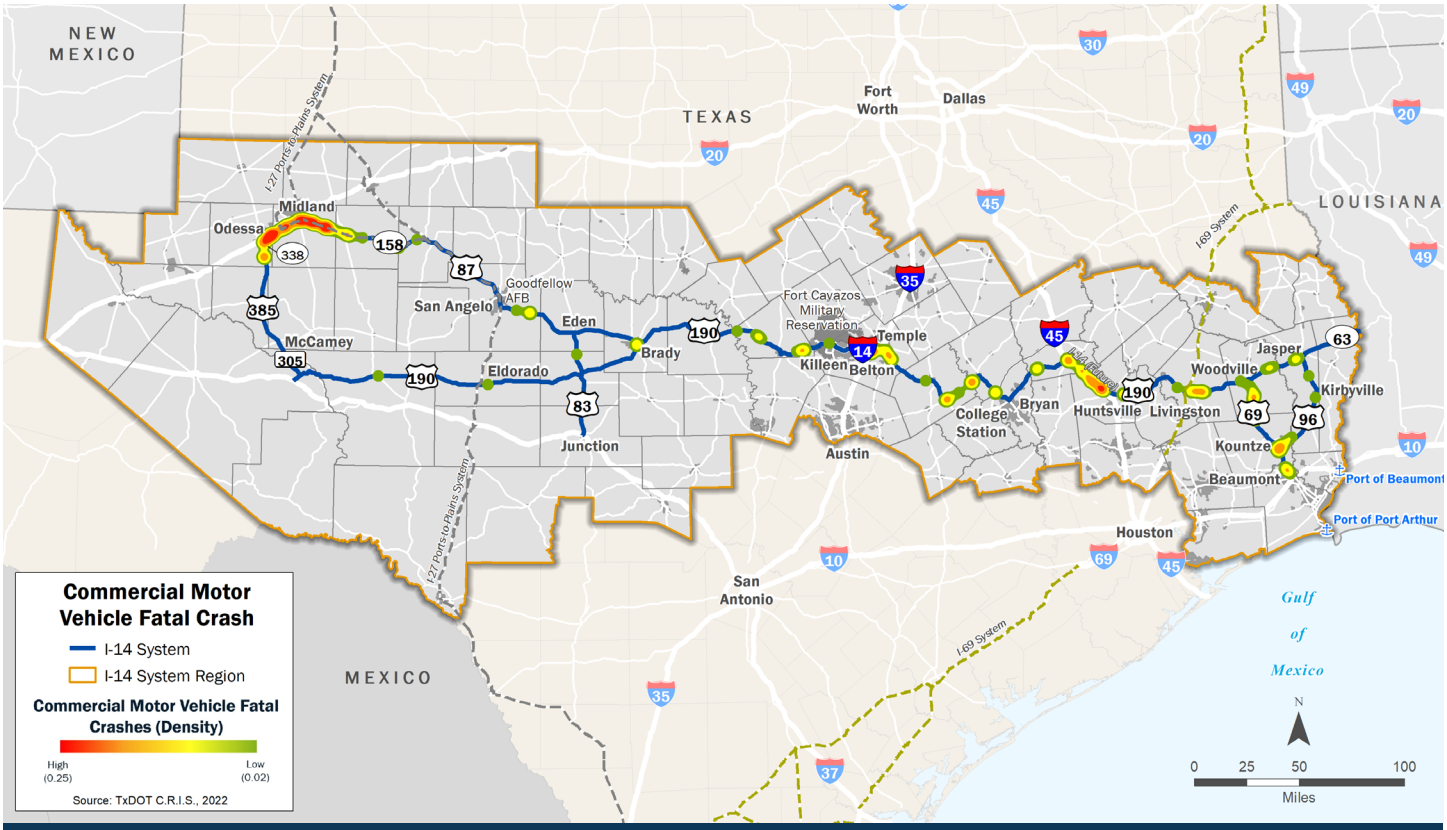


Figure 20 – Fatal Crash Density Map for CMVs

The average total crash rate (2016 to 2022) along the I-14 System is 98.49 per 100 million vehicle miles traveled (100 MVMT). Crash rates are less than the statewide average for approximately 728 miles, or 72% of the system. **Table 4** shows TxDOT's statewide traffic crash rates for various types of roadway facilities for 2021. The crash rate analysis for the I-14 System revealed that locations near San Angelo, Temple, Jasper, and Odessa experienced higher crash rates than the statewide average for corresponding roadway facilities.

Table 4 – TxDOT Statewide Traffic Crash Rates 2021

Highway System	US Highways	
	Rural	Urban
Interstate	57.38	158.85
U.S. Highway	69.83	194.80
State Highway	88.30	226.87
Farm-to-Market	115.91	244.01
Road Type	**Traffic Crashes per 100 million vehicle miles**	
Two-Lane, Two-Way	96.14	208.50
Four or more lanes – Divided	60.36	167.97
Four or more lanes – Undivided	99.56	316.62

Source: TxDOT Statewide Crash Rates, 2021, accessed May 19, 2023, available online at: https://ftp.txdot.gov/pub/txdot-info/trf/crash_statistics/2021/02.pdf

2.7 Existing (2021) and Forecast (2050) Traffic Conditions

The I-14 System serves local, regional, statewide, national, and international traffic flows. This section presents the key findings relating to the analysis of existing traffic conditions and the forecasted 2050 scenarios in the I-14 System. The 2050 traffic analysis scenario forecasted in the Statewide Analysis Model (the Build Scenario), includes upgrading the I-14 System to interstate standards, which allows for higher capacity, connectivity and traffic volumes along the I-14 System.

2.7.1 Existing and Forecast Total Traffic Volumes in the I-14 System

Figure 21 shows existing (2021) volumes from the TxDOT Roadway Inventory Database (RID) along the I-14 System. Total existing volumes along the I-14 System range from 200 vehicles per day (vpd) along US 190 near Iraan to 118,500 vpd along the I-35/US 190 portion between Belton and Temple. Higher volumes are observed near larger cities, including Odessa, Midland, the Killeen-Temple area, Bryan, Huntsville, and Beaumont.

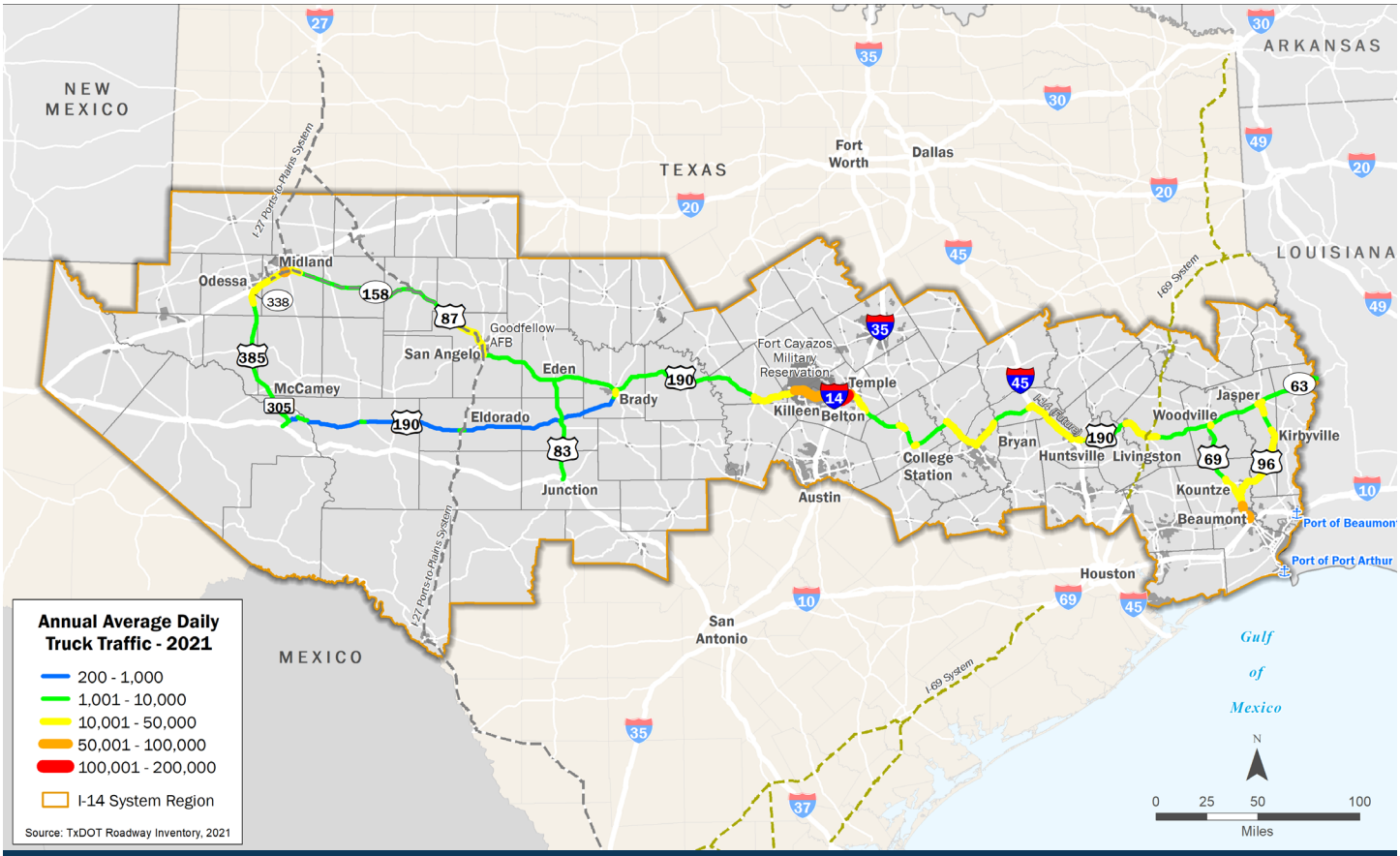


Figure 21 – 2021 Existing Annual Daily Traffic Volume

The implementation of the interstate classification and the addition of lanes along most segments under the 2050 Build Forecast scenario forecasted in the Statewide Analysis Model allow for higher capacity and therefore higher volumes along the I-14 System. Daily volumes for this scenario range from 2,200 vpd along FM 305 south of McCamey to 200,300 vpd along I-35 in Belton. Overall, the Killeen-Temple area is expected to have the highest overall volume along the I-14 System, as shown in **Figure 22.**

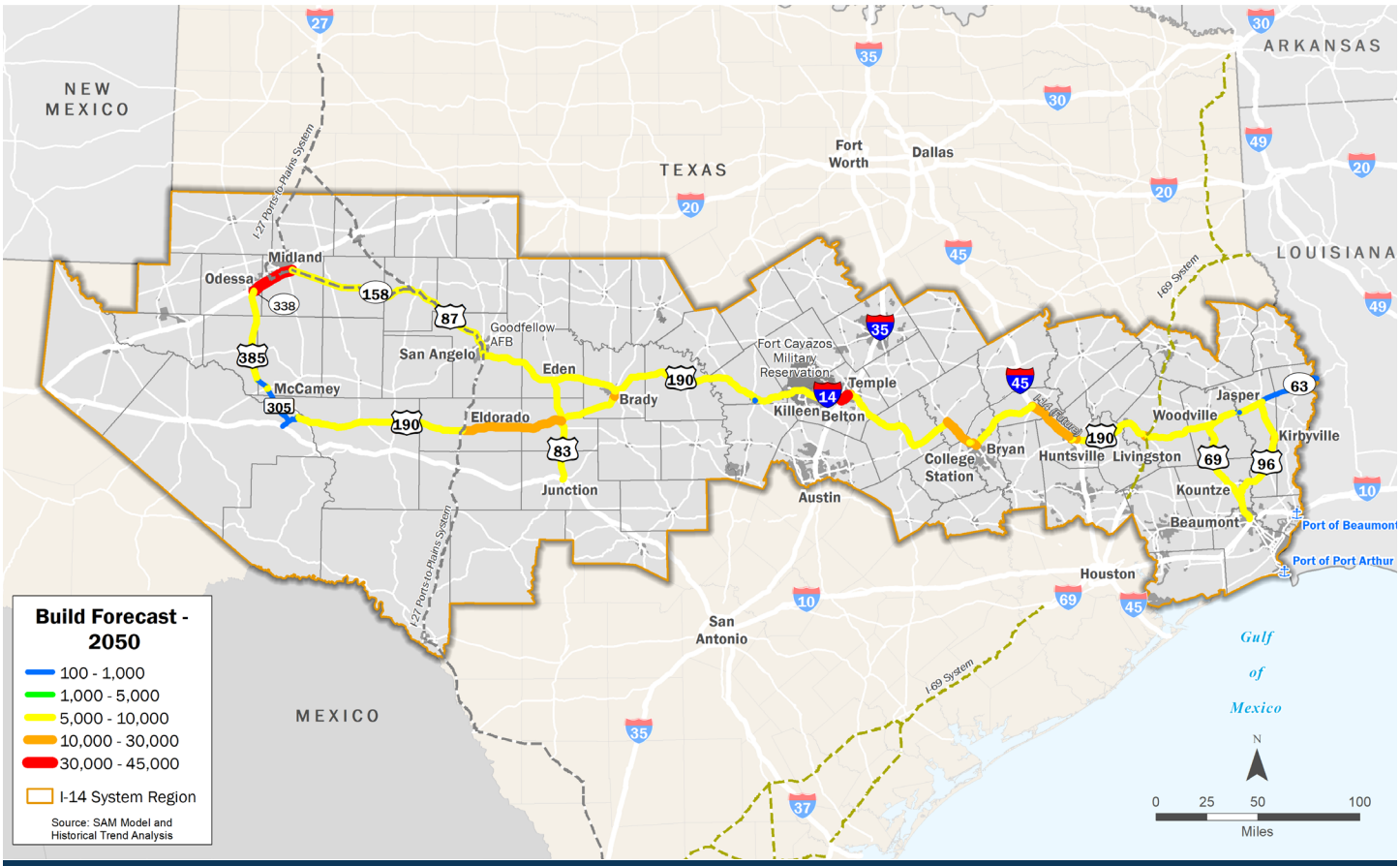


Figure 22 – 2050 Build Forecast (Interstate)

2.7.2 Truck Traffic Volumes

Figure 23 shows the percentage of truck traffic compared to overall traffic, while **Figure 24** shows annual daily truck traffic in 2021. This illustrates the shift in route for commercial vehicles when there is an interstate facility available to make those truck trips. Under the 2050 Build Forecast scenario, the average daily truck traffic volume for the entire I-14 System is expected to increase to 5,000 trucks per day.

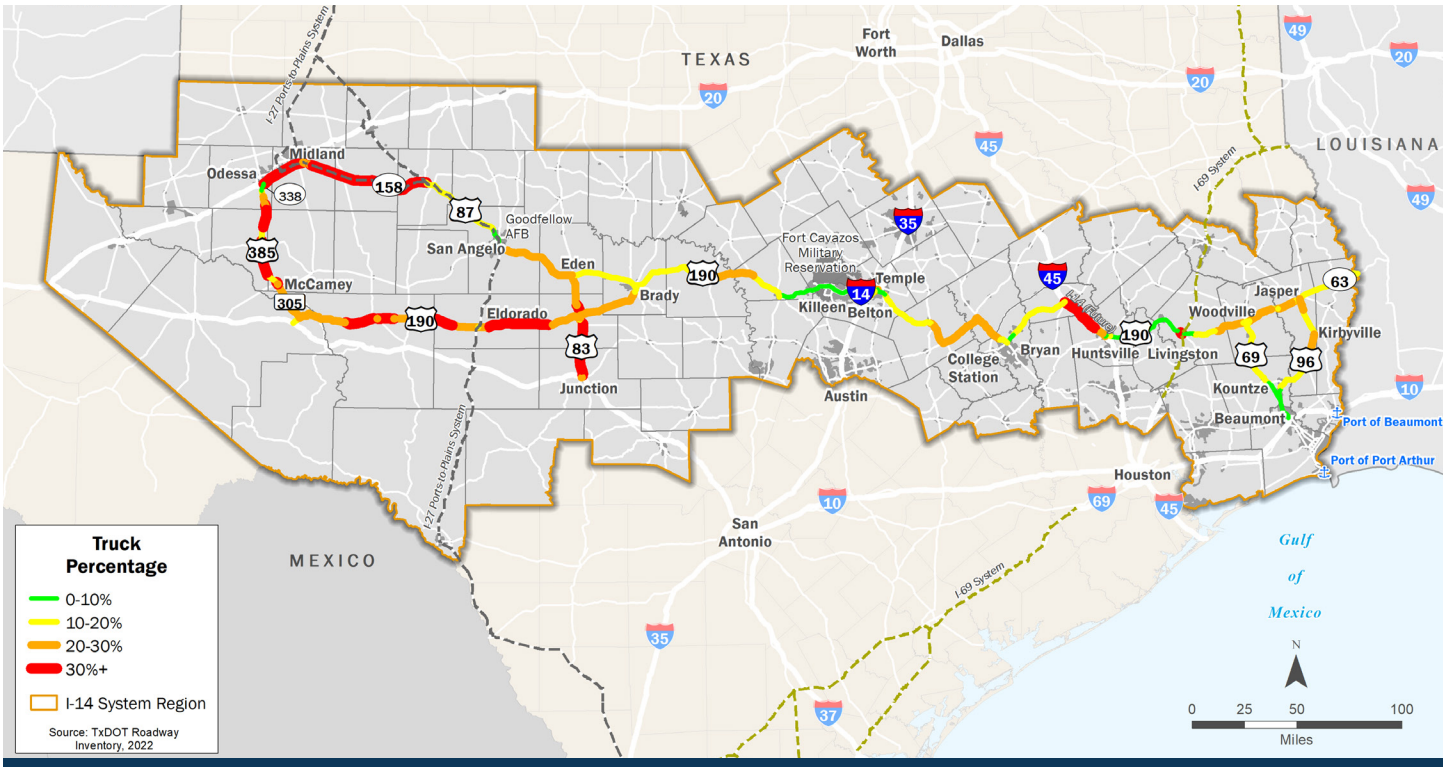


Figure 23 – Percentage of Truck Traffic Compared to Overall Traffic (2021)

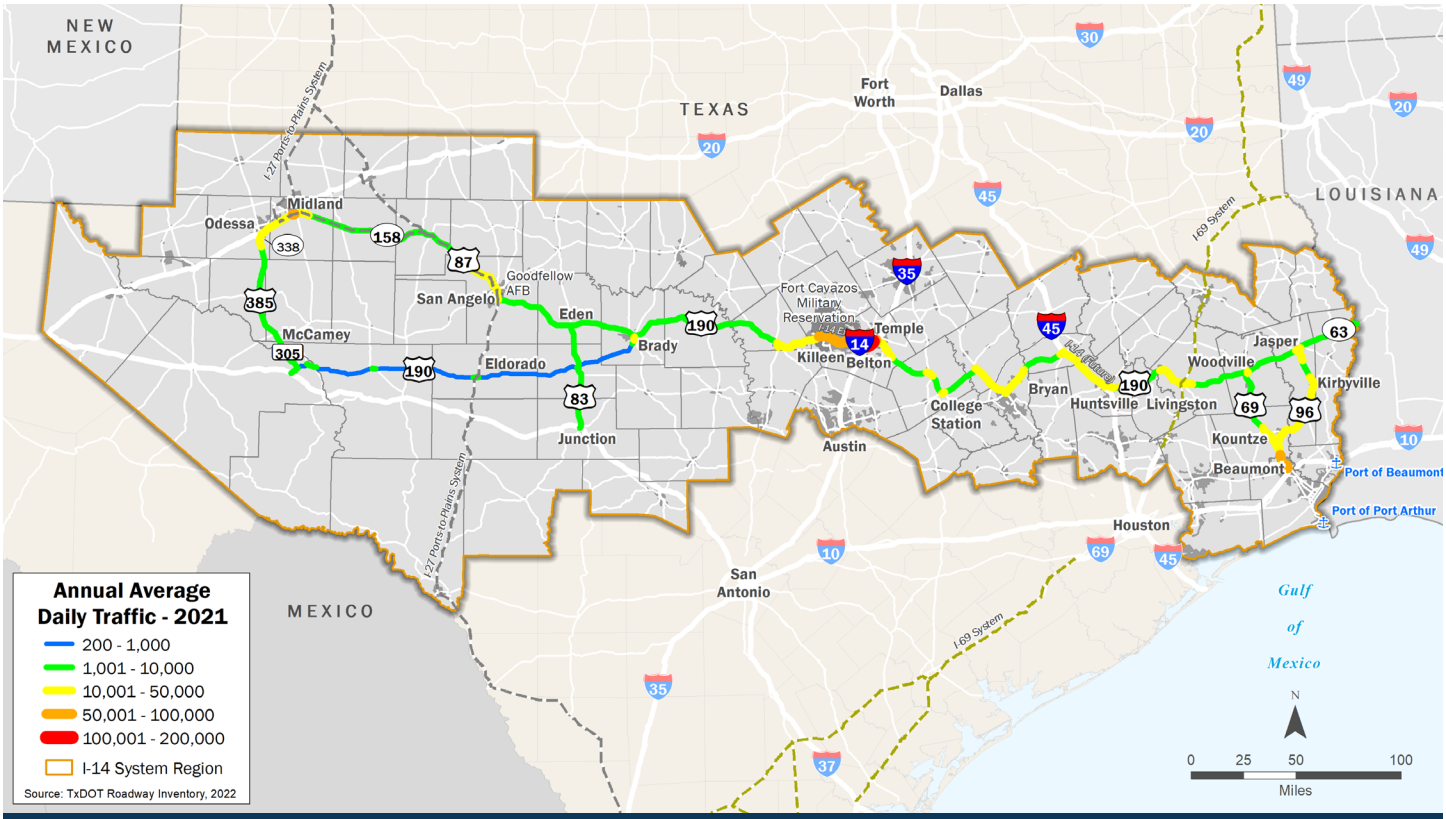
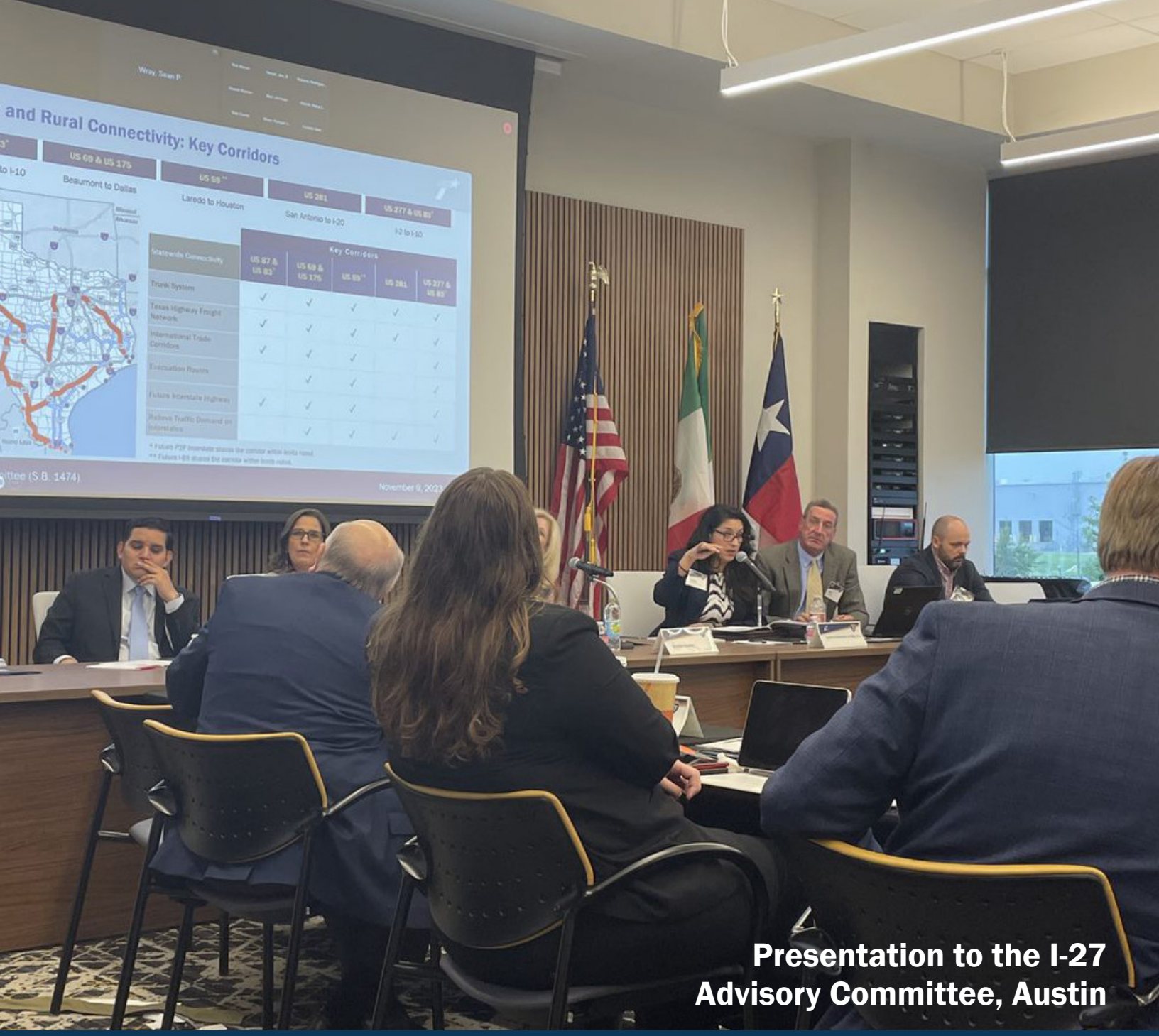


