



REEVES COUNTY IMPROVEMENT PROJECT

The Better Utilizing Investments
to Leverage Development
(BUILD) Grant Application

A photograph of a large semi-truck and a smaller pickup truck driving on a road, overlaid with a red tint.

MAY 2020



PROJECT INFORMATION	
Sponsoring Organization	Texas Department of Transportation (TxDOT)
DUNS Number	806782553
EIN	74 6000170
Name of Project	Reeves County Improvement Project
Type of Project	Roadway
Location of Project	Reeves County, State of Texas
Congressional District	Will Hurd, Congressional District 23
BUILD Application Amount Requested	\$25,000,000
BUILD Application Agency Match	\$8,650,000
BUILD Application Partnership Match	\$10,000
BUILD Application Total Project Cost	\$33,660,000
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I. PROJECT DESCRIPTION: REEVES COUNTY IMPROVEMENT PROJECT

The Texas Department of Transportation (TxDOT) is seeking FY2020 BUILD grant funding for **The Reeves County Improvement Project (Project)** to improve rural connectivity in West Texas and the Permian Basin, one of the nation's most important energy-producing regions. The Project involves reconstructing the existing at-grade roadway geometry at U.S. 285 and RM 652 to a grade-separated interchange, improving connections between New Mexico and I-20.

The primary benefits from this Project will come from critical congestion relief and safety improvements for rural Texans and the energy, mining, trucking, construction, manufacturing, and agricultural industries. The traffic and truck counts at the proposed project location have risen steeply in recent years, creating added traffic congestion for all. Safety issues have grown apace, with crashes increasing by 220 percent between 2015 and 2019 near the intersection. This project would alleviate safety concerns by grade separating U.S. 285 and RM 652, which would eliminate heavy trucks turning directly into oncoming traffic on these facilities.

The Project has a benefit-cost ratio of 6.6, providing extensive travel time savings, reduced shipping costs for freight operators, and crash reduction within the study area.

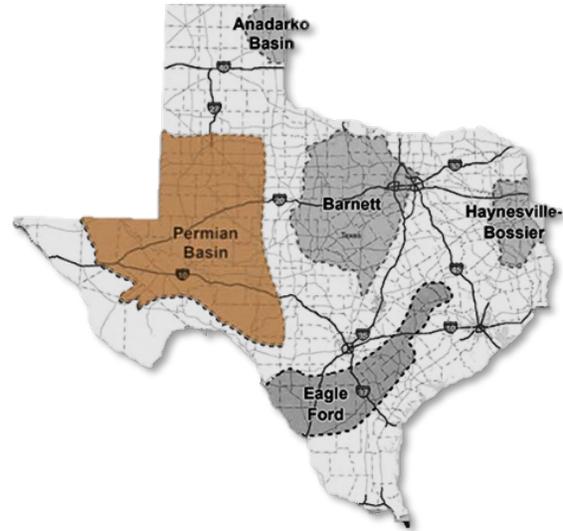
At the same time, the Project would realize many other benefits that the BUILD program is designed to provide. The rapid growth of heavy trucks hauling water, sand, equipment, and other products needed to support the exponential increase in oil and gas production have degraded pavements much more quickly than planned, so this project would improve the state of good repair status of the corridor. The Project also would improve local access between jobs and rural communities primarily located along I-20. Additionally, this project supports interstate connectivity as U.S. 285 is the north/south highway connecting the Texas/New Mexico border south to I-20 and I-10. It also connects, further south, with U.S. 90, a highway that directly serves a port of entry in Del Rio and indirectly connects with additional ports of entry in Eagle Pass and Laredo.

The Project has been prioritized for submission because it is the final project in a package of seven projects on U.S. 285 and RM 652 in Reeves County. Completing this project will amplify the investments that TxDOT has already made in the two corridors and the region by completing the vision for these corridors. A separate application for **The Interstate 20 Energy Sector Safety Project** is also being submitted for FY2020 BUILD grant funding to address similar challenges on I-20, underscoring the vital importance of continued investment in the Permian Basin region.

NATIONAL AND REGIONAL SIGNIFICANCE OF TXDOT'S CONNECTIVITY PROJECT

The Permian Basin is of critical importance in achieving U.S. energy independence. By 2023, the Permian Basin is expected to have higher crude oil production compared to every OPEC

country aside from Saudi Arabia.^{1,2} Throughout 2019, major oil companies have announced plans to expand production through 2024 and beyond.³ Permian Basin crude oil production is projected to increase by 33 percent through 2023. Additionally, natural gas and natural gas liquids are also expected to increase by 38 percent by 2024 compared to 2019 production levels.⁴



View of the Permian Basin

This trend is expected to continue despite recent volatility in the oil market which began in March 2020 after a price war between Saudi Arabi and Russia and lower demand due to the COVID-19 pandemic dropped oil prices to record low levels.⁵ Though lower prices have led to a slowdown in the Permian Basin, substantial activity is expected to continue in the long-term.