Figure 24 – 2021 Existing Truck Volume



Presentation to the I-27 Advisory Committee, Austin

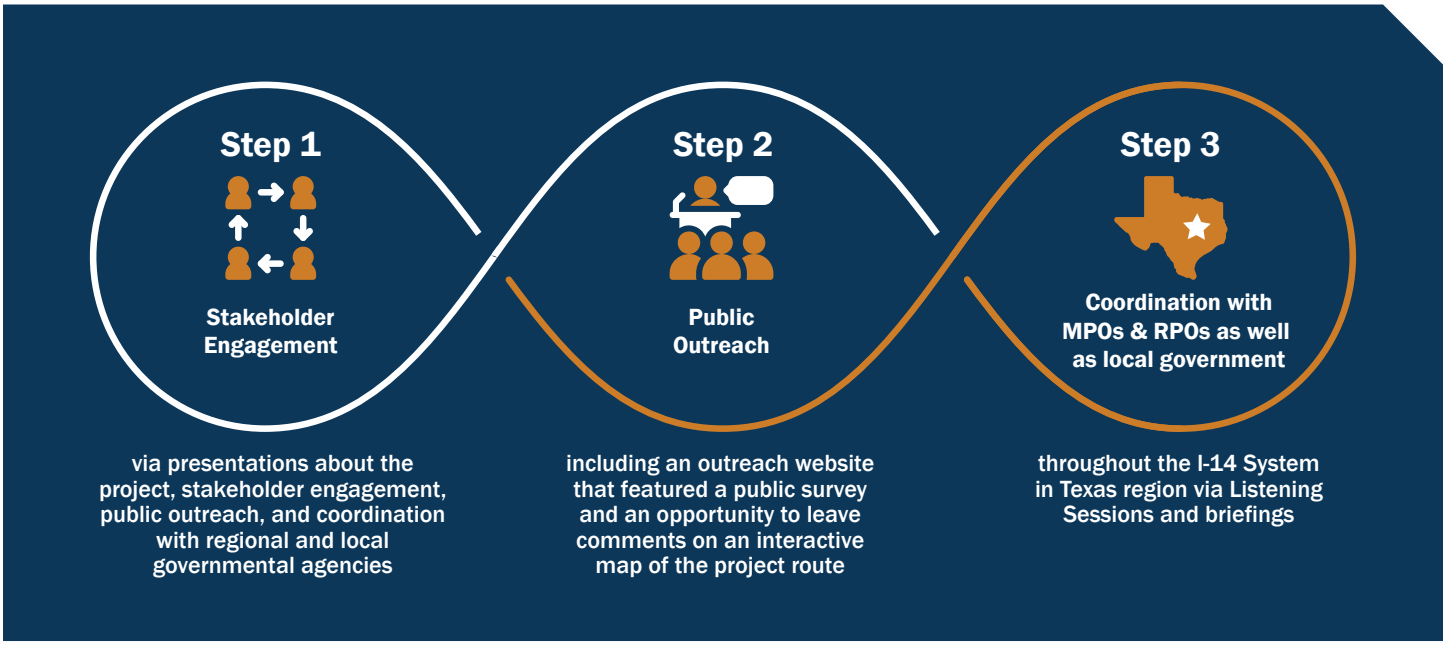
Public Outreach and Stakeholder Engagement

CHAPTER 3

This page intentionally left blank

3.0 Public Outreach and Stakeholder Engagement

A critical component of this planning initiative is effective communication, coordination, and engagement among a wide range of participants, including the public and potentially impacted stakeholders. This approach allows TxDOT to better understand public views, as well as how stakeholders may engage with the project now and in the future. Public engagement and outreach included three prongs of activity:



Sections 3.1 to 3.3 discuss these activities in greater detail as well as key takeaways. TxDOT districts were engaged throughout the development of the I-14 Implementation Plan, and elements and milestones of this engagement are described in Chapter 5.

3.1 Stakeholder Engagement

TxDOT engaged with various stakeholder groups to provide information about the I-14 System in Texas, to bring awareness of the process and gather initial feedback. TxDOT hosted six virtual Listening Sessions in April 2023 to inform and gather feedback from city, county and regional leaders who represent areas along the I-14 System in Texas. Invitees to the Listening Sessions included MPOs, COGs, county judges, mayors economic development and industry trade groups, transportation advocacy groups and other local and regional stakeholders. TxDOT also presented to the following Advisory Committees, transportation advocacy groups, and the Alabama-Coushatta Tribe of Texas:

- Midland Odessa Transportation (MOTRAN) Alliance, an alliance of business and community leaders in Odessa and Midland (February 2023)
- Alabama-Coushatta Tribe of Texas, a federally-recognized tribe (May 2023)
- TEX-21, an organization dedicated to improving transportation infrastructure in Texas and Oklahoma (June and July 2023)
- The I-27 Advisory Committee, which was established by Texas Senate Bill 1474 to advise TxDOT on transportation improvements that may impact the Ports-to-Plains Corridor (November 2023)
- Texas Freight Advisory Committee, which advises TxDOT on freight issues and priorities (November 2023)

To better capture feedback, TxDOT divided the I-14 System in Texas route into three regions: West, Central, and East, as depicted in **Figure 25**.

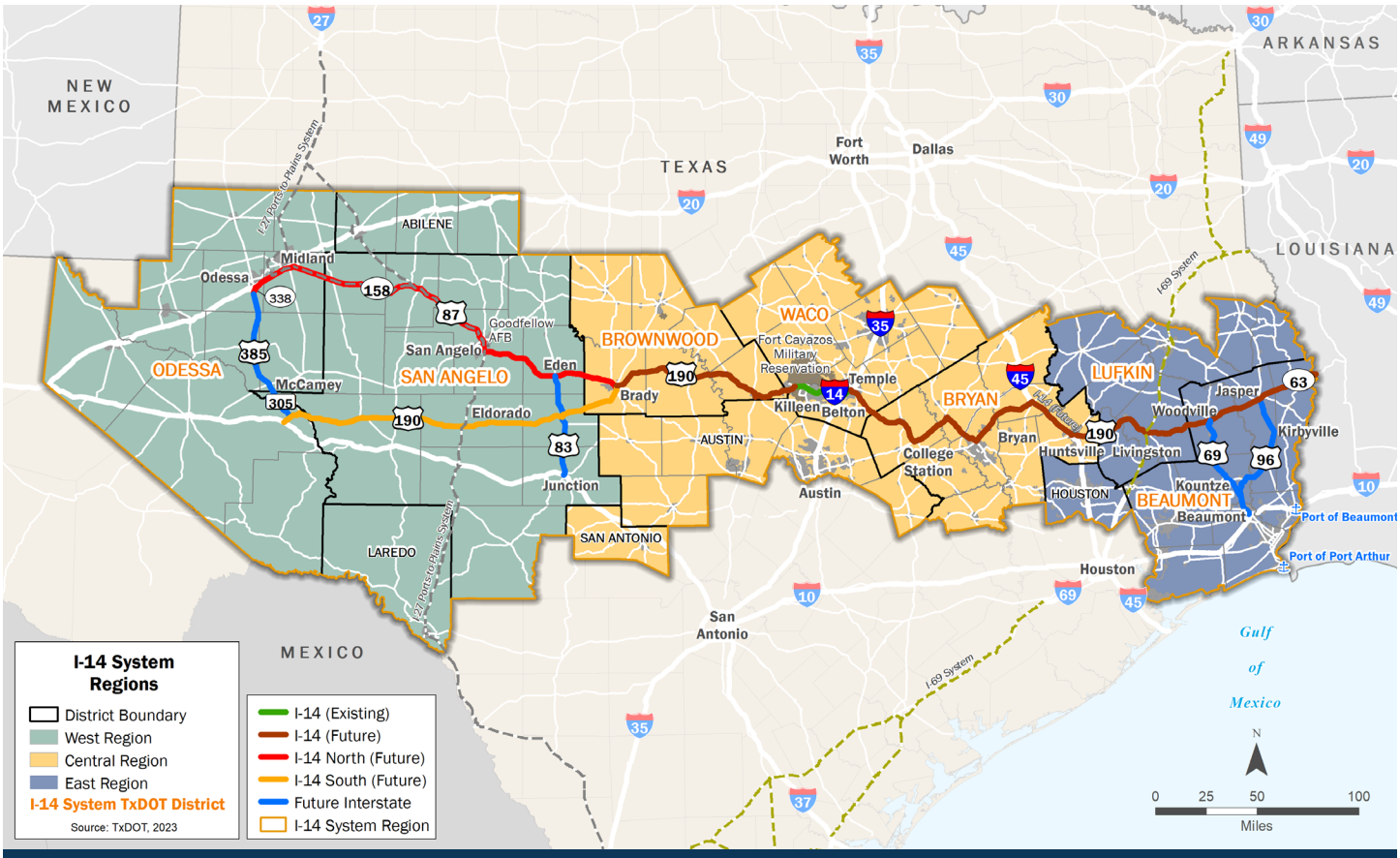


Figure 25 – West, Central, and East Regions of the I-14 System in Texas

TxDOT held two Listening Sessions in each of the three regions, holding a total of six sessions. Approximately 100 attendees participated in the six Listening Sessions, with 47% of these attending the Central region sessions, 35% attending the West region sessions, and 18% attending the East region sessions. During the Listening Sessions, the project team posed questions using Mentimeter, an online polling platform. Questions centered on attendees' views about the benefits of having an interstate in their region, industries that attendees expected to be served by the I-14 System, impacts of the I-14 System on freight movement, and safety and operational enhancements that attendees believed were needed along the I-14 System. Attendees could provide their input verbally, via Mentimeter, or using the Webex chat box.

3.1.1 Feedback Received During the Listening Sessions

The I-14 System in Texas team asked attendees their opinions about the benefits of having an Interstate Highway System within the region, key industries they expect to reach via the I-14 System, how they anticipate the system will impact freight movement, and which safety and operational enhancements they believe are needed along the I-14 System of roadways.

To better evaluate the Listening Session comments, the I-14 System in Texas team sorted attendees' responses into the following categories:

- Safety
- Freight/Trucking
- Economic Development
- Traffic
- Connectivity and Access
- Environmental
- Other

Overall, attendees noted that **the top three benefits to having an interstate highway in the region included connectivity and access, economic development, and safety.** When considering industries that could be served by the I-14 System, overall, attendees mentioned logistics and distribution, freight and trucking, and the energy industry most frequently. The regional breakdown of these answers, however, differs slightly and reflects the unique industries served by each particular region. In the West region, for example, the 18 responses from that region most commonly mentioned the energy, logistics and distribution, freight and trucking, agriculture, and manufacturing. In the Central region, the top industries mentioned among the 23 responses included logistics and distribution, freight and trucking, and manufacturing. Among the 11 East region respondents, the top industries mentioned included military, timber, and shipping and port trade. **Figure 26** captures the top industries mentioned by region.

Figure 26 – Top Industries that I-14 Is Expected to Benefit, According to Listening Session Attendees in Each Region

Among the three regions, **connectivity and access** emerged as a key priority. For many, connectivity and access provide a means for improved travel times, expedited delivery, and increased economic opportunity. For example, when asked about the benefits of an interstate highway in their area, a third of responses noted that an interstate can bring connectivity and access and economic development, and one-quarter noted benefits to freight movement.

Safety was another key concern mentioned by participants. For example, about one-third of responses suggested divided medians to improve safety, and one-fifth noted that the I-14 System in Texas can provide an alternative route to I-10. This is important not only for travel times and freight movement, participants noted, but also for faster and safer evacuation during hurricane season.

TxDOT also conducted a virtual Listening Session (in May 2023) with the Alabama-Coushatta Tribe of Texas, which is located east of Livingston in Polk County. During this session, TxDOT shared information with members of the Tribal Council and tribal department representatives about the Interstate Highway System; data about the I-14 System in Texas and its infrastructure, demographics, safety, traffic, and freight movement; and details about the I-14 System in Texas Implementation Strategy approach. Participant feedback centered on questions about right-of-way and the potential impact of planned upgrades on existing properties in the Alabama-Coushatta Tribe of Texas reservation. TxDOT noted its commitment to ongoing collaboration and coordination with the Alabama-Coushatta Tribe of Texas. Feedback from the listening sessions were shared with TxDOT Districts so they were aware of issues or concerns in their respective areas.

3.2 Public Outreach

TxDOT used various means to provide information about the I-14 System to the public, including the development of a project webpage and a social engagement platform.

TxDOT hosted a public information survey and accompanying interactive map from July 21 to August 11, 2023. When asked about top needs for the I-14 System in Texas, about 70% of respondents noted safety-related factors, including paved road improvements, safety rest areas, and better lighting. Truck parking and electric vehicle charging stations were additional needs chosen by participants. **Figure 27** shows the breakdown of needs identified by respondents.

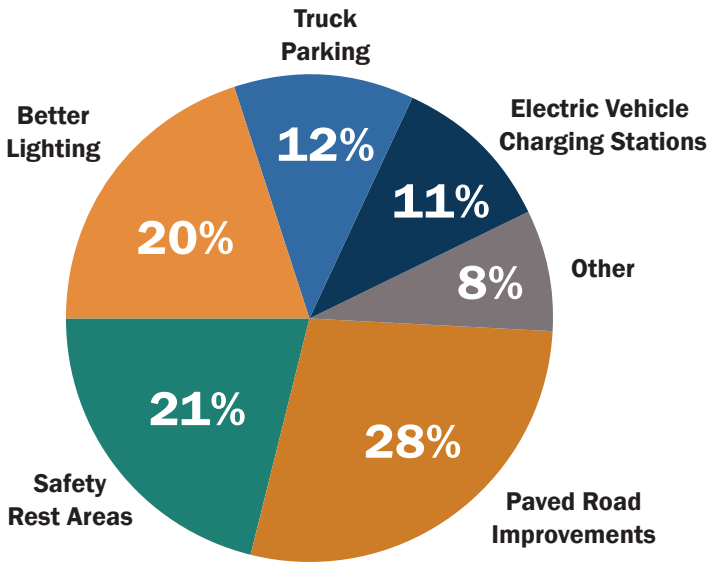


Figure 27 – Respondents' Identified Needs for I-14

Concerns about environmental features and recreation areas were mentioned the most (over 370 comments) on the interactive map. These concerns ranged from worries about how the proposed route would impact the Martin Dies, Jr. State Park, to how the new interstate would impact conservation efforts, to how a proposed interstate could potentially impact recreation activities and enjoyment of natural resources (**Figure 28**).

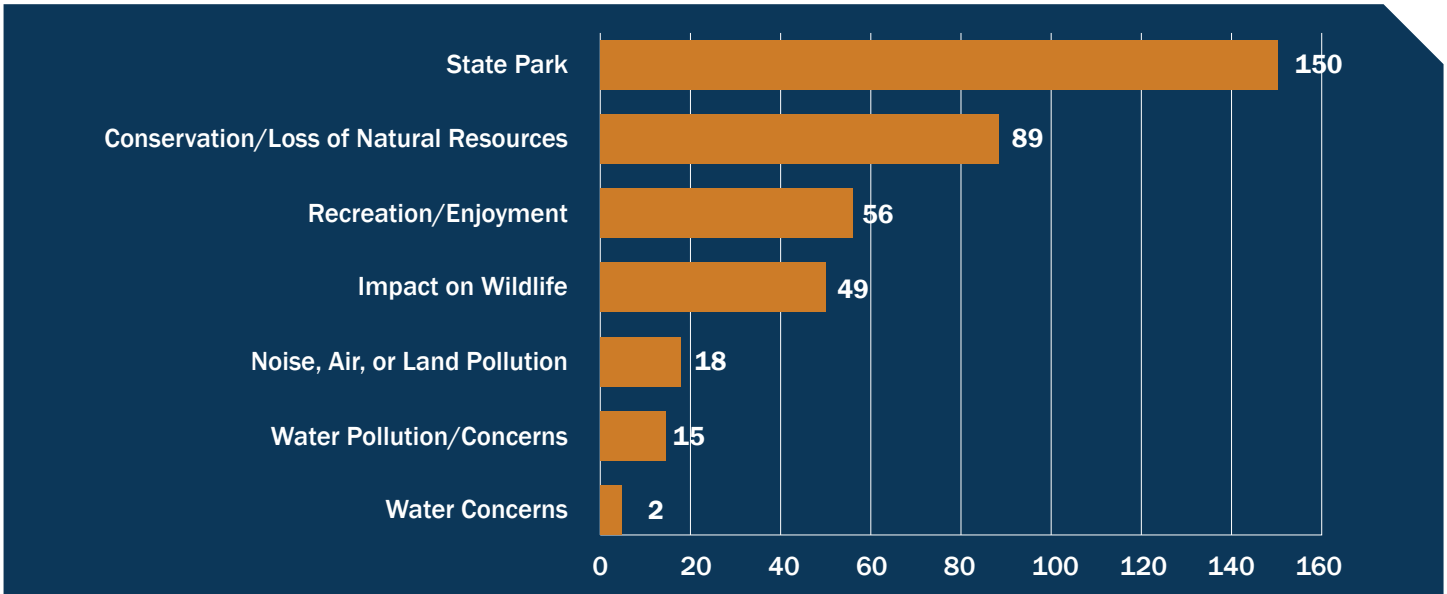


Figure 28 – Environmental Concerns Comments Broken Down by Subtopic

Commenters included suggestions more than 200 times; approximately 140 of which involved recommending alternative routes or requesting that the proposed I-14 location be rerouted to lessen pollution and noise, to avoid state or national parks, or to create a “less zigzagged shape” and more of a straight route.

3.3 Coordination with Regional Planning Organizations

In addition to the above broad public outreach and listening sessions, TxDOT also conducted a series of work sessions and briefings with MPOs, councils of government, and rural planning organizations located within the I-14 System Region in the fall 2023 and winter 2024.

- Brazos Valley Council of Governments
- Killeen-Temple MPO and Central Texas Council of Governments (joint briefing)
- Permian Basin Regional Planning Commission
- Permian Basin MPO
- South East Regional Planning Commission
- Deep East Texas Council of Governments

This page intentionally left blank

Implementation Strategy Approach

CHAPTER 4

This page intentionally left blank

4.0 Implementation Strategy Approach

This section summarizes the overall approach and steps used to develop the I-14 System in Texas Implementation Plan.

The first step was the identification of opportunities and constraints within the I-14 System network, using data collected from the existing and future conditions analysis. Numerous completed and ongoing statewide TxDOT plans, studies, and manuals were also consulted to ascertain any projects, programs or initiatives that could factor into the planning and project development of the I-14 System:

- I-14 Central Texas Corridor Study
- Texas Freight Mobility Plan
- Statewide Long-Range Transportation Plan
- Texas Bicycle Tourism Trails Study
- Texas Electric Vehicle Infrastructure Plan
- Transportation Systems Management and Operations Statewide Strategic Plan
- Freight Infrastructure Design Considerations
- Texas Statewide Truck Parking Study
- TxDOT Roadway Design Manual

Next, planned and programmed capacity-adding projects were identified along the I-14 System; this was accomplished through a review of ongoing state, as identified in TxDOT's Project Tracker and the 2024 Unified Transportation Program (UTP), and MPO-planned projects, as well as through input provided by the districts about ongoing projects and studies within their district boundaries. Existing control sections and Control Section Job numbers (CSJs) along the corridor were identified to inform considerations regarding logical project limits along the I-14 System. Several roadway segments with shared corridors along the I-27 and I-14 systems required coordination with the parallel Ports-to-Plains (future I-27) Implementation Plan.

District input was then solicited about planned and programmed projects, potential location studies, logical interstate upgrade project termini, and implementation priorities during a series of virtual and in-person workshops in the summer of 2023. Through this process, there were numerous areas identified along the system of roadways where upgrading the existing roadway to interstate standards would likely create significant impacts such as extensive relocation of businesses and residences or features such as steep terrain or large water bodies would create significant engineering challenges. In these areas, TxDOT is recommending additional detailed studies, or location studies, to be conducted. An in-depth identification of gaps in interstate standards, along with the level of upgrade required to attain interstate standards, was also assessed and considered when analyzing logical project limits.

A list of recommended interstate upgrade projects and potential location studies was then developed, along with a preliminary implementation phasing informed by district input on priorities. The interstate upgrades project and location studies list and preliminary phasing were developed with the following guiding principles:

- Build from termini on existing interstate highways (I-10, I-14, I-20, I-35, I-45)
- Identify four-lane highway sections adjacent to existing interstate
- Avoid protected federal, state, local, and tribal lands to the extent practicable
- Determine if a Location Study is warranted to avoid significant environmental and engineering constraints, such as topography and displacements

FHWA will not consider adding a highway to the interstate highway system unless it has been constructed to meet interstate standards and connects to an existing interstate highway.

As a further consideration of interstate upgrade implementation phasing, a project segment's position to connect to interstates was analyzed. This was performed in parallel to an analysis of Corridor Prioritization Tool (CPT) results. The CPT is a TxDOT planning tool for evaluating statewide Corridors to identify needs based on established performance measures.

Once the list of interstate upgrade projects and location studies was finalized, project cost estimates and near-term (0–4 years), mid-term (5–10 years), and long-term (10+ years) implementation phasing was developed for each district. These implementation phases generally refer to the timeframes in which project planning will begin. Project development consists of a number of elements:

- Planning (12-18 months)
- Environmental Study & Schematic Design (24+ months)
- Right-of-way Acquisition, Utility Adjustments & Final Design (36+ months)
- Construction (36+ months)

Advancements from step to step is contingent upon the outcome of the previous step and the availability of funding.

The recommended interstate upgrade projects target additional capacity, right-of-way, interchanges, bridges, and overpasses. Other roadway elements, including truck parking, safety rest areas, ITS, and emerging transportation technologies, were also considerations in the strategy, recognizing these elements may be more appropriate for planning on a project-by-project basis.

4.1 Summary of District Engagement

The seven TxDOT Districts that the I-14 system will ultimately extend across will be responsible for detailed planning, design, construction, and operation of this new interstate highway system in Texas. As such, collaboration between them and TxDOT's Transportation Planning & Programming Division (TPP), which led this implementation planning initiative, was essential to ensure an understanding of current and upcoming projects, local area engagement about this new interstate highway, and the recommendations that are presented in this document.

The I-14 System in Texas Implementation Strategy approach described above included a series of touchpoints and workshops with the Beaumont, Brownwood, Bryan, Lufkin, Odessa, San Angelo, and Waco Districts **(Figure 29)**.

Figure 29 – TxDOT District Engagement

A kickoff meeting was held on March 3, 2023 to introduce TxDOT districts within the I-14 System Region to the I-14 System. This kickoff meeting was then followed by a series of introductory meetings with district planners and district engineers to solicit feedback on stakeholder outreach and request existing district projects and plans.

Next, a series of workshops was held (during the summer of 2023) with district planners and engineers in Brownwood, Bryan, Lufkin, Waco, Odessa, San Angelo, and Beaumont Districts to do the following:

- Review preliminary project lists and maps of potential highway capacity-adding improvements found in the draft 2024 UTP, TxDOT project tracker database, and/or MPO transportation plans, which would potentially advance existing roadways to interstate standards.
- Identify interstate gaps in the existing and programmed roadway network and assess geometric readiness.
- Gather input about potential location studies, logical project limits, and priorities.
- Share takeaways from the West, Central, and East Listening Sessions with the districts.

Following these workshops, a draft list of projects was provided to the districts, along with a draft cost-estimate methodology and proposed typical sections. These items were discussed during a series of touchpoints with the districts during the fall of 2023, along with key takeaways from the Social Pinpoint survey. The input provided by the districts during these touchpoints was then used to develop a final list of recommended location studies and interstate upgrade projects.

4.2 Planned and Programmed Projects at the District Level

To further prepare the implementation plan, a series of compilations of data and information were prepared at the district level. These compilations informed local decision-makers about the corridor, its constraints and opportunities.

To summarize potential constraints to the design and construction of the upgrades, the locations of railroads, rivers, streams, state and national forests, and Indian Reservations[10] (i.e., the protected Indigenous Lands identified in Section 2) indicated preliminary constraints along the I-14 System, while hurricane evacuation routes and existing or future interstates identified opportunities for connectivity within the I-14 network.

To facilitate overall programming of improvements, all planned and programmed capacity-adding projects within the I-14 System represented potential opportunities to facilitate the implementation of interstate upgrades along the existing roadway network. Therefore, state and MPO-planned projects were screened by compiling data from the 2024 UTP and TxDOT's Project Tracker platform. The MPO Transportation Plans listed in **Table 5** were also reviewed to identify any projects along the future I-14 network.

Table 5 – MPO Transportation Plans

MPO	Metropolitan Transportation Plan
Bryan/College Station	Destination 2045: The Bryan/College Station MPO Metropolitan Transportation Plan
Killeen-Temple	Mobility 2045 Killeen-Temple Metropolitan Transportation Plan
Permian Basin	Vision 2040 Plan Amendment No. 4
San Angelo	Moving People and Things Through and Within San Angelo 2045
Southeast Texas Regional Planning Commission (SETRPC)	Metropolitan Transportation Plan 2045

[10]Source: Native American Glossary | Office of Equity, Diversity, and Inclusion (nih.gov)

4.3 Review of Existing Conditions, Planned and Programmed Projects, and Gap Analysis

Existing mainline lane configurations were evaluated to identify route segments. Mainlanes that currently meet interstate criteria are shown in green in **Figure 30**, while mainlanes that do not currently meet interstate criteria are shown in red that may readily meet interstate criteria with additional improvements. **Figure 31** depicts the proposed system corridors where gaps in interstate readiness exist. The color coding indicates the level or magnitude of improvements that may be required to achieve interstate standards, with the highest level shown in red (a roadway with two travel lanes and turning lanes or less) and the lowest shown in blue (developed to interstate standards).

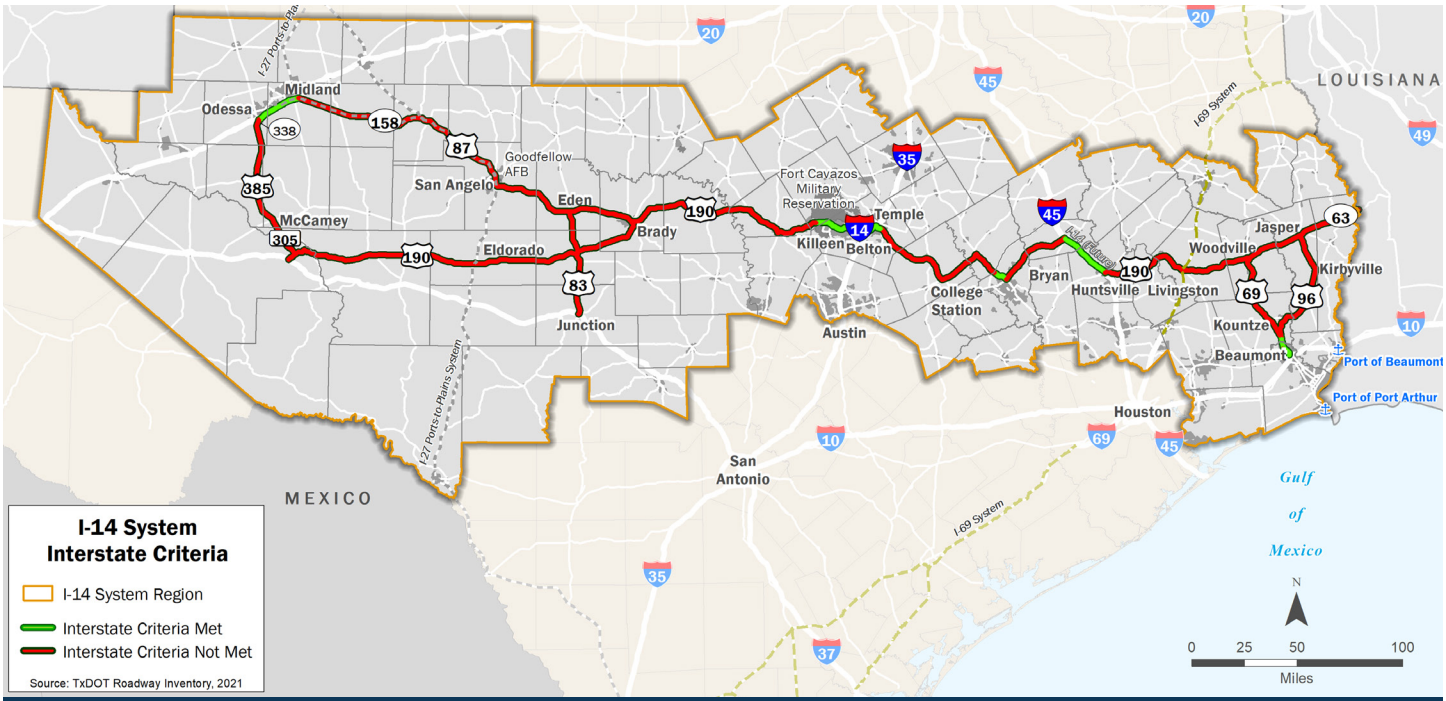


Figure 30 – I-14 System Interstate Criteria

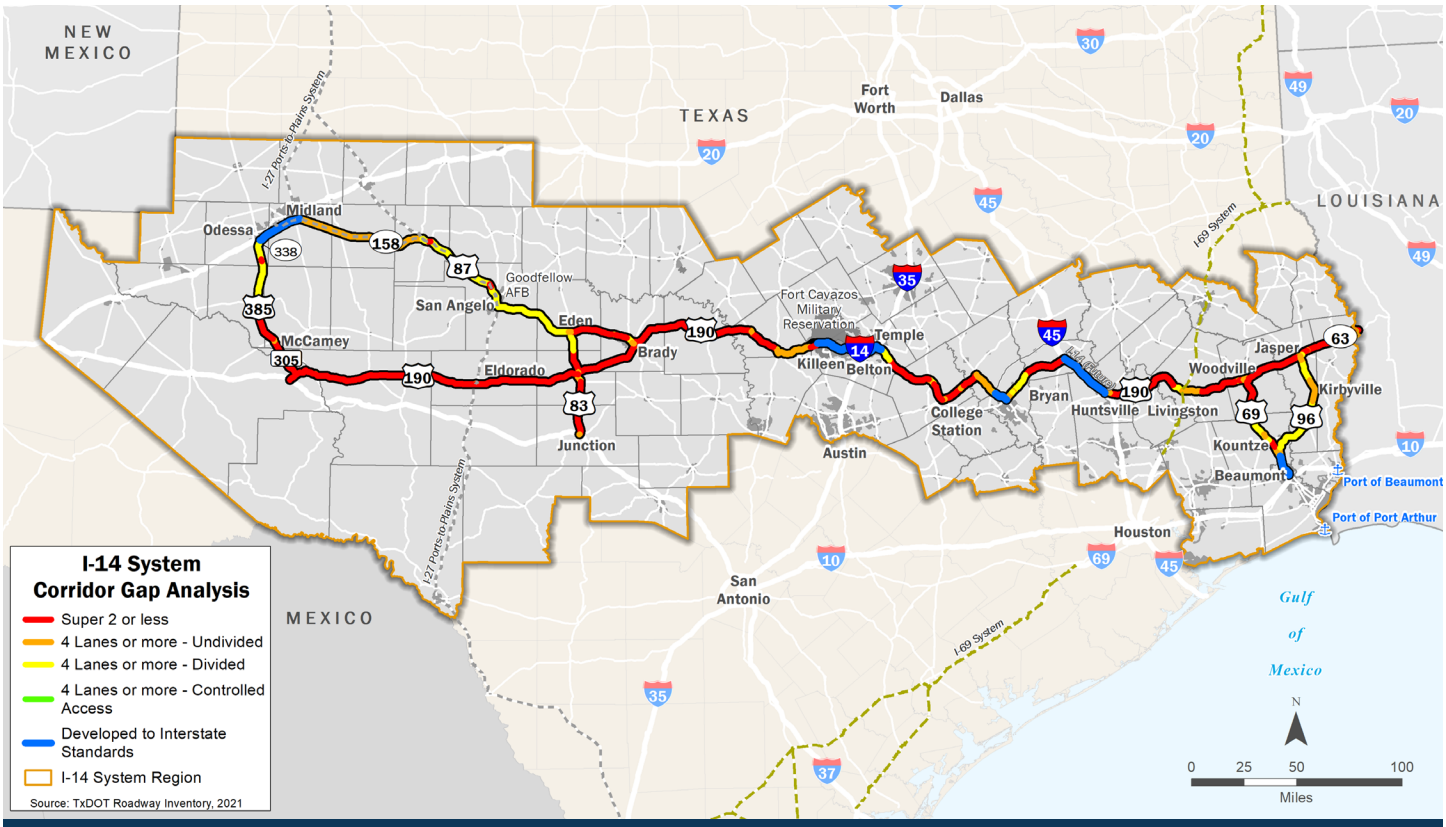


Figure 31 – I-14 System Corridor Gap Analysis

During the aforementioned District workshops, the following activities were conducted:

- Review preliminary project lists and maps of potential highway capacity-adding improvements found in the draft 2024 UTP, TxDOT project tracker database, and/or MPO Transportation Plans, which would potentially advance existing roadways to interstate standards.
- Identify interstate gaps in the existing and programmed roadway network and assess geometric readiness.
- Gather input on potential location studies, logical project limits, and priorities.

A gap analysis to determine which highway sections met interstate standards was performed with the following inputs Geographic Information Systems (GIS) layers using ArcGIS Online:

- Proposed I-14 System alignment
- Existing interstate
- Planned or programmed projects
- Existing system mainlane gaps
- Two-lane with turning lanes or less
- Four-lane or more undivided
- Four-lane or more divided
- Four-lane or more controlled access
- Designated Interstate Highway

Roadway segments with an existing mainline lane configuration of four lanes or more, whether undivided or divided, and with or without controlled access, were prioritized for interstate upgrade investments over those segments that are two travel lanes or less. Additionally, a geometric readiness assessment was performed using ArcGIS Online. The analysis included existing right-of-way, bridge vertical clearance, and existing pavement conditions.

4.4 Project Limits and Project Prioritization Approach

This section describes how interstate project limits were identified and how interstate upgrade projects were phased into near-term, mid-term, and long-term projects.

Existing control sections and CSJs along the corridor were identified to inform considerations regarding logical project limits along the I-14 System.

Project limits were determined by logical project termini (i.e., existing project limits, county boundary lines, major intersections, and optimal project segment length). In general, an effort was made to limit interstate upgrade project segment lengths to a 10-mile-long threshold to support future potential for securing funding. In addition, logical termini were considered when defining the limits of each segment in consideration of future environmental impact analyses to be conducted under the National Environmental Policy Act (NEPA) when there is a Federal action involved such as federal funding or a federal environmental permit.

Projects under construction or planned and programmed/funded capacity-adding projects that would bring existing roadway segments closer to interstate standards (e.g., upgrading to a four-lane divided section with controlled access) also informed the prioritization of interstate upgrade projects. During the workshops and other touchpoints, district leadership provided key insights regarding local stakeholder priorities regarding transportation improvements, community support and interest, and potential obstacles or opportunities further informed the project prioritization process **(Figure 32)**. In addition, project prioritization was also informed by proximity to interstate, with a position of zero being assigned to those project segments that were adjoining an existing interstate (the position of zero indicates the highest potential for connection to existing interstates).

The I-14 System Implementation Plan process is occurring at the same time as the Ports-to-Plains Interstate System Implementation Plan process. This is of importance as sections of I-20, SH 158, and US 87 are shared by both systems in the Odessa and San Angelo Districts as shown in **Figure 33**. There was a concerted effort by TxDOT through bi-monthly meetings and other touchpoints to coordinate these two planning efforts and transfer knowledge between their teams. To avoid duplication of efforts, the transportation planning for these roadway sections, including the identification of project limits and construction cost estimates, is being conducted under the Ports-to-Plains Interstate System Implementation Plan process.

Last, the CPT tool was used to inform high-level considerations around corridor segment needs.

I-14 Interstate Upgrade Project Prioritization Process

1 Identifying and Filtering Capacity-adding Projects along I-14 routing

- Review TxDOT Project Tracker, 2024 UTP & MPO Projects
- Identify planned and programmed capacity-adding projects along the I-14 system
- Identify shared corridors between I-27 and I-14
- Map Control Sections and Control Section Job numbers

2 Consideration of Stakeholder and Public Feedback

- Virtual Listening sessions held in Spring 2023 (April 2023)
- Public info survey held in Summer 2023 (July and August 2023)
- Environmental, safety, mobility were key concerns expressed

3 Gathering Preliminary District Input

- Planned and programmed projects
- Potential location studies (cities along the I-14 alignment, environmentally sensitive areas)
- Logical interstate upgrade project termini
- Project priorities

4 Identifying Projects to Upgrade Network to Interstate Standards

- Existing infrastructure assessment
- Level of effort to upgrade to interstate standards

5 Developing Preliminary Phasing for Interstate Upgrades and Location Studies *with Districts*

- Build from termini on existing interstate highways
- Prioritize four-lane highway sections adjacent to existing interstate
- Phasing: Near-term 0-4 Years, Mid-term 5-10 years, Long-term: More than 10 years
- Gather district input on preliminary upgrade phasing

6 Refining Phasing for Interstate Upgrades and Location Studies

- Consider segment connect position to interstate & Corridor Prioritization Tool
- District concurrence with recommended project phasing
- Work Sessions and briefings with MPOs and RPOs

Note: Project prioritization is subject to change based on Department and Commission Priorities and Near, Mid and Long-term Implementation Phasing

Figure 32 – I-14 System Project Prioritization Process

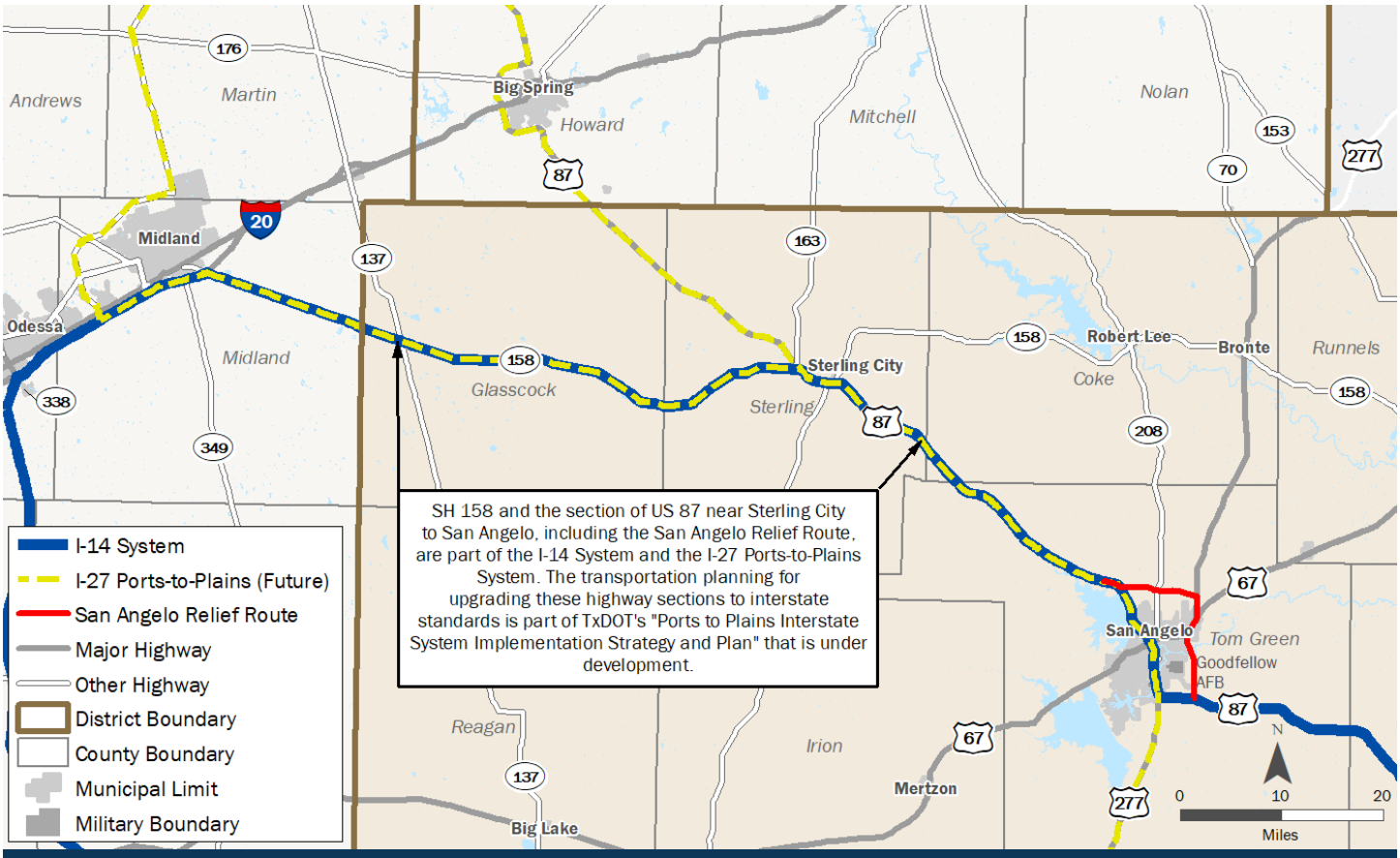


Figure 33 – Interstate Segments Shared between Ports-to-Plains and I-14

4.5 Location Studies

Location studies were identified throughout the I-14 System based on district input and technical analysis. Primarily, location studies were identified where cities or areas with environmental or engineering constraints bisected the I-14 system, and whenever planned or ongoing location studies were identified with input from the TxDOT districts. These recently completed or ongoing location studies included the US 69 Woodville/Colmesneil Relief Route and the US 69 Lumberton/Kountze Relief Route in the Beaumont District, the I-14 Central Texas Corridor Study in the Bryan District, and the San Angelo Relief Route and the US 87-US 67 Relief Route in the San Angelo District, among others.

The timing to initiate these location studies would be dependent, in part, on local interest and support for a study, proximity of an area to a highway that is at or being constructed to interstate standards, and the availability of TxDOT personnel and consultant support to conduct a study. The recommended study locations in this plan could also change over time. Districts should prioritize conducting location studies in the near-term, barring any local sensitivities.