If prolonged, the downturn may provide an opportunity to complete the Reeves County Improvement Project during a period with lower traffic volumes, limiting the disruption caused by the project construction until typical activity levels resume.

Historically, production capacity in the Permian Basin has been limited by ability to transport oil and gas products to market. More recently, private investment in and public prioritization of pipeline infrastructure has increased the capacity of the region to deliver products to market. Specifically, in April 2019, President Trump issued two executive orders supporting increased construction of pipelines and other projects which will lead to greater production (and transport) of oil and natural gas within the U.S. and internationally.⁶ Specific to the Permian Basin, this has coincided with the opening of the new Gray Oak pipeline that transports crude oil to Corpus Christi.⁷ This national focus on energy independence will mean increased traffic in the project location due to the sand, water, and equipment, personnel, and other transportation requirements for oil and gas production, even as more oil and gas products can be moved off the roadway network.

The region is also a growth area for renewable energy. Texas will continue to lead the U.S. in installed wind capacity thanks to continued and growing investment in wind energy in the Permian Basin.⁸ Solar energy also is seeing a surge of investment in the Permian Basin as a renewable energy source.⁹ Similar to the road damage caused by oil and gas-related trucks,

¹ Accessed at: <https://news.ihsmarket.com/press-release/energy/new-ihs-market-outlook-%E2%80%93stunning-permian-basin-oil-production-more-double-2017>

² Accessed at: <https://www.eia.gov/todayinenergy/detail.php?id=42055>

³ Accessed at: <https://ihsmarket.com/research-analysis/the-next-wave-of-permian-basin-growth-driven-by-majors.html>

⁴ Accessed at: <https://www.hartenergy.com/exclusives/permian-poised-deliver-strong-oil-and-gas-production-growth-182956>

⁵ Accessed at: <https://www.nytimes.com/2020/03/20/business/energy-environment/coronavirus-oil-companies-debt.html>

⁶ Accessed at: <https://www.nytimes.com/2019/04/10/business/energy-environment/trump-oil-gas-pipelines.html>

⁷ Accessed at: <https://www.argusmedia.com/en/news/2021229-phillips-66-starts-gray-oak-crudeline-service-update>

⁸ Accessed at: <https://www.greentechmedia.com/articles/read/texas-is-the-center-of-the-global-corporate-renewable-energy-market>

⁹ Accessed at: <http://puc.texas.gov/industry/maps/Electricity.aspx>





development of renewable energy production fields similarly strains the highway network due to transport of oversize and overweight components for renewable energy installations in Texas and adjacent areas in New Mexico.

TXDOT’S INVESTMENTS ON U.S. 285 AND RM 652

TxDOT recognizes the importance of the Permian Basin to the economy and security of the state and the nation as well as the impacts that rapid growth in traffic have had on local residents. In response, the agency developed a package of seven projects addressing mobility and safety on U.S. 285 and RM 652. Six of these projects have been funded and were let between 2016-2020, an investment of over \$100 million (**Table 1, Exhibit 1**). This application requests FY2020 BUILD grant funding to deliver the seventh and final missing corridor improvement project along U.S. 285 between the New Mexico border and Fort Stockton, Texas, completing TxDOT’s package of improvements for the location.