District and public input were used to identify additional cities along the I-14 System that might warrant future location studies. In certain districts, such as the Lufkin District, location studies were identified as the top priority for I-14 System implementation.

The TxDOT Bryan District is studying the future I-14 Central Texas Corridor, which generally follows US 190 eastward from Rogers in Bell County to Huntsville in Walker County. This study will determine the feasibility of a corridor and route for a roadway facility that meets interstate standards.

4.6 Construction Cost Estimation Methodology

A series of pre-planning construction cost estimates were developed for the future I-14 System in Texas. These cost estimates were informed using 2023 TxDOT District Bid Tabs, as well as recently completed or ongoing design projects within the districts (for example, the US 190 Rogers Relief Route in the Waco District, the US 190 Relief Route around Copperas Cove in Waco, and the US 59 Corrigan Relief Route in the Lufkin District), as well as the Ports-to-Plains Interstate System Cost-Estimate Methodology. All cost estimates were developed based on cost-estimate numbers and projects from 2023. Construction costs do not include costs associated with planning, design, right-of-way acquisition, and utility adjustments.

The cost estimates assumed the implementation of rural and urban typical sections with frontage roads throughout the I-14 System, as shown in **Figure 34** and **Figure 35.** These typical sections are characterized by four mainlanes, two in each direction, bordered by 4-feet inside and 10-feet outside shoulders, grassy medians with open ditch drainage, and two-lane frontage roads in each direction for the rural areas of I-14. For the urban areas, the typical sections are characterized by eight travel lanes bordered by 10-feet shoulders, one-way frontage roads in each direction, and shared use paths in each direction, along with curb and gutter drainage. Local context and implementation considerations may require modifications to these typical sections as future projects are developed.

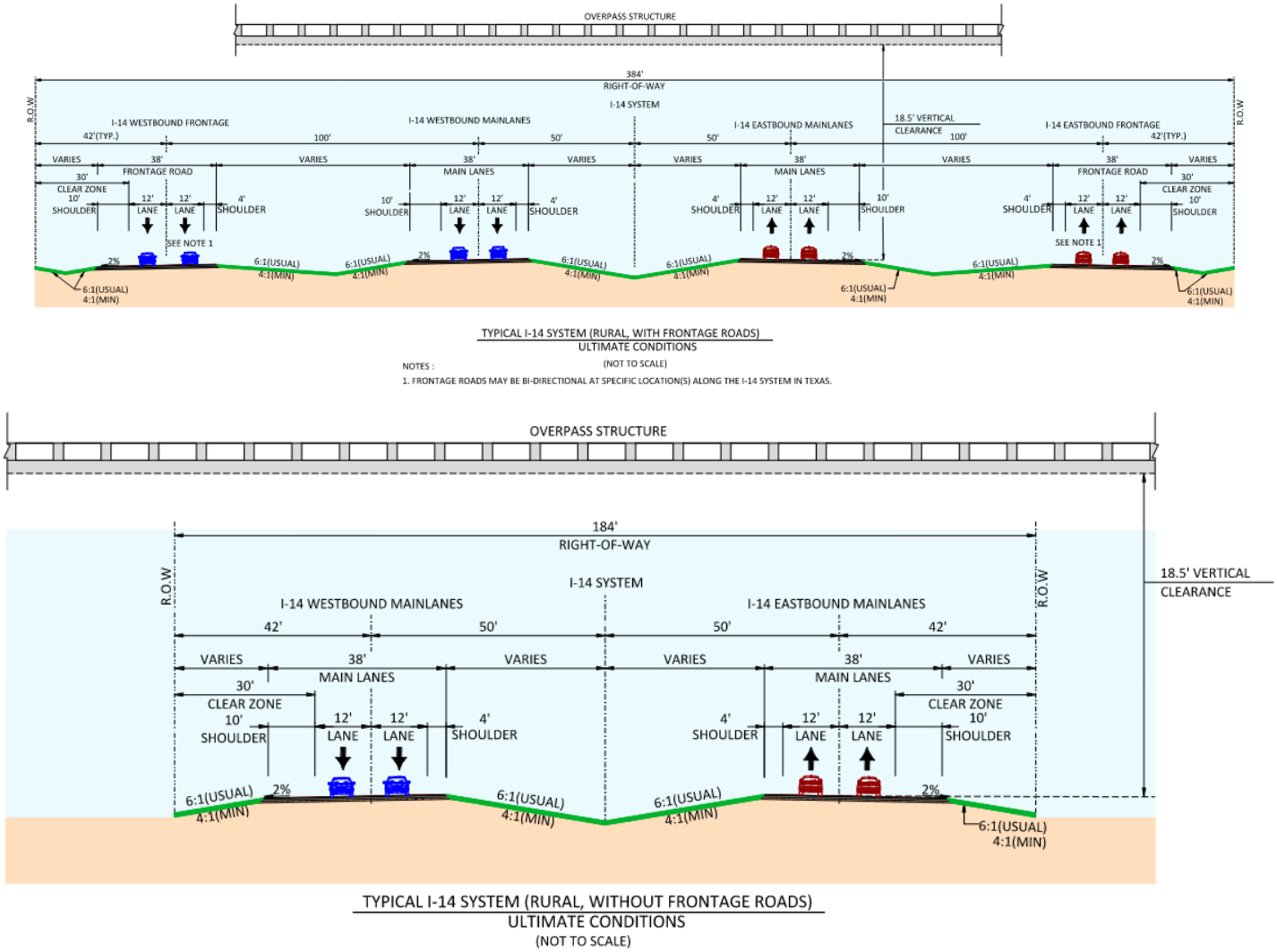


Figure 34 – Typical I-14 System (Rural, with and without Frontage Roads)

The estimated construction cost per mile ranges from $15–$30 million/mile to $30–$50 million for rural sections without and with frontage roads, respectively. The estimated construction cost per mile ranges from $30–$60 million/mile to $60–$100 million for urban sections without and with frontage roads, respectively. These costs do not include interchange or bridge sections.

The preplanning-level cost estimates provided in this implementation plan for interstate upgrade projects are for 2023, therefore cost estimates will need to be escalated at a reasonable inflation rate moving forward. This rate can range from the average increase shown by the Consumer Price Index (CPI) Inflation Calculator (3.85%), the FHWA Construction Cost Index (6.05% average over the last 10 years), or TxDOT's Highway Cost Index (6.25% average over the last 10 years).

It is assumed that a mainline interstate facility should be designed and built at a minimum of four mainlanes. As these existing roadways are evaluated for implementation upgrades to interstate design standards, their footprint will increase to meet those standards.

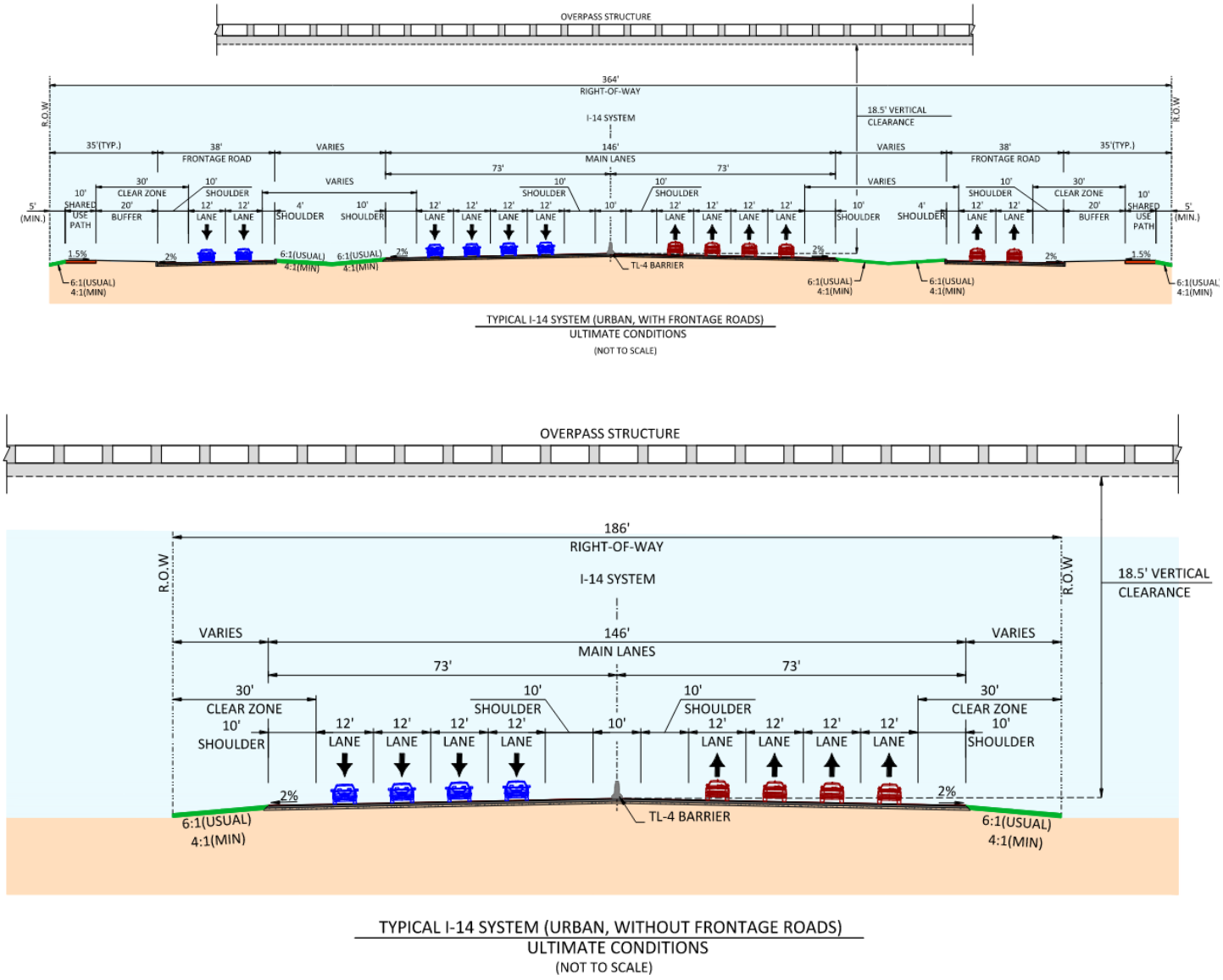


Figure 35 – Typical I-14 System (Urban, with and without Frontage Roads)

US 87 east of Sterling City

Implementation Plan

CHAPTER 5

This page intentionally left blank

5.0 Implementation Plan

Implementing the I-14 System will be a decades-long process for the network of highways that will comprise the I-14 System in Texas. Through the steps undertaken as part of the implementation strategy noted in Chapter 4, and in consideration of stakeholder and public input throughout this planning initiative, implementation plans have been created for the seven TxDOT Districts where the I-14 System in Texas would be located. These plans are located in Appendix A of this document and include summaries for each District accompanied by maps and tables summarizing all completed, ongoing and recommended I-14 System upgrade projects and location studies. For the purposes of this Implementation Plan, timeframes for planning activities to commence planning on the recommended projects were near-term (0–4 years), mid-term (5–10 years), and long-term (10+ years); however, they will vary depending on availability of funding and Department priorities.

5.1 Project Development Process

TxDOT must engage in a series of project development steps before construction can begin. These steps include planning, public involvement, environmental clearance, utility adjustments, and right-of-way acquisition as shown in **Figure 36**. The public will have multiple opportunities to review and provide input into specific project plans and studies to develop the I-14 System in Texas.

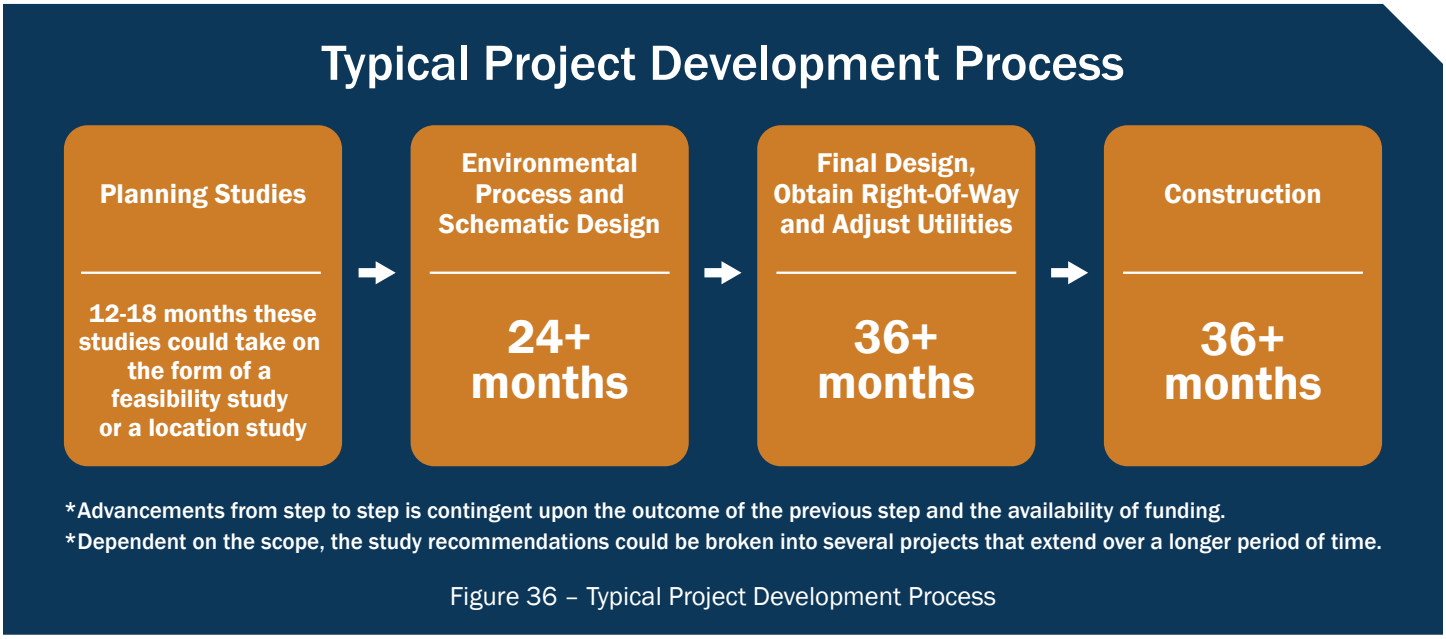


Figure 36 – Typical Project Development Process

Next, after each highway is constructed or upgraded to interstate standards, TxDOT will collaborate with the FHWA and the AASHTO's Special Committee on United States Route Numbering to request that the highway be added to the Interstate Highway System. This process alone can take up to 1 year to complete for each highway.[10]

5.2 Funding

Currently, there is no specific federal or state funding program to build future interstate highway projects. Projects considered part of the I-14 System must compete with all other Texas highway improvement projects for funding in the state's annual project selection process. The CPT analysis could assist the districts with evaluating which project segments would be most successful when applying for project funding in the near to mid term.

[10]Source: https://ftp.txdot.gov/pub/txdot/sla/education-series/interstate-highway-designation.pdf

TxDOT districts, MPOs and local partners can also consider applying for various grant funding opportunities under the Bipartisan Infrastructure Law, to support the implementation of emerging technologies, bridge, and highway improvements, including and not limited to:

- Advanced Transportation Technologies and Innovative Mobility Deployment (also known as Advanced Transportation Technology and Innovation (ATTAIN) Program)
- AID - Accelerated Innovation Deployment Demonstration Program
- Bridge Investment Program
- Charging and Fueling Infrastructure Grants Program
- Infrastructure for Rebuilding America (INFRA) Grant funding for Nationally Significant Multimodal Freight and Highway Projects on the National Highway Freight Network
- Rural Surface Transportation Grant Program

5.3 Other Considerations

5.3.1 Truck Parking

In 2020, TxDOT published a Truck Parking Recommendations and Action Plan that included the need for truck parking sites for all TxDOT districts. The information and recommendations gained from this document will be taken into consideration during the I-14 project implementation. Coordination with public and private stakeholders will further assess the current need for truck parking along the I-14 system and potential solutions during implementation.

5.3.2 Safety Rest Areas

When planning and developing projects for creating the I-14 system, Districts should engage TxDOT's Maintenance Division-Safety Rest Area Program to discuss whether a safety rest area should be considered as part of project development. As previously mentioned, there are only four safety rest areas along the network of roadways that comprise the I-14 system in the state.

5.3.3 Vertical Clearance

Based on TxDOT's Roadway Design Manual, a minimum of 18.5 feet vertical clearance is required for new or reconstructed bridges located on roads within the freight network. According to the TxDOT Bridge Inventory GIS Data, only 10% of the grade-separated structures on the I-14 System in Texas meet the minimum 18.5 feet vertical clearance requirement. Existing grade-separated structures with vertical clearances of less than 18.5 feet should be considered for posting appropriate warning signage as part of the I-14 System in Texas implementation or consider for improvements during project development. In addition, bridges that are identified as deficient should be considered for funding opportunities when pursuing the implementation of the I-14 System.

5.3.4 Hurricane Evacuation Routes

Evacuation route designations, including for Potential Evaculanes and Potential Contraflow Routes, should be considered when a highway section is upgraded to interstate standards and designated as part of the I-14 system, particularly in the Bryan and Beaumont Districts where such designations already exist. TxDOT may then classify portions of the I-14 System in Texas as a Major Evacuation Route, where full traffic capacity could be accommodated during an evacuation surge.

5.3.5 Pedestrian and Bicycle Facilities

Pedestrians and bicyclists are typically not allowed to use the interstate highways for travel. Upgrading the existing roadways to interstate standards may require the relocation of bike routes and sidewalks to alternative facilities, such as frontage roads.

Coordination with state, regional, and local partners, as well as the active transportation community will be imperative to safety and mobility. TxDOT is currently developing a Statewide Active Transportation Plan to establish a unified vision for the identification and implementation of strategic active transportation priorities and policies across Texas through 2050.

5.3.6 Interstate Designation Request Process

Once a highway section is constructed to interstate standards, the process to request interstate designation from FHWA and AASHTO can begin. This process can take upwards of a year as there are many steps to be taken:

- Final Acceptance of the construction project by TxDOT
- Review applicable law, regulations and criteria
- Apply appropriate criteria and procedures
- Meet with FHWA officials to confirm design standards and the process to request interstate designation
- Data collection including design plans, traffic information, and crash data
- Perform interstate design criteria evaluation
- Document results in a technical report for FHWA review
- Prepare AASHTO Route Numbering Application
- Await approvals from FHWA and AASHTO
- Prepare Minute Order for Texas Transportation Commission to add highway section as interstate to the State Highway System

This page intentionally left blank

I-14 Signing Ceremony, Killeen

Conclusion

CHAPTER 6

This page intentionally left blank

6.0 Conclusion

This I-14 System in Texas Implementation Plan provides important information to TxDOT Administration, Divisions and Districts involved with I-14 System development. The project information and spatial data will be maintained and routinely updated to reflect the latest status of the remaining I-14 System projects in TxDOT's planning and programming systems, including changes in legislation, project limits and scope, cost estimates, program and project development status, funding, evaluation criteria, project completion schedules and letting dates, as well as citizen input to project prioritization.

The implementation plans included in Appendix A serve as tools to guide TxDOT, particularly the involved seven Districts, in planning, designing, funding, and constructing the I-14 System in Texas. Recommended project limits and location studies that are documented on the implementation plans may be adjusted over time based on District and Department priorities, funding availability and other considerations. The construction cost estimates provided in this implementation plan are for 2023; these cost estimates will need to be escalated at a reasonable inflation rate moving forward. This rate can range from the average increase shown by the CPI Inflation Calculator (3.85%), the FHWA Construction Cost Index (6.05% average over the last 10 years), or the TxDOT's Highway Cost Index (6.25% average over the last 10 years). Districts should meet periodically internally and with each other to discuss updates to their respective I-14 implementation plans and collaborate as appropriate.

Early coordination with stakeholders and the public was conducted through a series of virtual listening sessions, an informational survey and interactive map and a project page on txdot.gov. The feedback that was shared provides TxDOT with the early awareness of issues and concerns to be considered in future project planning and development. Understanding public perceptions about I-14 System needs, challenges, and benefits will be key to public engagement as the I-14 System is implemented in Texas. Future outreach, for example, can communicate that I-14 System upgrades will help address needs like improved pavement, safe rest areas, and better lighting, and create conditions to address challenges like unsafe driving behavior and traffic jams. Finally, future engagement can focus on benefits the public has shown as most valued, like improved connectivity, reduced travel time, and improved safety and freight movement.

The construction of projects to interstate standards will be completed incrementally through a series of small local-level projects as funding becomes available.

- The District implementation plans described in this report break down the process into near-term (0–4 years), mid-term (5–10 years), and long-term (10+ years) milestones
- Districts should prioritize conducting location studies in the near-term, barring any local sensitivities.
- TxDOT intends to develop the I-14 System by prioritizing interstate upgrade projects that tie into the existing Interstate Highway System
- A project that ties into an Interstate Highway positions TxDOT well to request interstate designation from FHWA and route numbering from AASHTO

Implementing the I-14 system in Texas will be a decades-long initiative. Of the approximate 1,027 miles of roadway that would ultimately comprise the I-14 System in Texas, excluding approximately 78 miles of existing interstate highways (I-14, I-20, I-35, I-45) that would be part of the system, about 949 miles remain to be constructed to meet interstate standards. There are only 25 miles that has been designated as interstate and signed as I-14 between Belton and Copperas Cove. As there is no dedicated funding to develop the I-14 system, each project will have to compete with other statewide projects for construction funding. TxDOT and the Texas Transportation Commission must continually balance competing interests throughout the state, while making the best use of the funding TxDOT receives from federal, state and local sources.

The I-14 System in Texas is and will be a critical network of roadways that enhances mobility and connectivity and support key economic sectors in the state, including national defense, agriculture, energy, international border and maritime trade and timber production areas. We will work closely with communities on interstate upgrade projects and location studies. We will address routing questions and other priorities that arise through the project development process. This system in Texas is only one part of developing and operating the national I-14 system that will ultimately extend across Louisiana, Mississippi, Alabama and Georgia, serving the country for future generations.

Table 6 provides a summary of recommended projects and location studies by district needed to be completed in the near, mid and long-term to upgrade to interstate standards.

Table 6 – I-14 System Implementation Plan – Summary of Recommendations

District	Initiate Planning for Projects to Upgrade to Interstate Standards			Location Studies*
	Near-Term (0-4 years)	Mid-Term (5-10 years)	Long-Term (10+ years)	
Odessa	–	–	9	4
San Angelo	–	4	18	4
Brownwood	–	2	12	7
Waco	One project under construction; Six projects in schematic or final design phase, all with construction funding to upgrade to interstate standards			
Bryan	Conducting the I-14 Central Texas Corridor Study to identify route options, projects, and areas for location studies			
Lufkin	–	–	3	1
Beaumont	1	–	15	4

*Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

US 190 west of US 59 (Future I-69), Livingston

References

CHAPTER 7

This page intentionally left blank

7.0 References

Bryan College Station (BCS) MPO. 2019. The Bryan/College Station MPO Metropolitan Transportation Plan. Accessed November 29, 2023, http://bcsmpo.org/DocumentCenter/View/620/Destinations-2045-BCSMPO-MTP.

Bureau of Economic Analysis (BEA). Accessed November 29, 2023, https://www.bea.gov/.

Enel Green Power. Roadrunner Solar Project profile. https://www.enelgreenpower.com/our-projects/highlights/roadrunner-solar-project Accessed March 7, 2024

Federal Highway Administration. 2012. Executive Order: Accelerating Broadband Infrastructure Deployment. Accessed November 29, 2023, https://www.fhwa.dot.gov/policy/otps/workplan.cfm.

Killeen-Temple Metropolitan Planning Organization. 2019. Mobility 2045 Metropolitan Transportation Plan. Accessed November 29, 2023, https://ktmpo.org/wp-content/uploads/2020/06/Full-MTP-Appendices-and-Resolution.pdf.

National Institutes of Health: Office of Equity, Diversity, and Inclusion. 2021. "Native American Glossary". Accessed November 29, 2023, Native American Glossary | Office of Equity, Diversity, and Inclusion (nih.gov).

Permian Basin Metropolitan Planning Organization. 2017. Vision 2040 Plan Amendment No.4. Accessed November 29, 2023, https://www.permianbasinmpo.com/_files/ugd/9a50b8_7c8c61d57c9c4b8c80c69c182648a302.pdf.

Permian Basin Petroleum Association (PBPA), and Texas Taxpayers and Research Association (TTARA). 2020. "The Permian Basin Enriching Texas: A Study of the Financial Contributions of the Permian Basin to the Texas State Treasury Through the Years 2014 to 2019". Accessed November 29, 2023, The Permian Basin Enriching Texas Spring 2020.pdf (spacecrafted.com).

Port of Port Arthur. Port Capabilities. Accessed February 23, 2024. https://portpa.com/cargo/capabilities/

San Angelo Metropolitan Planning Organization. 2011. Moving People and Things Through and Within San Angelo 2045. Accessed November 29, 2023, https://www.sanangelompo.org/admin/resources/mtp-2020-2045-2.pdf.

S&P Global Market Intelligence. Transearch. Accessed November 29, 2023, https://www.spglobal.com/marketintelligence/en/mi/products/transearch-freight-transportation-research.html.

South-East Texas Regional Planning Organization. 2019. Metropolitan Transportation Plan 2045. Accessed November 29, 2023, http://www.setrpc.org/wp-content/uploads/2019/07/SETRPC-JOHRTS-MTP-2045-Full.pdf.

Texas Department of Transportation. 2024-25 Texas Port Profiles for Port of Beaumont and Port of Port Arthur. Accessed February 23, 2024. https://ftp.txdot.gov/pub/txdot-info/mrt/final-port-profiles-2022.pdf

Texas Department of Transportation. Statewide Planning Map – Railroads. Accessed February 23, 2024. https://www.txdot.gov/apps/statewide_mapping/statewideplanningmap.html

Texas Department of Transportation. Rural Transportation Districts Map. Accessed February 23, 2024 https://ftp.txdot.gov/pub/txdot-info/ptn/rural-transit-districts-map.pdf

Texas Department of Transportation (TxDOT). 2021. Statewide Crash Rates. Accessed May 19, 2023, https://ftp.txdot.gov/pub/txdot-info/trf/crash_statistics/2021/02.pdf

Texas Comptroller of Public Accounts. 2021. 2021 Estimated Contributions To The Texas Economy. Accessed November 29, 2023, https://comptroller.texas.gov/economy/economic-data/military/2021/snap-statewide.php.

Texas Department of Transportation (TxDOT). 2023-2024 Educational Series Interstate Highway Designations. Accessed November 29, 2033, https://ftp.txdot.gov/pub/txdot/sla/education-series/interstate-highway-designation.pdf

Texas Department of Transportation (TxDOT). Austin, Texas. Fixing America's Surface Transportation (FAST) Act: Summary Fact Sheet. Accessed November 29, 2023, https://ftp.dot.state.tx.us/pub/txdot-info/fed/fast-act.pdf.

Texas Department of Transportation (TxDOT). Crash Records Information System. Accessed November 29, 2023, https://cris.dot.state.tx.us/public/Query/app/home.

Texas Department of Transportation (TxDOT). 2021. Freight Infrastructure: Design Considerations. Accessed November 29, 2023, https://ftp.txdot.gov/pub/txdot/move-texas-freight/resources/final-report.pdf.

Texas Department of Transportation (TxDOT). I-14 Central Texas Corridor Study. Accessed November 29, 2023, https://www.txdot.gov/projects/projects-studies/bryan/i14-corridor-study.html.

Texas Department of Transportation (TxDOT) 2020. Report on Texas Bridges. Accessed November 29, 2023, https://ftp.txdot.gov/pub/txdot-info/library/reports/gov/bridge/fy20.pdf.

Texas Department of Transportation (TxDOT). 2022. Roadway Design Manual. Accessed November 29, 2023, http://onlinemanuals.txdot.gov/TxDOTOnlineManuals/TxDOTManuals/rdw/index.htm.

Texas Department of Transportation (TxDOT). Roadway Inventory Data. Accessed November 29, 2023, Roadway inventory (txdot.gov).

Texas Department of Transportation (TxDOT). Statewide Long-Range Transportation Plan. Accessed November 29, 2023, https://www.txdot.gov/projects/planning/ttp/slrtp-2035.html.

Texas Department of Transportation (TxDOT). 2018. Texas Bicycle Tourism Trails Study. Accessed November 29, 2023, https://ftp.dot.state.tx.us/pub/txdot-info/ptn/btts-final-report.pdf.

Texas Department of Transportation (TxDOT). 2017. Texas Connected Freight Corridors. Accessed November 29, 2023, https://ftp.dot.state.tx.us/pub/txdot-info/trf/freight-corridors/proposal.pdf.

Texas Department of Transportation (TxDOT). 2023. Texas Electric Vehicle Infrastructure Plan. Accessed November 29, 2023, https://ftp.txdot.gov/pub/txdot/get-involved/statewide/EV%20Charging%20Plan/TexasElectricVehicleChargingPlan.pdf.

Texas Department of Transportation (TxDOT). 2020. Texas Statewide Truck Parking Study. Accessed November 29, 2023, https://ftp.txdot.gov/pub/txdot/move-texas-freight/studies/truck-parking/final-report.pdf.

Texas Department of Transportation (TxDOT). 2018. Transportation Systems Management and Operations (TSMO). Accessed November 29, 2023, https://ftp.txdot.gov/pub/txdot-info/trf/tsmo/tsmo-statewide-strategic-plan.pdf.

Texas Department of Transportation (TxDOT). 2020. Truck Parking Recommendations and Action Plan – Memo. Accessed November 29, 2023, https://ftp.txdot.gov/pub/txdot/move-texas-freight/studies/truck-parking/6-recommendations-and-action-plan.pdf.

Texas Railroad Commission. Pipeline database. Accessed March 6, 2024 https://www.rrc.texas.gov/

U.S. Census Trade Online. 2021. International Trade Data. Accessed November 29, 2023, https://www.census.gov/foreign-trade/data/index.html.

Woods & Poole Economics, Inc. 2020. Accessed November 29, 2023, https://www.woodsandpoole.com/.

This page intentionally left blank

This page intentionally left blank

Appendix A

District Implementation Plans

This page intentionally left blank

Appendix A. District Implementation Plans

The district Tabloid maps include a categorization of I-14 projects or segments according to their development status or current planning and programming status (with an eye toward near, mid, and long-term implementation). These projects or segments are depicted in the Tabloid maps, as follows:

- 1 Under Construction: Orange-colored projects with CSJ numbers, project limits, and estimated construction costs and funding, which will help the Highway will meet interstate standards when construction is completed.
- 1 Capacity-adding project in the 2024 UTP (navy-colored projects with CSJ numbers, project limits, and estimated construction costs and funding).
- 1 Future potential roadway improvement projects unfunded or partially funded (purple-colored projects with CSJ numbers, project limits, estimated construction costs and funding gaps.
- 1 Interstate Project Recommendations (dark green recommended projects with Project ID numbers, project limits, estimated construction costs, connecting position to interstate: 0 being adjoining segments, as well as implementation timeline to begin project planning: near-term (0–4 years), mid-term (5–10 years), and long-term (10+ years).
- Location Study (light-purple circles with location name, estimated construction cost, and status).
- Designated Interstate Part of I-14 System: Green-color existing I-14 segments where I-14 System sections are already designated.

Table A-1 provides a summary of recommended projects and location studies by district needed to be completed in the near, mid and long-term to upgrade to interstate standards.

Table A-1 – I-14 System Implementation Plan – Summary of Recommendations

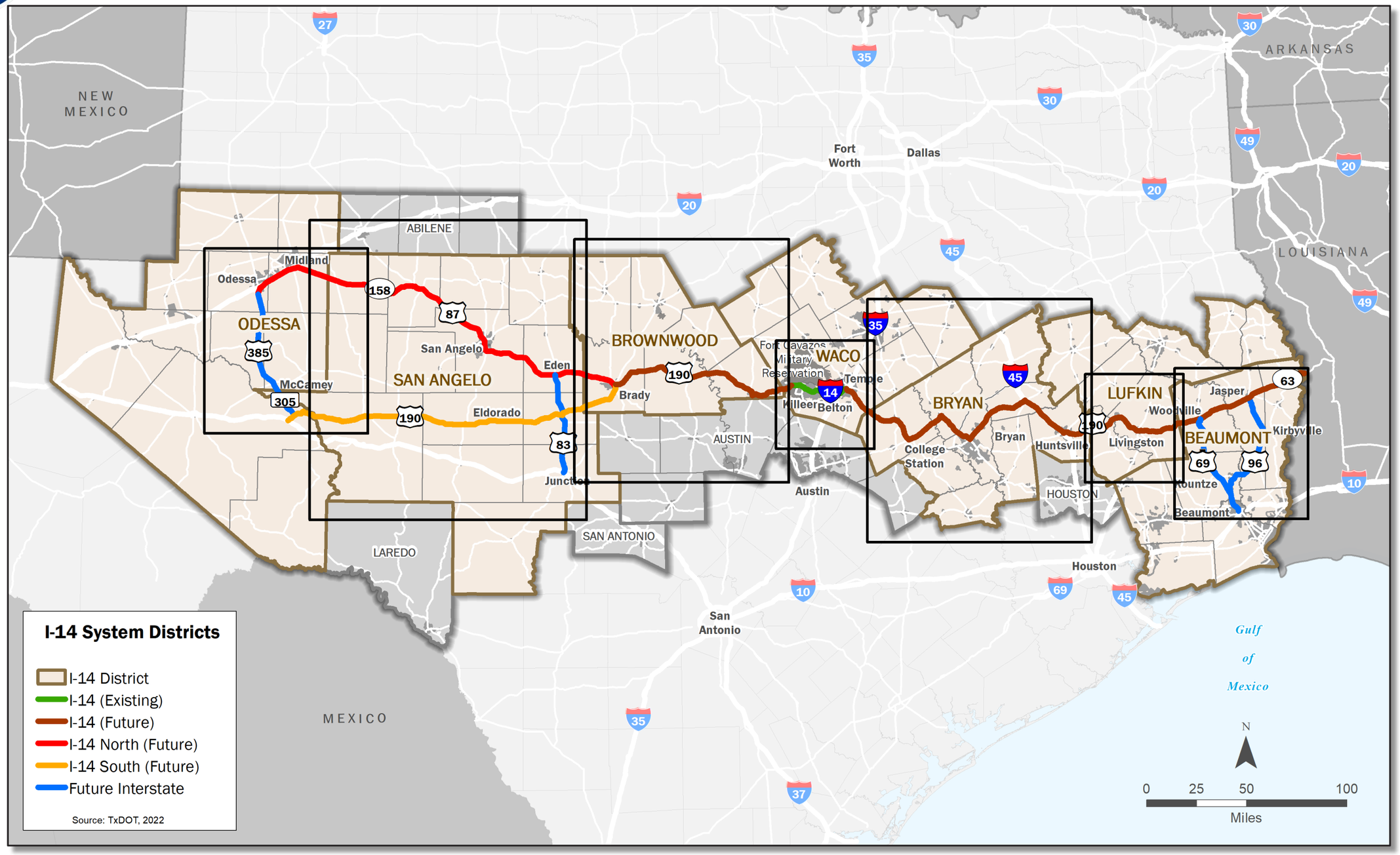
District	Initiate Planning for Projects to Upgrade to Interstate Standards			Location Studies*
	Near-Term (0-4 years)	Mid-Term (5-10 years)	Long-Term (10+ years)	
Odessa	–	–	9	4
San Angelo	–	4	18	4
Brownwood	–	2	12	7
Waco	One project under construction; Six projects in schematic or final design phase, all with construction funding to upgrade to interstate standards			
Bryan	Conducting the I-14 Central Texas Corridor Study to identify route options, projects, and areas for location studies			
Lufkin	–	–	3	1
Beaumont	1	–	15	4

*Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

TxDOT must engage in a series of project development steps before construction can begin. These steps include planning, public involvement, environmental clearance, utility adjustments, and right-of-way acquisition. Location Studies are expected to result in a recommended option (upgrade existing alignment to interstate standards, construct on new alignment, or combination of the two). The recommended option would likely be implemented through multiple construction projects, depending on project length and funding availability. The public will have multiple opportunities to review and provide input into specific project plans and studies to develop the I-14 System in Texas.

This page intentionally left blank

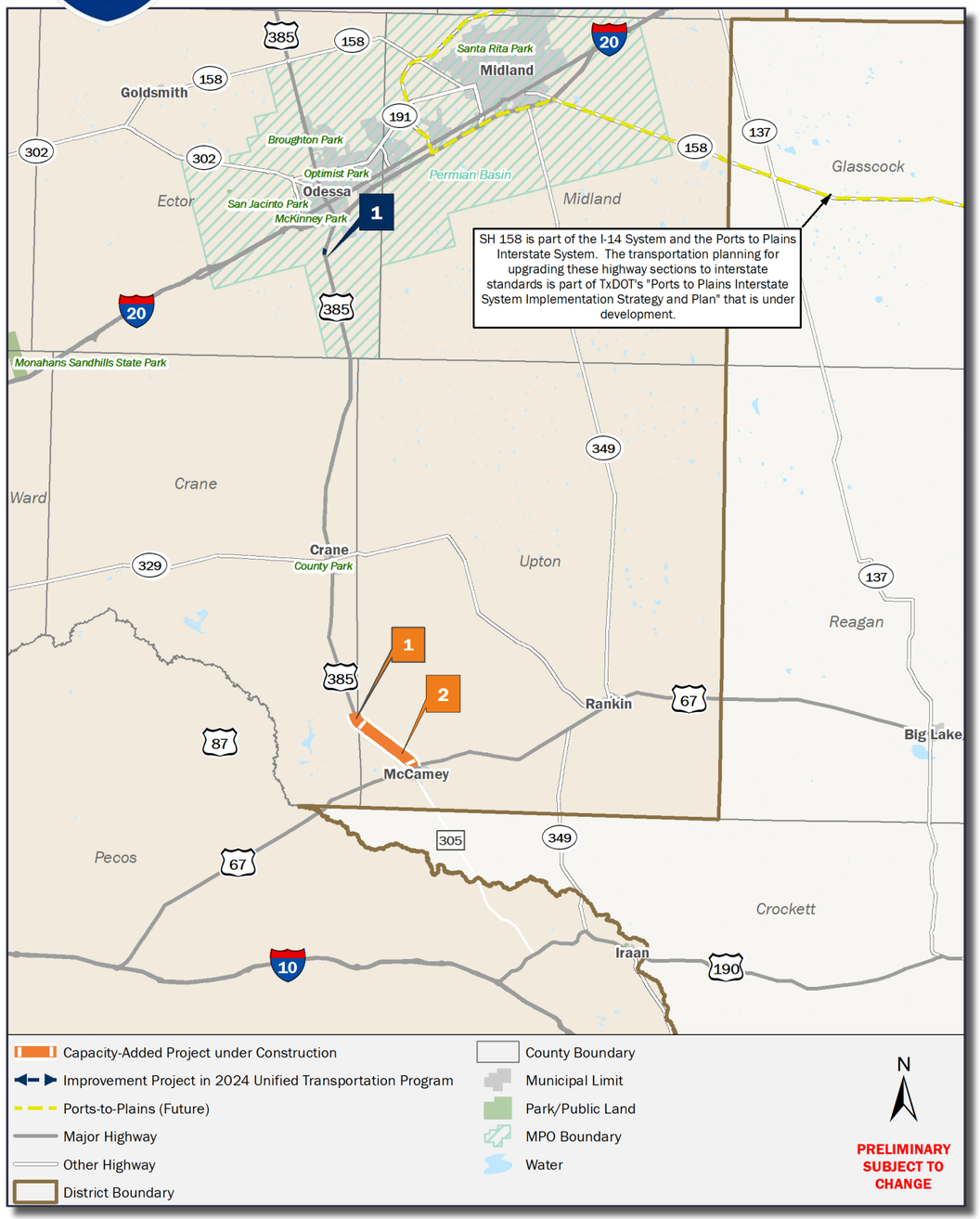
DISTRICT OVERVIEW



I-14 System Implementation Plan

Map 1 of 1 **3/28/2024**

ODESSA DISTRICT - Current Plans and Projects



CAPACITY-ADDING PROJECTS UINDER CONSTRUCTION

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	US 385	Upton	0229-03-040	Latch Ranch Road	Upton County Line	0.85	Widen to 4-lane divided highway	$5,956,553
2	US 385	Upton	0229-04-057	Crane County Line	Nimitz Street in McCamey	6.19	Widen to 4-lane divided highway	$42,429,493
							Total Cost	**$48,386,046**

IMPROVEMENT PROJECTS IN 2024 UNIFIED TRANSPORTATION PROGRAM

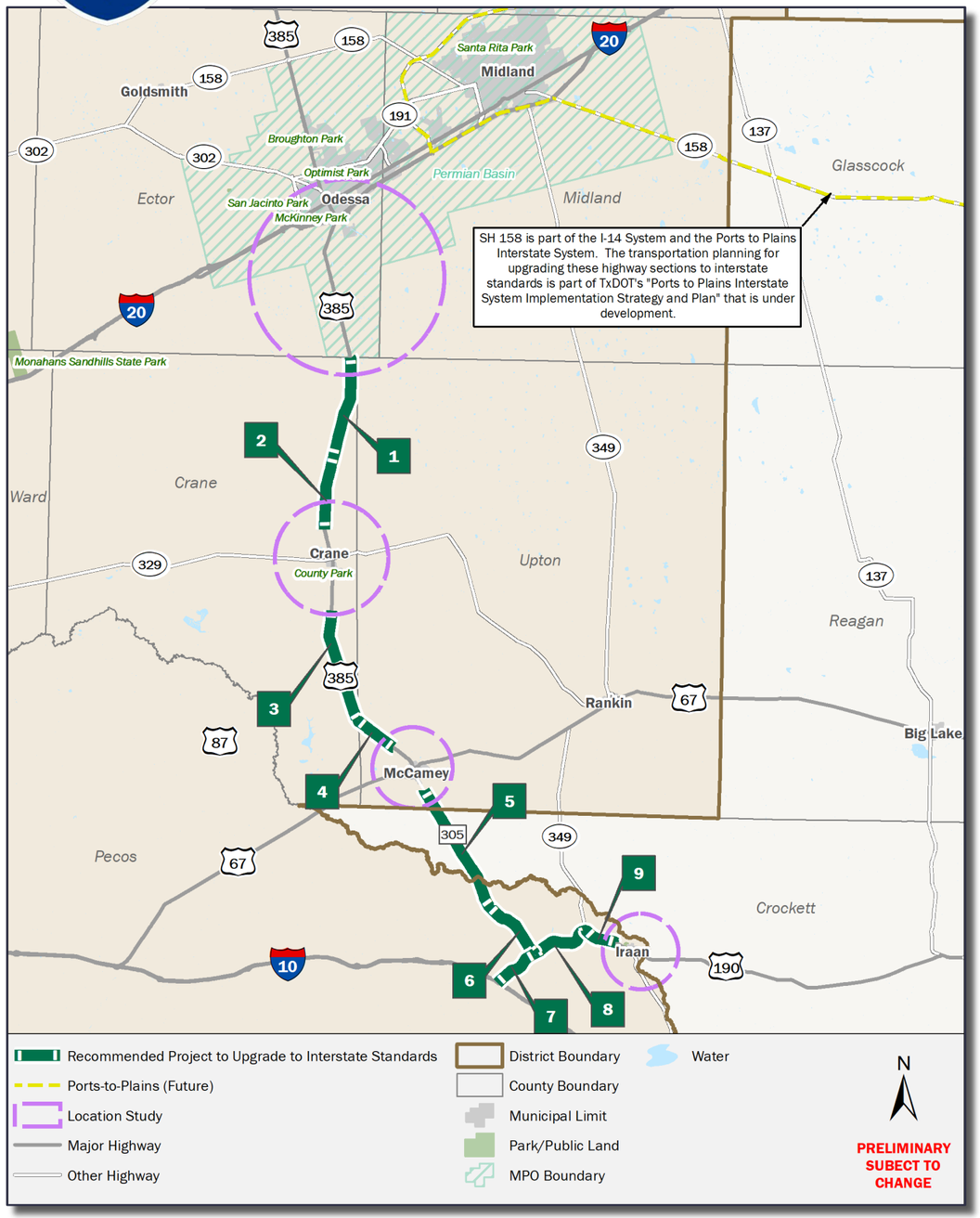
#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	US 385	Ector	0229-01-042	At South SL 338		1.00	Construct new interchange	$23,000,000
							Total Cost	**$23,000,000**

Notes: *Map 1 of 2 Projects in place for development, not yet to interstate standards*
The project ID is a Control Section Job
The numbering of projects is arbitrary and does not represent an order of priorities
Sources: *TxDOT 2024 Unified Transportation Program and TxDOT Project Tracker (September 8, 2023)*

I-14 System Implementation Plan

Map 1 of 2 **March 2024**

ODESSA DISTRICT – Interstate Upgrade Recommendations



RECOMMENDED PROJECTS TO UPGRADE TO INTERSTATE STANDARDS

#	Route	County	Project ID	Limits	Project Length (miles)	Estimated Construction Cost ($2023)	Closest Interstate [connect position in ( )]	Implementation
1	US 385	Crane	0229-02-P01	Ector County Line to FM 1233	8.78	$255,781,000	I-20 (1)	Long-term
2	US 385	Crane	0229-02-P02	FM 1233 to SH 329	6.40	$188,489,000	I-20 (2)	Long-term
3	US 385	Crane	0229-03-P01	Ma Earp Road to Upton County Line	9.10	$275,578,000	I-10 (3)	Long-term
4	US 385	Upton	0229-04-P01	Crane County Line to CR 470	3.82	$122,210,000	I-10 (3)	Long-term
5	FM 305	Crockett	0229-05-P01	Dan Easter Road to Co Op Road	11.62	$455,413,000	I-10 (2)	Long-term
6	FM 305	Pecos	0229-06-P01	Co Op Road to US 190	5.75	$235,123,000	I-10 (1)	Long-term
7	US 190	Pecos	0229-06-P02	IH 10 to FM 305	4.18	$179,066,000	I-10 (0)	Long-term
8	US 190	Pecos	1640-01-P01	FM 305 to SH 349	5.35	$216,291,000	I-10 (1)	Long-term
9	US 190	Pecos	1640-01-P02	FM 305 to Long Loop Road	2.84	$119,496,000	I-10 (2)	Long-term
					57.84	**$2,047,447,000**		

Recommended Location Studies

Name	Facility	Estimated Construction Cost (in #2023)
South Odessa	US 385	$428,370,000
Crane	US 385	$217,799,000
McCamey	FM 305	$215,191,000
Iraan	US 190	$158,771,000
		$1,020,131,000

Location Studies are recommended around communities or environmental features where upgrading the existing facility to interstate standards may not be feasible or reasonable. The location studies are expected to yield project recommendations, which will potentially modify the future implementation of interstate upgrade projects. Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

Estimated Construction Cost (in $2023)

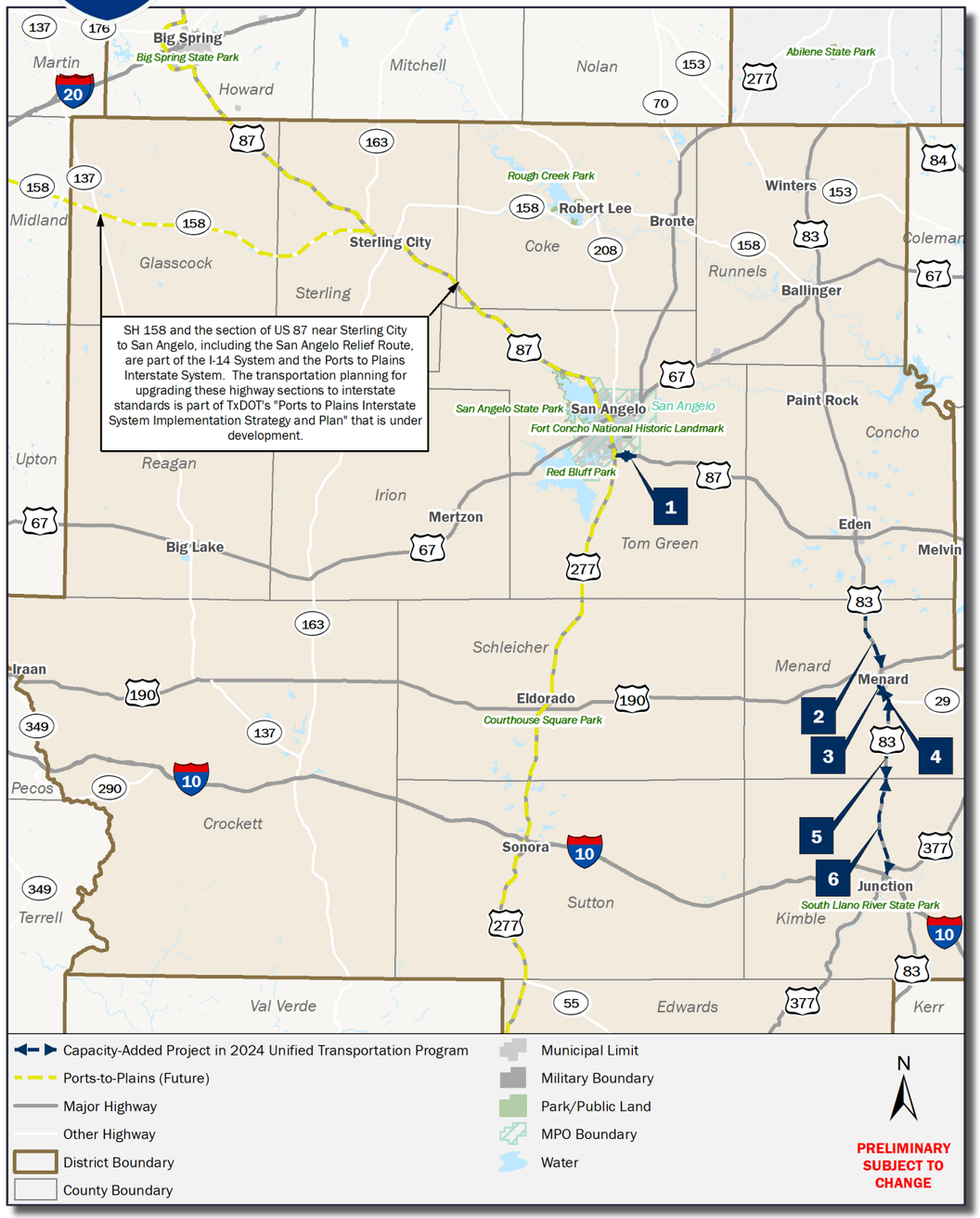
Name	Cost
Recommended Projects	$2,047,447,000
Location Studies	$1,020,131,000
Total Cost	**$3,067,578,000**

Notes:
Map 2 of 2 Projects displays projects to meet interstate standards
The Project ID for Recommended Projects, the first six numbers are based on control sections and the last-three digits are a proxy for a potential job
The numbering of projects is arbitrary and does not represent an order of priorities
Implementation terms: Near-term 0-4 years, Mid-term 5-10 years and Long-term 10+ years
Connect Position reflects how close the project is to an existing interstate. The lower the number, the closer it is to an existing interstate highway.

I-14 System Implementation Plan

Map 2 of 2 **March 2024**

SAN ANGELO DISTRICT - Current Plans and Projects



CAPACITY-ADDING AND ROADWAY IMPROVEMENT PROJECTS IN 2024 UNIFIED TRANSPORTATION PROGRAM

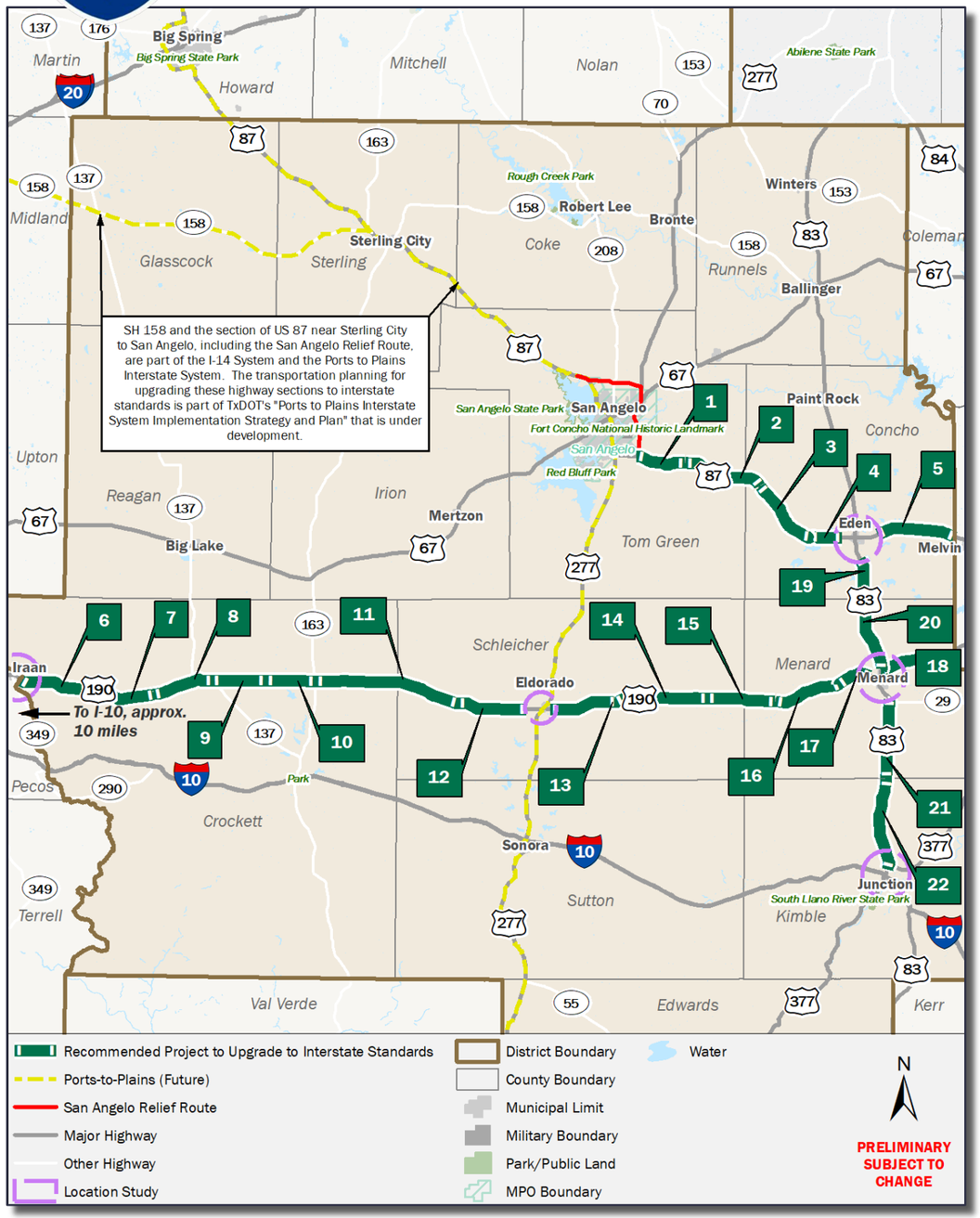
#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	US 87	Tom Green	0070-02-092	US 277	SL 306/FM 1223	2.91	Upgrade 4-lane divided highway to interstate standards	$30,800,000
2	US 83	Menard	0035-05-059	Concho County Line	US 190 North of Menard	10.30	Widen to 4-lane divided highway	$45,747,524
3	US 83	Menard	0035-05-060	FM 2291	0.5 Miles South of FM 2291	0.60	Widen to 4-lane divided highway	$2,198,688
4	US 83	Menard	0396-01-041	0.5 Mi South of FM 2291	SH 29	1.73	Widen to 4-lane divided highway	$7,652,289
5	US 83	Menard	0035-06-033	SH 29	Kimble County Line	11.62	Widen to 4-lane divided highway	$46,548,216
6	US 83	Kimble	0035-07-045	Menard County Line	IH 10	14.12	Widen to 4-lane divided highway	$65,979,841
							Total Cost	**$198,926,558**

Notes: *Map 1 of 2 Projects in place for development, not yet to interstate standards*
The project ID is a Control Section Job
The numbering of projects is arbitrary and does not represent an order of priorities
Sources: *TxDOT 2024 Unified Transportation Program and TxDOT Project Tracker (September 8, 2023)*

I-14 System Implementation Plan

Map 1 of 2 **March 2024**

SAN ANGELO DISTRICT – Interstate Upgrade Recommendations



RECOMMENDED PROJECTS TO UPGRADE TO INTERSTATE STANDARDS

#	Route	County	Project ID	Limits	Project Length (miles)	Estimated Construction Cost ($2023)	Closest Interstate [connect position in ( )]	Implementation
1	US 87	Tom Green	0070-02-P01	SL 306 and FM 1223 to FM 2334	7.29	$230,919,000	I-10 (7)	Mid-Term
2	US 87	Tom Green	0070-02-P02	FM 2334 to County Road 2391	11.80	$373,628,000	I-10 (6)	Mid-Term
3	US 87	Concho	0070-03-P01	County Road 2391 to County Road 2041	10.85	$380,728,000	I-10 (5)	Mid-Term
4	US 87	Concho	0070-03-P02	County Road 2041 to Concho Street in Eden	4.59	$162,726,000	I-10 (4)	Mid-Term
5	US 87	Concho	0070-05-P01	FM 2134 to FM 503	11.49	$404,235,000	I-10 (4)	Long-term
6	US 190	Crockett	2279-02-P01	CR 310 to Deer Canyon Road	11.28	$496,678,000	I-10 (3)	Long-term
7	US 190	Crockett	2279-02-P02	Deer Canyon Road to FM 303	8.57	$380,269,000	I-10 (4)	Long-term
8	US 190	Crockett	2279-02-P03	FM 303 to SH 137	8.80	$397,991,000	I-10 (5)	Long-term
9	US 190	Crockett	0558-10-P01	SH 137 to County Road 205	7.75	$340,370,000	I-10 (6)	Long-term
10	US 190	Crockett	0558-10-P02	County Road 205 to SH 163	7.16	$315,251,000	I-10 (7)	Long-term
11	US 190	Crockett/ Schleicher	0558-11-P01	SH 163 to FM 1828	21.18	$948,798,000	I-10 (8)	Long-term
12	US 190	Schleicher	0558-12-P01	County Road 427 to County Road 412	10.08	$454,530,000	I-10 (7)	Long-term
13	US 190	Schleicher	0396-03-P01	County Road 412 to County Road 220	3.99	$185,145,000	I-10 (6)	Long-term
14	US 190	Schleicher	0396-03-P02	County Road 220 to County Road 238	13.43	$614,103,000	I-10 (5)	Long-term
15	US 190	Schleicher/ Menard	0396-05-P01	County Road 238 to FM 864	9.85	$448,425,000	I-10 (4)	Long-term
16	US 190	Menard	0396-05-P02	FM 864 to Four Mile Road	9.83	$442,074,000	I-10 (3)	Long-term
17	US 190	Menard	0396-05-P03	Four Mile Road to US 83	4.91	$218,393,000	I-10 (2)	Long-term
18	US 190	Menard	0825-01-P01	Callan Lane to Volkmann Lane	7.42	$334,090,000	I-10 (2)	Long-term
19	US 83	Concho	0035-05-P02	South of US 87 to Menard County Line	6.09	$210,103,000	I-10 (3)	Long-term
20	US 83	Menard	0035-05-P03	Concho County Line to US 190 North of Menard	10.64	$478,910,000	I-10 (2)	Long-term
21	US 83	Menard	0035-06-P01	SH 29 to Kimble County Line	11.62	$527,241,000	I-10 (1)	Long-term
22	US 83	Kimble	0035-07-P01	Menard County Line to IH 10	13.46	$736,691,000	I-10 (0)	Long-term
					212.08	$9,081,298,000		

Recommended Location Studies

Name	Facility	Estimated Construction Cost (in $2023)
Eldorado	US 190	$235,411,000
Menard	US 83	$338,430,000
Junction	US 83	$98,765,000
Eden	US 87	$313,750,000
		$986,356,000

Location Studies are recommended around communities or environmental features where upgrading the existing facility to interstate standards may not be feasible or reasonable. The location studies are expected to yield project recommendations, which will potentially modify the future implementation of interstate upgrade projects. Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

Estimated Construction Cost (in $2023)

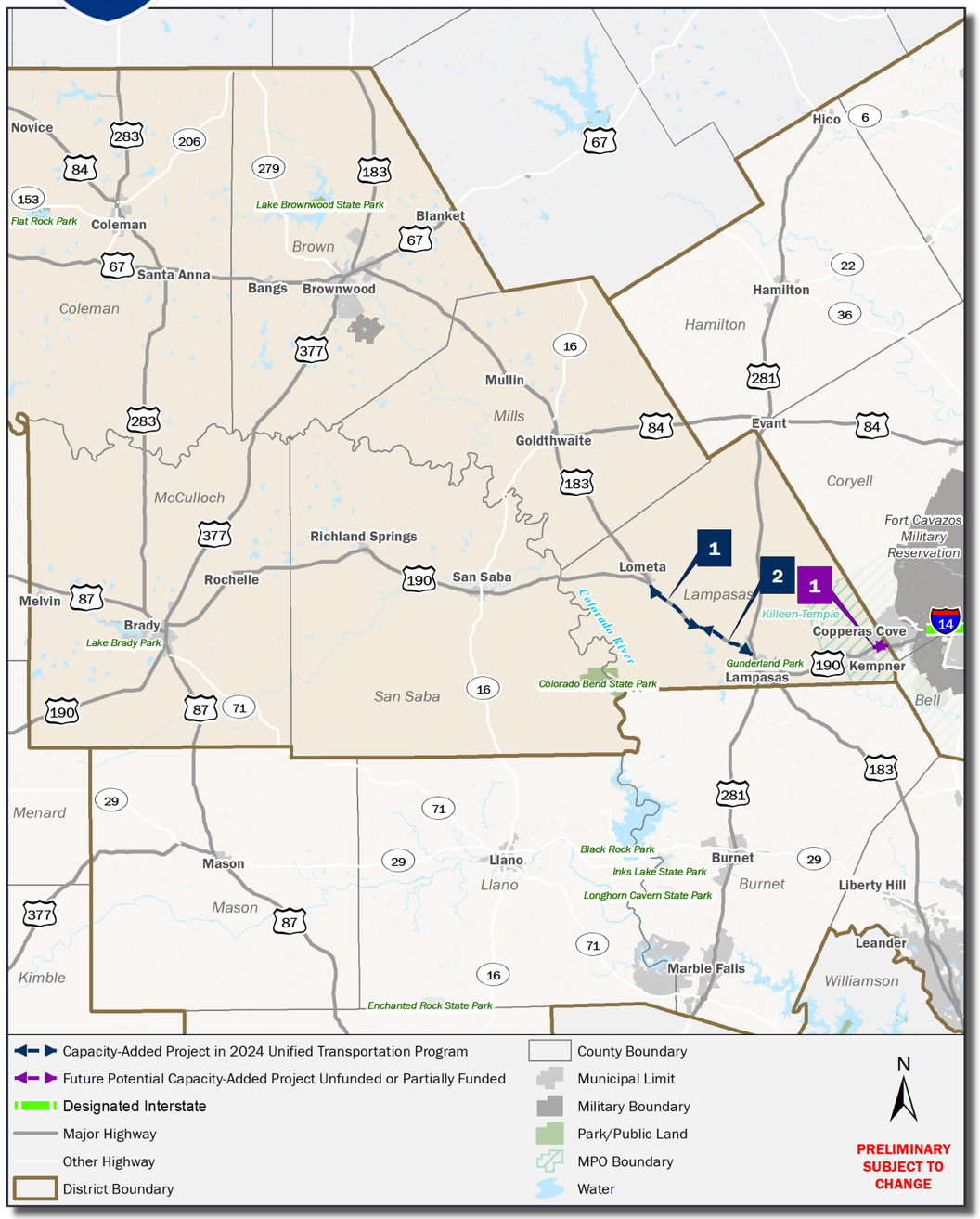
Type	Total Cost
Recommended Projects	$9,081,298,000
Location Studies	$986,356,000
Total	**$10,067,654,000**

Notes:
Map 2 of 2 Projects displays projects to meet interstate standards
The Project ID for Recommended Projects, the first six numbers are based on control sections and the last-three digits are a proxy for a potential job
The numbering of projects is arbitrary and does not represent an order of priorities
Implementation terms: Near-term 0-4 years, Mid-term 5-10 years and Long-term 10+ years
Connect Position reflects how close the project is to an existing interstate. The lower the number, the closer it is to an existing interstate highway.

I-14 System Implementation Plan

Map 2 of 2 March 2024

BROWNWOOD DISTRICT - Current Plans and Projects



CAPACITY-ADDING PROJECTS IN 2024 UNIFIED TRANSPORTATION PROGRAM

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	US 190	Lampasas	0272-06-032	0.46 Mi S. of Lometa	8.53 MI. Northwest of Lampasas	7.75	Widen to 4-lane divided highway	$24,513,184
2	US 190	Lampasas	0272-06-031	8.53 Mi. Northwest of Lampasas	US 281	7.12	Widen to 4-lane divided highway	$22,100,000
							Total Cost	**$46,613,184**

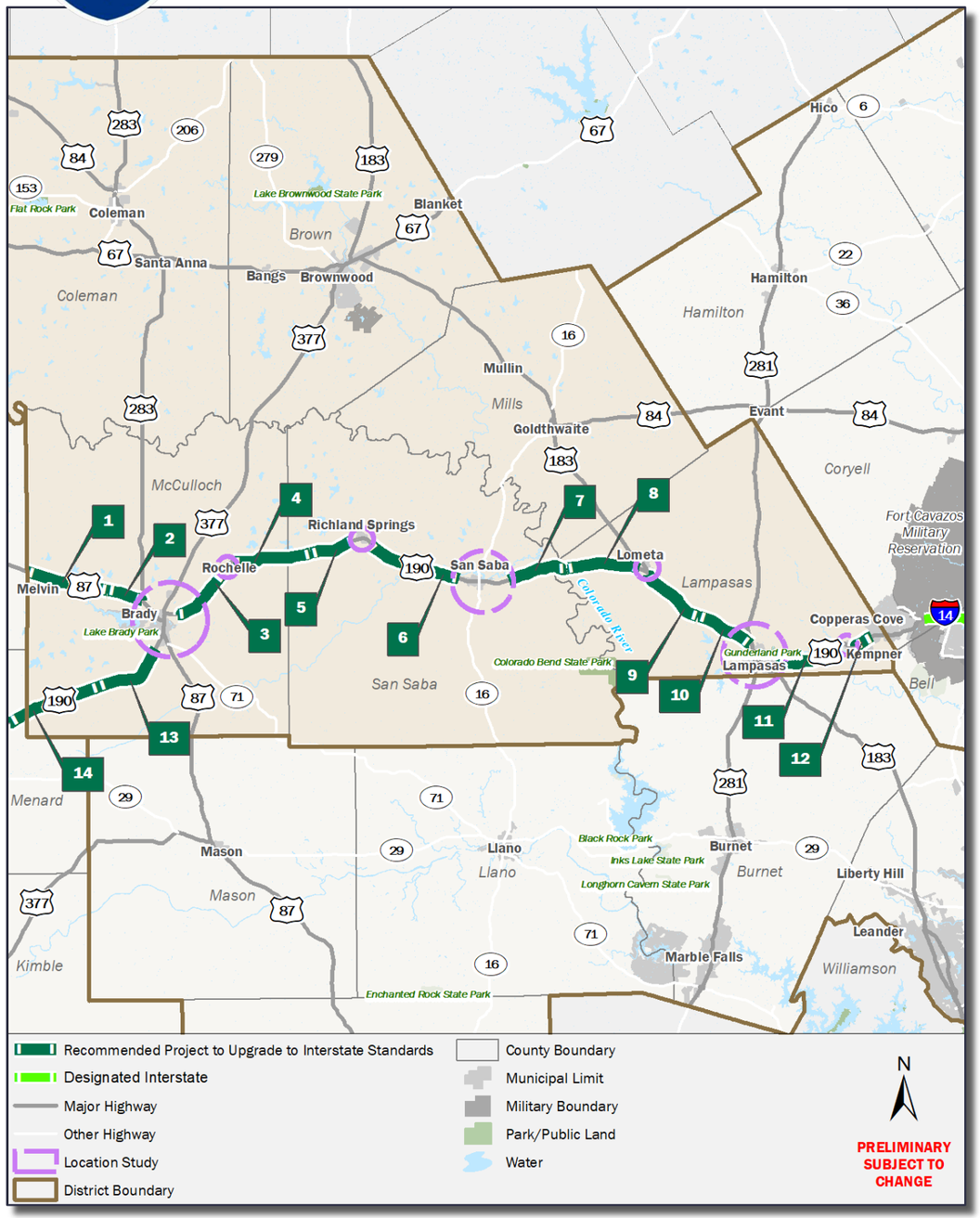
FUTURE POTENTIAL ROADWAY IMPROVEMENT PROJECTS UNFUNDED OR PARTIALLY FUNDED

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)	Funding	Funding Gap
1	US 190	Lampasas	0231-01-064	1.5 Mi. East of FM 2808	Coryell County Line	1.84	Convert non-freeway to freeway, incl. grade separation at Big Divide Rd.	$78,500,000	$0	$78,500,000
							Total Cost	**$78,500,000**	$0	$78,500,000

Notes: *Map 1 of 2 Projects in place for development, not yet to interstate standards*
The project ID is a Control Section Job
The numbering of projects is arbitrary and does not represent an order of priorities
Sources: *TxDOT 2024 Unified Transportation Program and TxDOT Project Tracker (September 8, 2023)*

I-14 System Implementation Plan **Map 1 of 2** **March 2024**

BROWNWOOD DISTRICT – Interstate Upgrade Recommendations



RECOMMENDED PROJECTS TO UPGRADE TO INTERSTATE STANDARDS

#	Route	County	Project ID	Limits	Project Length (miles)	Estimated Construction Cost ($2023)	Closest Interstate [connect position in ( )]	Implementation
1	US 87	McCulloch	0070-06-P01	FM 503 to FM 3022	9.58	$337,680,000	I-14 (11)	Long-term
2	US 87	McCulloch	0070-06-P02	FM 3022 to US 190	4.12	$158,983,000	I-14 (10)	Long-term
3	US 190	McCulloch	0272-01-P01	Boy Street/US 190 Intersection in Brady to County Road 420	7.05	$254,399,000	I-14 (9)	Long-term
4	US 190	McCulloch	0272-01-P02	County Road 420 to San Saba County Line	9.07	$348,061,000	I-14 (8)	Long-term
5	US 190	San Saba	0272-01-P03	McCulloch County Line to Carter Street in Richland Springs	5.24	$225,980,000	I-14 (7)	Long-term
6	US 190	San Saba	0272-03-P01	Carter Street in Richland Springs to FM 2732	11.15	$489,463,000	I-14 ((6)	Long-term
7	US 190	San Saba	0272-04-P01	FM 580 to County Road 2483	7.01	$303,293,000	I-14 (5)	Long-term
8	US 190	Lampasas	0272-05-P01	County Road 2483 to West FM 581	8.59	$333,194,000	I-14 (4)	Long-term
9	US 190	Lampasas	0272-06-P01	0.46 Mi S. of Lometa to 8.53 MI. Northwest of Lampasas	7.74	$304,583,000	I-14 (3)	Long-term
10	US 190	Lampasas	0272-06-P02	8.53 MI. Northwest of Lampasas to US 281	6.8	$258,710,000	I-14 (2)	Long-term
11	US 190	Lampasas	0231-01-P01	County Road 4126 to FM 2313	7.78	$306,733,000	I-14 (1)	Mid-term
12	US 190	Lampasas	0232-01-P02	FM 2313 to Big Divide Road	2.15	$149,346,000	I-14 (0)	Mid-term
13	US 190	McCulloch	0825-02-P02	FM 1311 to US 377 Intersection	8.73	$309,025,000	I-14 (12)	Long-term
14	US 190	McCulloch	0825-02-P03	Menard County Line to FM 1311	10.92	$403,489,000	I-14 (13)	Long-term
					105.93	**$4,182,939,000**		

Recommended Location Studies

Name	Facility	Estimated Construction Cost (in $2023)
Brady	US 190	$399,286,000
Rochelle	US 190	$79,831,000
Richland Springs	US 190	$82,790,000
San Saba	US 190	$287,881,000
Lometa	US 190	$41,400,000
Lampasas	US 190	$196,341,000
Kempner	US 190	$83,145,000
		$1,170,674,000

Location Studies are recommended around communities or environmental features where upgrading the existing facility to interstate standards may not be feasible or reasonable. The location studies are expected to yield project recommendations, which will potentially modify the future implementation of interstate upgrade projects. Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

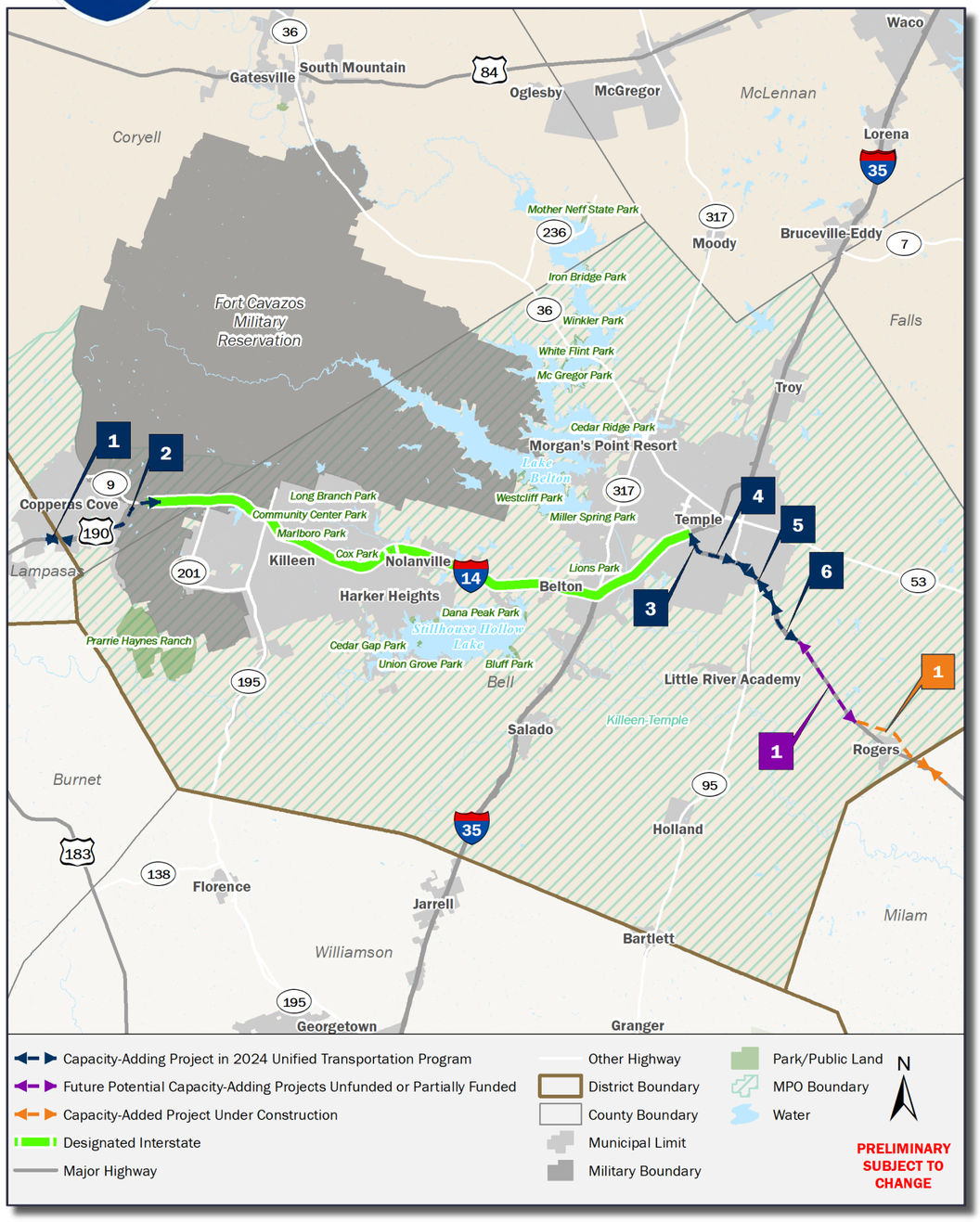
Estimated Construction Cost (in $2023)

Name	Cost
Recommended Projects	$4,182,939,000
Location Studies	$1,170,674,000
Total Cost	**$5,353,613,000**

Notes: *Map 2 of 2 Projects displays projects to meet interstate standards*
The Project ID for Recommended Projects, the first six numbers are based on control sections and the last-three digits are a proxy for a potential job
The numbering of projects is arbitrary and does not represent an order of priorities
Implementation terms: Near-term 0-4 years, Mid-term 5-10 years and Long-term 10+ years
Connect Position reflects how close the project is to an existing interstate. The lower the number, the closer it is to an existing interstate highway.

I-14 System Implementation Plan **Map 2 of 2** **March 2024**

WACO DISTRICT - Current Plans and Projects



PROJECTS UNDER CONSTRUCTION TO MEET IH STANDARDS

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	US 190	Bell	0185-01-030	2.0 Mi South of FM 436 in Heidenheimer	Milam County Line	7.44	Widen to 4-lane divided highway (interstate standards)	$112,260,304
							Total Cost	**$112,260,304**

CAPACITY-ADDING PROJECTS IN 2024 UNIFIED TRANSPORTATION PROGRAM

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	US 190	Lampasas	0231-01-003	0.6 Mi West of FM 2657	Coryell County Line	0.66	Widen from 2 lanes to 4 lanes divided and construct interchange (interstate standards)	$10,528,000
2	US 190	Coryell	0231-19-003	Coryell County Line	US 190 W of Clark Rd	5.15	Widen from 2 lanes to 4 lanes divided and construct interchange (interstate standards)	$93,096,000
3	US 190	Bell	0184-04-051	IH 35	SP 290	2.93	Upgrade to freeway (interstate standards)	$78,400,000
4	US 190	Bell	0320-01-075	SP 290	SL 363	1.26	Upgrade to freeway (interstate standards)	$106,400,000
5	US 190	Bell	0185-01-040	SL 363	0.3 MI North of N190J	1.39	Upgrade to freeway (interstate standards)	$44,800,000
6	US 190	Bell	0185-05-001	0.3 MI North of N190J	FM 436	2.44	Upgrade to freeway (interstate standards)	$50,400,000
							Total Cost	**$383,624,000**

FUTURE POTENTIAL ROADWAY IMPROVEMENT PROJECTS UNFUNDED OR PARTIALLY FUNDED

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)	Funding	Funding Gap
1	US 190	Bell	0185-01-044	S190J	Rogers Bypass	4.99	Upgrade to freeway (interstate standards)	$45,000,000	$0	$45,000,000
							Total Cost	**$630,224,000**	**$0**	**$45,000,000**

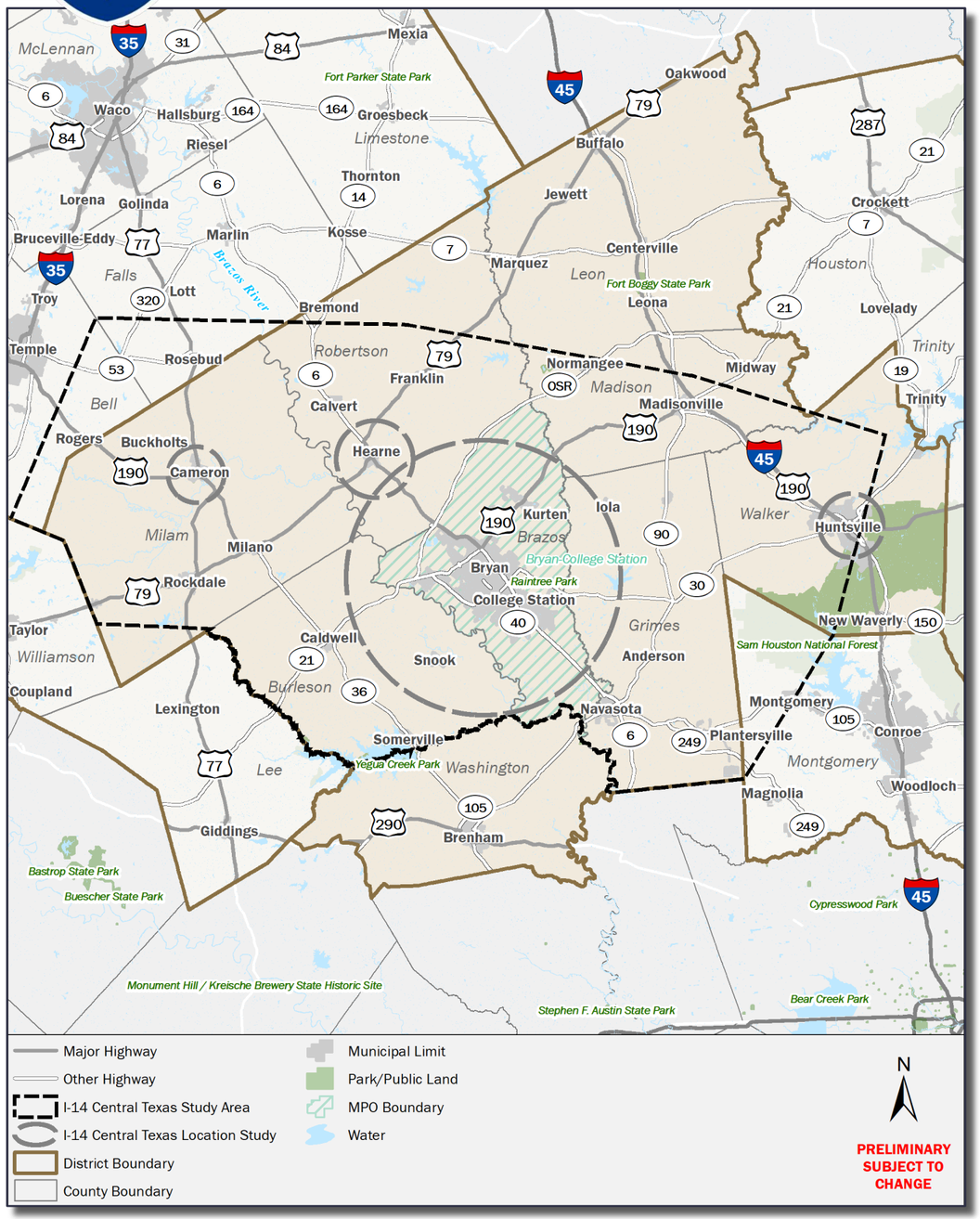
Notes: *Map 1 of 1 Projects displays projects to meet interstate standards.*
The project ID is a Control Section Job
The numbering of projects is arbitrary and does not represent an order of priorities

Sources: *TxDOT 2024 Unified Transportation Program and TxDOT Project Tracker (September 8, 2023)*

I-14 System Implementation Plan

Map 1 of 1 **March 2024**

BRYAN DISTRICT - Current Plans and Projects



The TxDOT Bryan District is studying the future I-14 Central Texas Corridor, which generally follows US 190 eastward from Rogers in Bell County to Huntsville in Walker County. This Study will determine the feasibility of a corridor and route for a roadway that meets interstate standards and is expected to be completed by 2030.

The I-14 Central Texas Corridor Study (Study) will align with ongoing I-14 development and planning efforts in Texas to ensure consistency and continuity of the interstate corridor from west Texas to Louisiana.

Additionally, the Study will include evaluation of the recently designated future Loop I-214 around the Cities of Bryan and College Station, which is expected to overlap with I-14 as it passes through the Bryan-College Station area.

Active Location Study Area

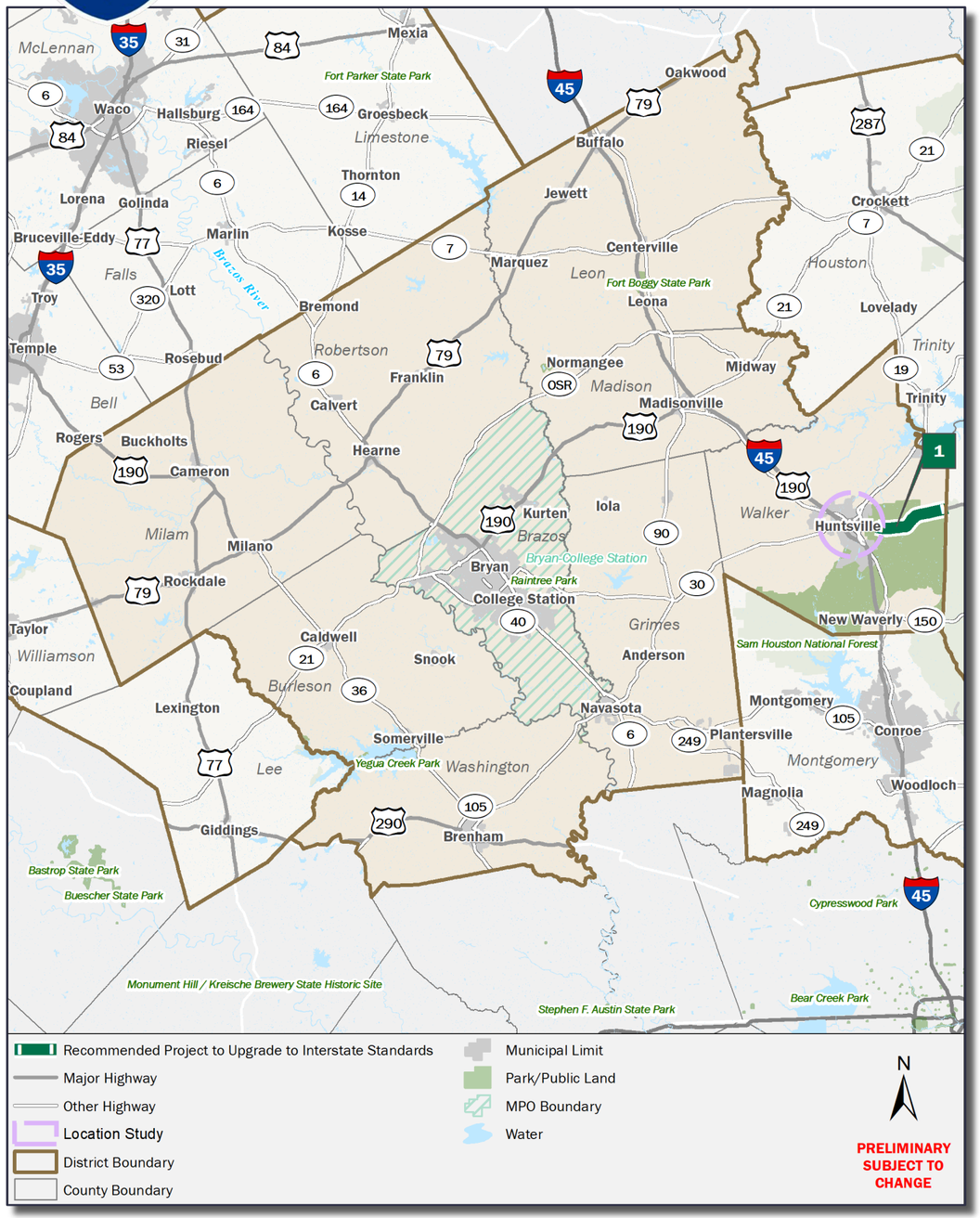
Name	Facility
I-14 Central Texas Corridor Study	Various

Name	Facility
Cameron	US 190
Hearne	US 190
Bryan-College Station/I-214	US 190
Huntsville	US 190

I-14 System Implementation Plan

Map 1 of 2 **March 2024**

BRYAN DISTRICT – Interstate Upgrade Recommendations



RECOMMENDED PROJECTS TO UPGRADE TO INTERSTATE STANDARDS

#	Route	County	Project ID	Limits	Project Length (miles)	Estimated Construction Cost ($2023)	Closest Interstate [connect position in ( )]	Implementation
1	US 190	Walker	0213-01-P01	FM 2929 to Hunters Hill Road	10.00	$380,810,000	IH 45 (1)	Mid-term
					10.00	**$380,810,000**		

Recommended Location Studies

Name	Facility	Estimated Construction Cost (in $2023)
Huntsville	US 190	$376,383,000

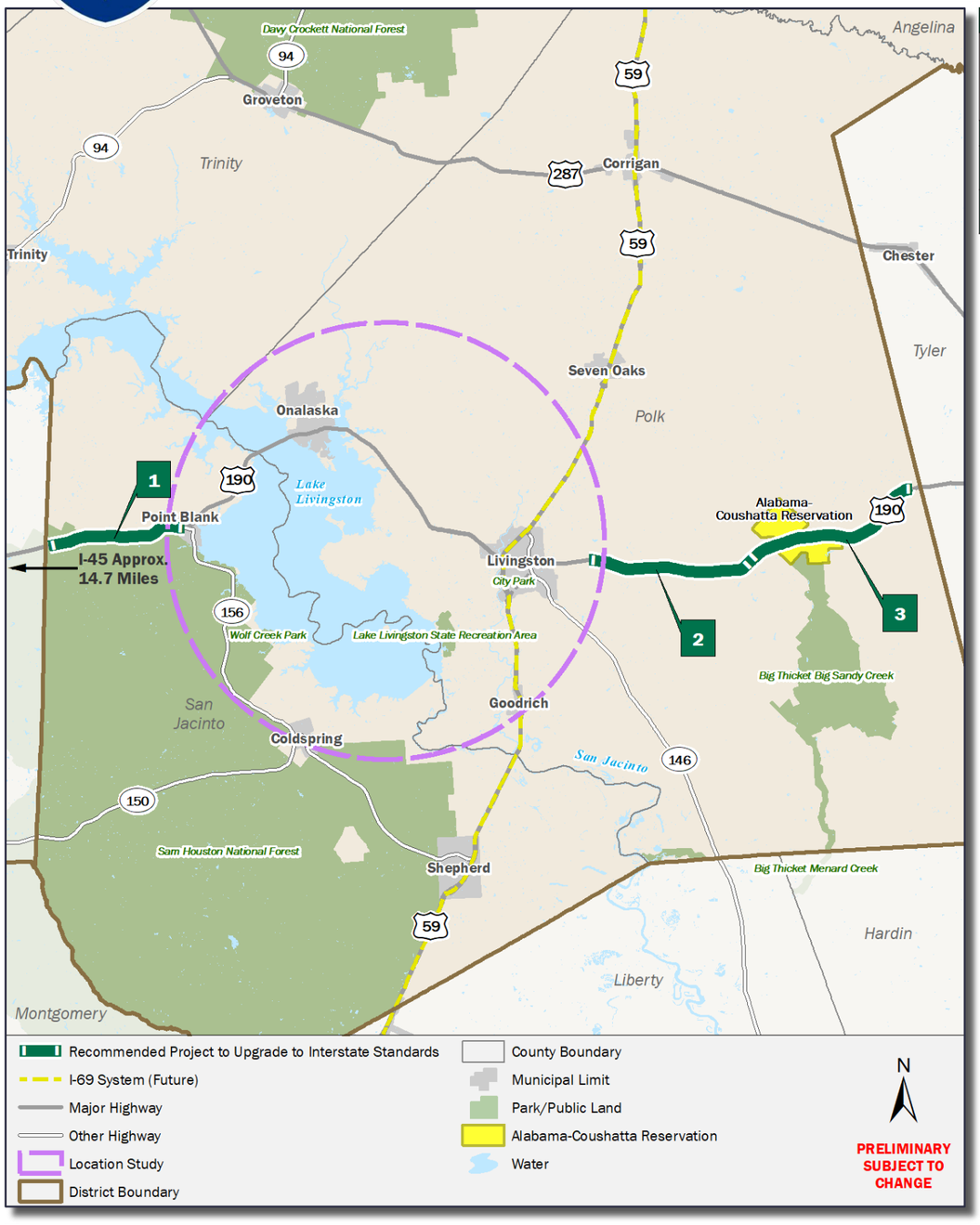
Location Studies are recommended around communities or environmental features where upgrading the existing facility to interstate standards may not be feasible or reasonable. The location studies are expected to yield project recommendations, which will potentially modify the future implementation of interstate upgrade projects. Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

Estimated Construction Cost (in $2023)

Name	Cost
Recommended Projects	$380,810,000
Location Studies	$376,383,000
Total Cost	**$757,193,000**

Notes: *Map 2 of 2 Projects displays projects to meet interstate standards*
The Project ID for Recommended Projects, the first six numbers are based on control sections and the last-three digits are a proxy for a potential job.
The numbering of projects is arbitrary and does not represent an order of priorities.
Connect Position reflects how close the project is to an existing interstate. The lower the number, the closer it is to an existing interstate highway.

LUFKIN DISTRICT – Interstate Upgrade Recommendations



RECOMMENDED PROJECTS TO UPGRADE TO INTERSTATE STANDARDS

#	Route	County	Project ID	Limits	Project Length (miles)	Estimated Construction Cost ($2023)	Closest Interstate [connect position in ( )]	Implementation
1	US 190	San Jacinto	0213-02-P01	Hunters Hill Road to SH 156	7.07	$292,963,000	I-45 (1)	Long-term
2	US 190	Polk	0213-04-P01	Old Woodville Road to 0.13 Mi West of FM 1276	8.32	$337,441,000	I-45 (1)	Long-term
3	US 190	Polk	0213-05-P01	0.13 Mi West of FM 1276 to County Line Road	9.50	$413,661,000	I-45 (2)	Long-term
					24.89	**$1,044,065,000**		

Recommended Location Studies

Name	Facility	Estimated Construction Cost (in $2023)
Lake Livingston/ Livingston	US 190	$1,299,265,000

Location Studies are recommended around communities or environmental features where upgrading the existing facility to interstate standards may not be feasible or reasonable. The location studies are expected to yield project recommendations, which will potentially modify the future implementation of interstate upgrade projects. Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

Estimated Construction Cost (in $2023)

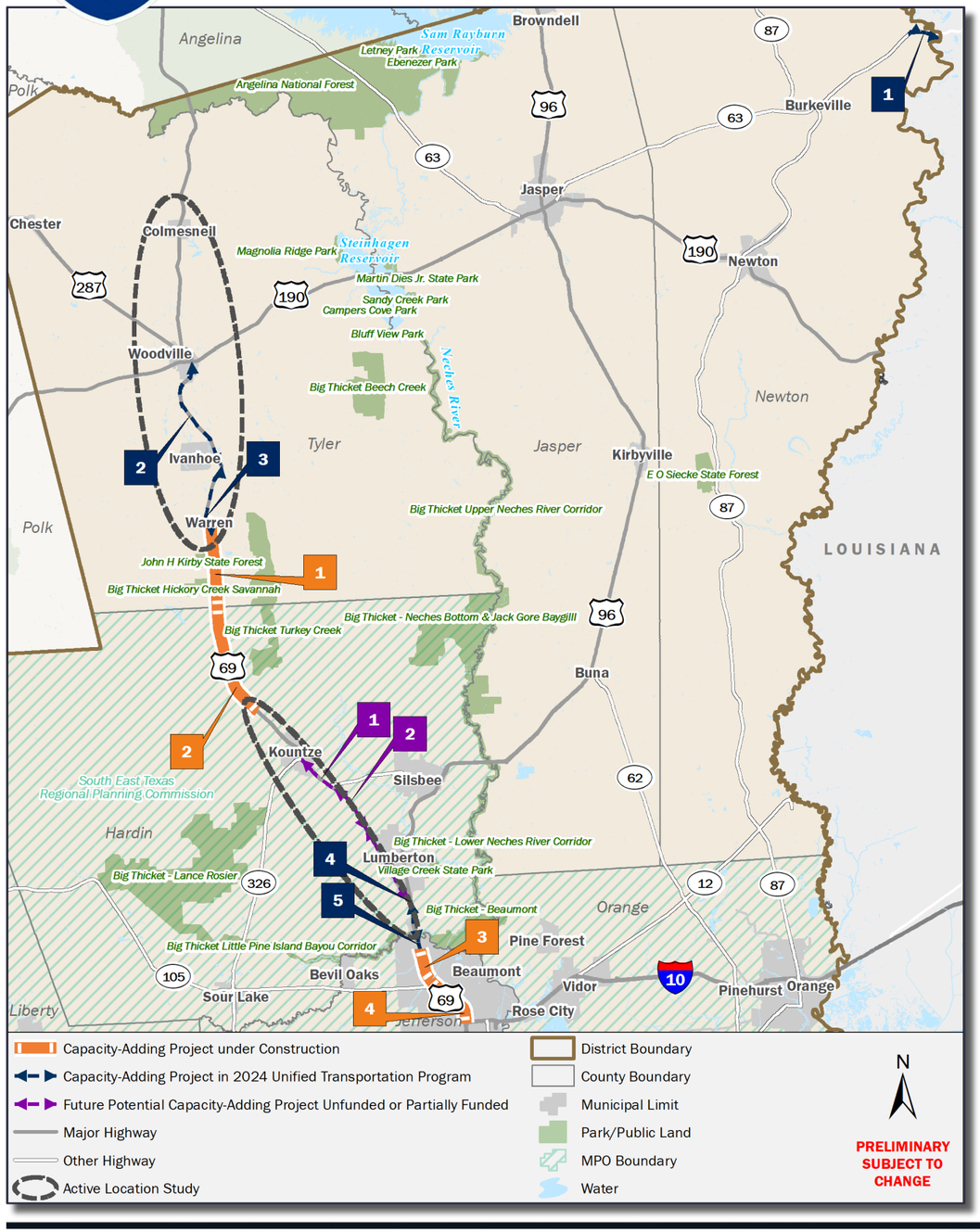
Name	Cost
Recommended Projects	$1,044,065,000
Lake Livingston/Livingston	$1,299,265,000
Total Cost	**$2,343,330,000**

Notes: *The project ID for Recommended Projects, the first six numbers are based on control sections and the last three digits are a proxy for a potential job*
The numbering of projects is arbitrary and does not represent an order of priorities
Implementation terms: Near-term 0-4 years, Mid-term 5-10 years and Long-term 10+ years
Connect Position reflects how close the project is to an existing interstate. The lower the number, the closer it is to an existing interstate highway.

I-14 System Implementation Plan

Map 1 of 1 **March 2024**

BEAUMONT DISTRICT - Current Plans and Projects



CAPACITY-ADDING PROJECTS UNDER CONSTRUCTION

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	US 69	Tyler	0200-08-049	0.1 MI South of Black Creek	Hardin County Line	5.97	Widen from 2 to 4 lanes divided highway	$70,588,282
2	US 69	Hardin	0200-09-069	Tyler County Line	0.75 MI South of FM 1003	7.95	Widen from 2 to 4 lanes divided highway	$71,948,477
3	US 69	Jefferson	0065-07-062	Tram Road, South	LNVA Canal	2.27	Widen freeway from 4 to 6 lanes	$21,735,072
4	US 69	Jefferson	0200-11-095	LNVA Canal, South	IH 10	4.09	Widen freeway from 4 to 6 lanes	$31,528,539
							Total Cost	**$195,800,370**

CAPACITY-ADDING PROJECTS IN 2024 UNIFIED TRANSPORTATION PROGRAM

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)
1	SH 63	Newton	0214-03-032	On Texas Side of Sabine River	Texas/Louisiana State Line	2.37	Replacement and Realign bridge approach	$13,000,000
2	US 69	Tyler	0200-07-043	1.5 MI North of US 190	FM 1013	8.37	Construct new location 4-lane divided highway	$123,200,000
3	US 69	Tyler	0200-08-050	FM 1013	1 MI South of Black Creek	5.30	Construct new location 4-lane divided highway	$72,800,000
4	US 69	Hardin	0065-06-067	US 96 South	Jefferson County Line	2.88	Widen freeway from 4 to 6 lanes	$33,600,000
5	US 69	Jefferson	0065-07-065	Hardin County Line, South	Tram Road	0.46	Widen freeway from 4 to 6 lanes	$6,720,000
							Total Cost	**$249,320,000**

FUTURE POTENTIAL CAPACITY-ADDING AND ROADWAY IMPROVEMENT PROJECTS UNFUNDED OR PARTIALLY FUNDED

#	Route	County	Project ID	From	To	Project Length (miles)	Description of Work	Estimated Construction Cost ($2023)	Funding	Funding Gap
1	US 69	Hardin	0200-10-060	0.75 MI South of FM 1003	Mitchell Road	12.36	Construct new location 4-lane divided highway	$399,840,000	$200,000,000	$199,840,000
2	US 69	Hardin	0200-10-072	SH 327, South	North of West Walton	3.65	Widen to 4 lanes with a continuous left turn lane	$8,000,000	$0	$8,000,000
							Total Cost	**$407,840,000**	**$200,000,000**	**$207,840,000**

Active Location Studies

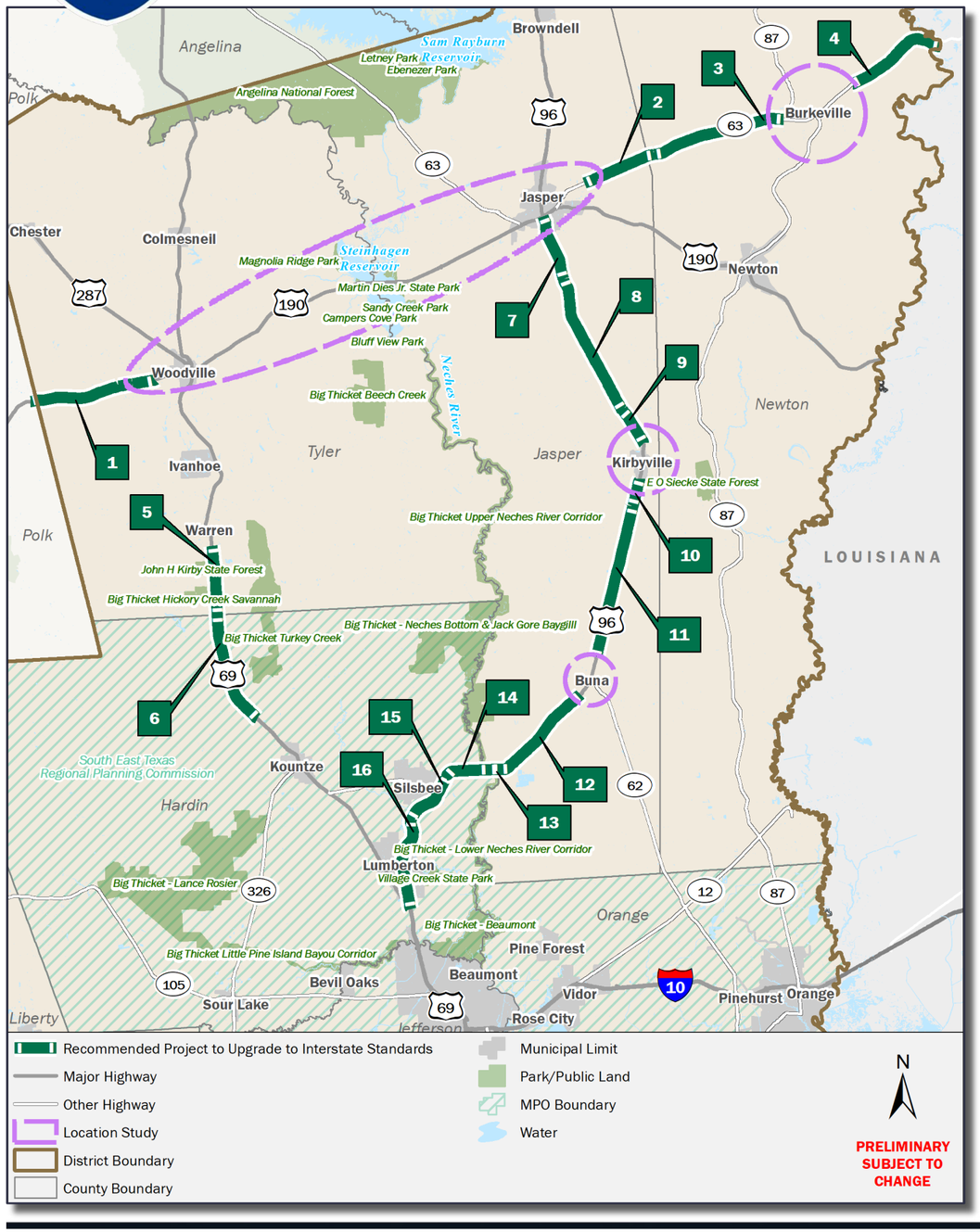
Name	Facility
Colmesneil/Warren	US 69
Lumberton/Kountze	US 69

Notes: *Map 1 of 2 Projects in place for development, not yet to interstate standards*
The project ID is a Control Section Job.
The numbering of projects is arbitrary and does not represent an order of priorities
Sources: TxDOT 2024 Unified Transportation Program and TxDOT Project Tracker (September 8, 2023)

I-14 System Implementation Plan

Map 1 of 2 **March 2024**

BEAUMONT DISTRICT – Interstate Upgrade Recommendations



RECOMMENDED PROJECTS TO UPGRADE TO INTERSTATE STANDARDS

#	Route	County	Project ID	Limits	Project Length (miles)	Estimated Construction Cost ($2023)	Closest Interstate [connect position in ( )]	Implementation
1	US 190	Tyler	0213-06-P01	County Line Road to County Road 2050	9.82	$471,413,000	I-10 (3)	Long-term
2	US 190	Jasper	0214-01-P01	FM 1408 to FM 1012	9.05	$369,788,000	I-10 (3)	Long-term
3	US 190	Newton	0214-02-P01	FM 1012 to FM 1415	9.42	$400,540,000	I-10 (10)	Long-term
4	US 190	Newton	0214-03-P01	FM 2991 to on Texas Side of Sabine River	7.25	$321,154,000	I-10 (11)	Long-term
5	US 69	Tyler	0200-08-P02	0.1 Mi South of Black Creek to Hardin County Line	4.82	$236,669,000	I-10 (12)	Near-term
6	US 69	Hardin	0200-09-P01	Tyler County Line to 0.75 Mi South of FM 1003	7.95	$272,926,000	I-10 (2)	Long-term
7	US 96	Jasper	0065-01-P01	US 190 to County Road 303	4.62	$182,674,000	I-10 (1)	Long-term
8	US 96	Jasper	0065-02-P01	County Road 303 to County Road 462	10.08	$403,085,000	I-10 (9)	Long-term
9	US 96	Jasper	0065-02-P02	County Road 462 to County Road 451	2.72	$108,579,000	I-10 (8)	Long-term
10	US 96	Jasper	0065-03-P01	FM 82 E to County Road 593	2.01	$83,121,000	I-10 (7)	Long-term
11	US 96	Jasper	0065-03-P02	County Road 593 to County Road 640	9.97	$408,345,000	I-10 (6)	Long-term
12	US 96	Jasper	0065-04-P01	US 96-E Business to US 96 Turnaround at River	7.73	$312,145,000	I-10 (5)	Long-term
13	US 96	Jasper	0065-04-P02	US 96 Turnaround at River to Neches River	0.80	$49,301,000	I-10 (4)	Long-term
14	US 96	Hardin	0065-05-P01	Neches River to 0.3 Mi North of Old Evadale Road	3.04	$109,540,000	I-10 (3)	Long-term
15	US 96	Hardin	0065-05-P02	0.3 Mi North of Old Evadale Road to Old Beaumont Highway	4.07	$150,585,000	I-10 (2)	Long-term
16	US 96	Hardin	0065-05-P03	Old Beaumont Highway to US 69 Junction	6.50	$232,924,000	I-10 (1)	Long-term
					99.85	**$4,112,789,000**		

Recommended Location Studies

Name	Facility	Estimated Construction Cost (in $2023)
Burkeville	SH 63	$247,480,000
Kirbyville	US 96	$171,321,000
Buna	US 96	$126,214,000
Woodville/Jasper	US 190	$1,379,791,000
		$1,924,806,000

Location Studies are recommended around communities or environmental features where upgrading the existing facility to interstate standards may not be feasible or reasonable. The location studies are expected to yield project recommendations, which will potentially modify the future implementation of interstate upgrade projects. Districts should prioritize conducting Location Studies in the near-term (0-4 years), barring any local sensitivities.

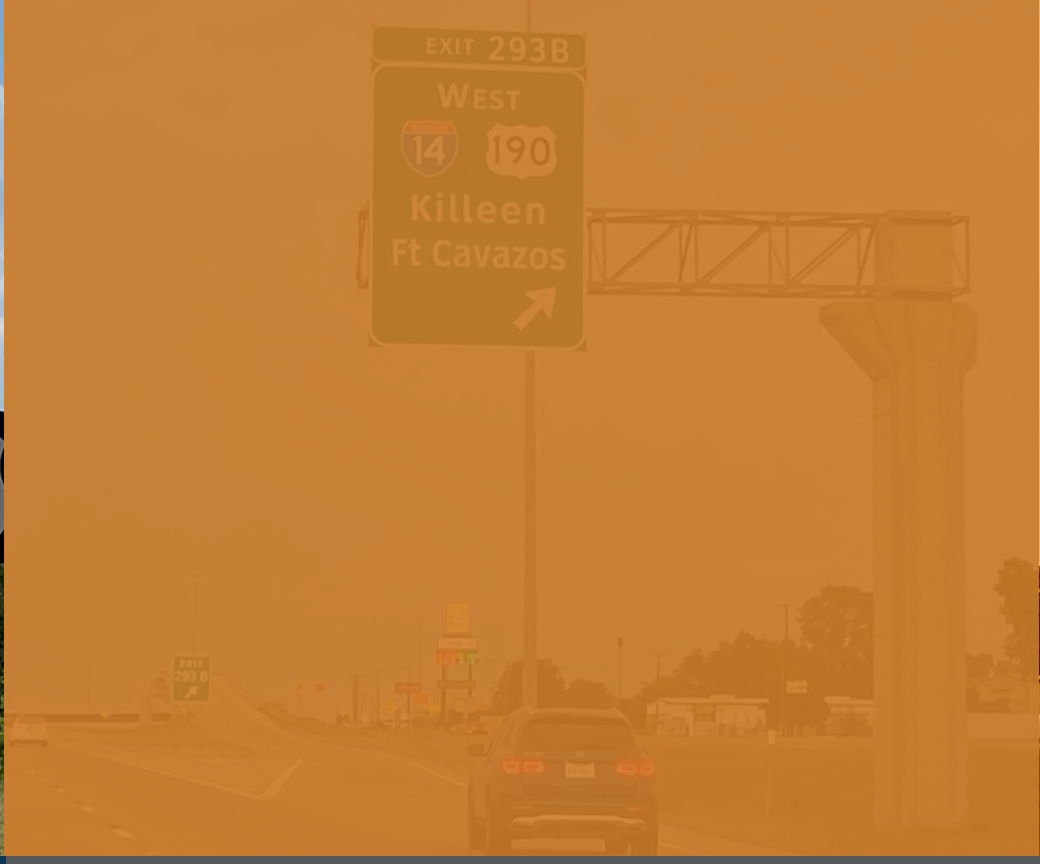
Estimated Construction Cost (in $2023)

Type	Cost
Recommended Projects	$4,112,789,000
Location Studies	$1,924,806,000
Total Cost	**$6,037,595,000**

Notes:
Map 2 of 2 Projects displays projects to meet interstate standards
The Project ID for Recommended Projects, the first six numbers are based on control sections and the last-three digits are a proxy for a potential job
The numbering of projects is arbitrary and does not represent an order of priorities
Implementation terms: Near-term 0-4 years, Mid-term 5-10 years and Long-term 10+ years
Connect Position reflects how close the project is to an existing interstate. The lower the number, the closer it is to an existing interstate highway.

I-14 System Implementation Plan **Map 2 of 2** **March 2024**

This page intentionally left blank



I-14 System in Texas

Implementation Plan and Report

Texas Department of Transportation

For more information

Steve Linhart, AICP
Project Development Manager, Corridor Planning Branch
Transportation Planning & Programming Division
512.730.9502
Steve.Linhart@txdot.gov

Lorena Echeverria De Misi, P.E.
Manager, Corridor Planning Branch
Transportation Planning & Programming Division
512.696.3206
Lorena.Echeverriademisi1@txdot.gov

Texas Department of Transportation
6230 E Stassney Lane
Austin, TX 78744