Table 1. Strategic Package of Projects on U.S. 285 and RM 652

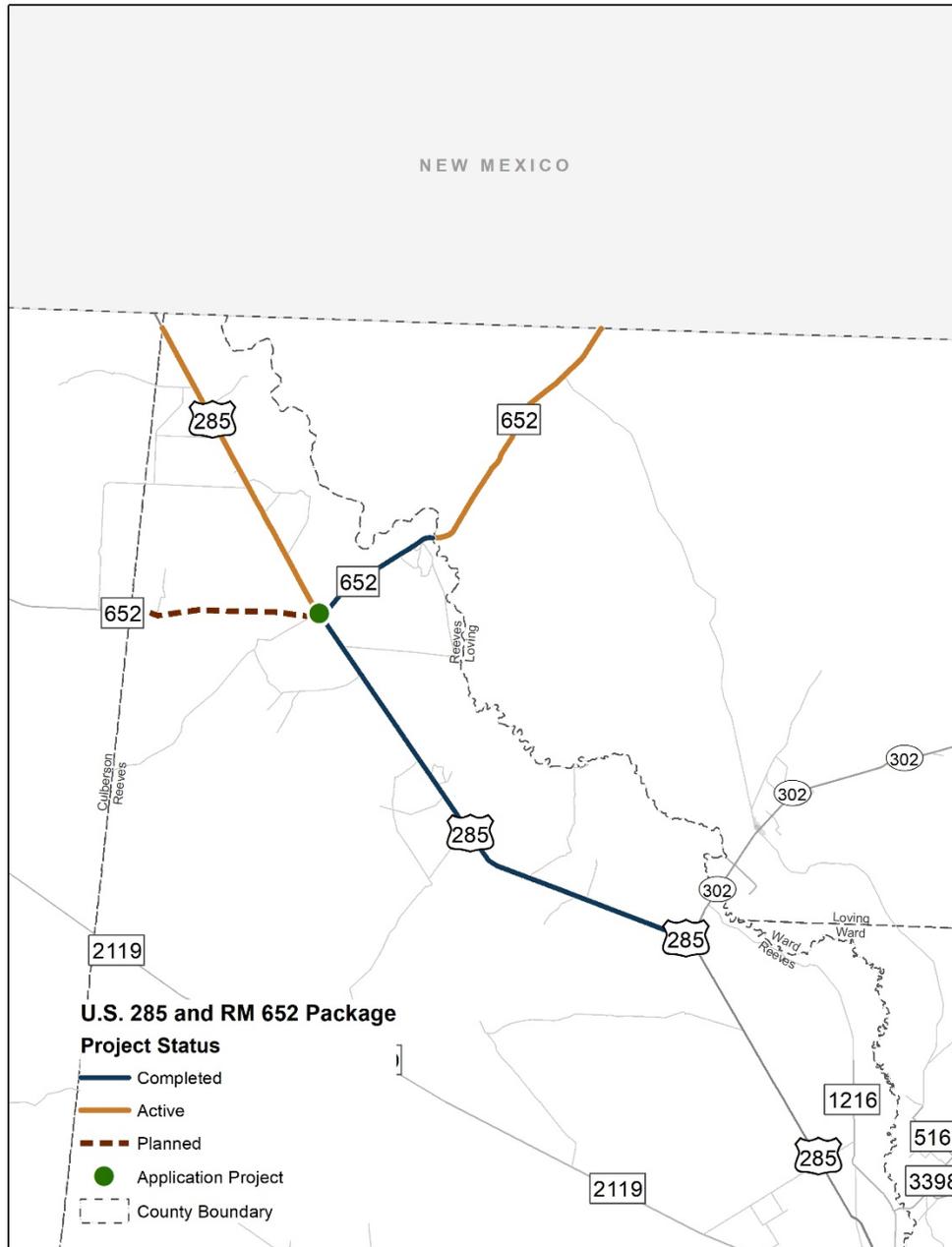
Adjacent Reeves County Improvements	Description	Total Cost	Let Year
U.S. 285 (Culberson County Line to RM 652)	Widen to add alternating passing lanes, left turn lanes and acceleration/deceleration lanes	\$30,216,138	2018
RM 652 (Culberson County Line to U.S. 285)	Widen to add alternating passing lanes, left turn lanes and acceleration/deceleration lanes, and increase shoulder width	\$9,750,000	2020
RM 652 (US285 to Pecos River)	Widen to add alternating passing lanes, left turn lanes and acceleration/deceleration lanes, and increase shoulder width	\$5,983,269	2017
RM 652 (Pecos River to New Mexico Line)	Widen to add alternating passing lanes, left turn lanes and acceleration/deceleration lanes, and increase shoulder width	\$19,243,862	2018
U.S. 285 (RM 652 to County Road 232)	Widen to add alternating passing lanes, left turn lanes and acceleration/deceleration lanes, and increase shoulder width	\$20,525,496	2016
U.S. 285 (County Road 232 to SH 302)	Widen to add alternating passing lanes, left turn lanes and acceleration/deceleration lanes, and increase shoulder width	\$15,000,000	2017

Source: Budget summaries compiled by TxDOT Engineering and State Budget Departments, June 2019.

In addition to these projects, TxDOT has completed, active, or planned projects throughout the U.S. 285 corridor that demonstrate its continued investment in the region. **Exhibit 2** displays the area that includes additional completed and active projects from 2016 onward as well as planned projects in the broader U.S. 285 corridor. These 17 additional projects comprise an additional investment of \$170 million. Combined with the projects shown in **Exhibit 1**, TxDOT has invested or plans to invest \$274.2 million in these roadway improvement projects, including \$39.6 million in completed projects, \$120.7 million in currently active projects, and \$113.9 million in planned projects allocated for the near future.



Exhibit 1. Map of Strategic Package of Projects on U.S. 285 and RM 652

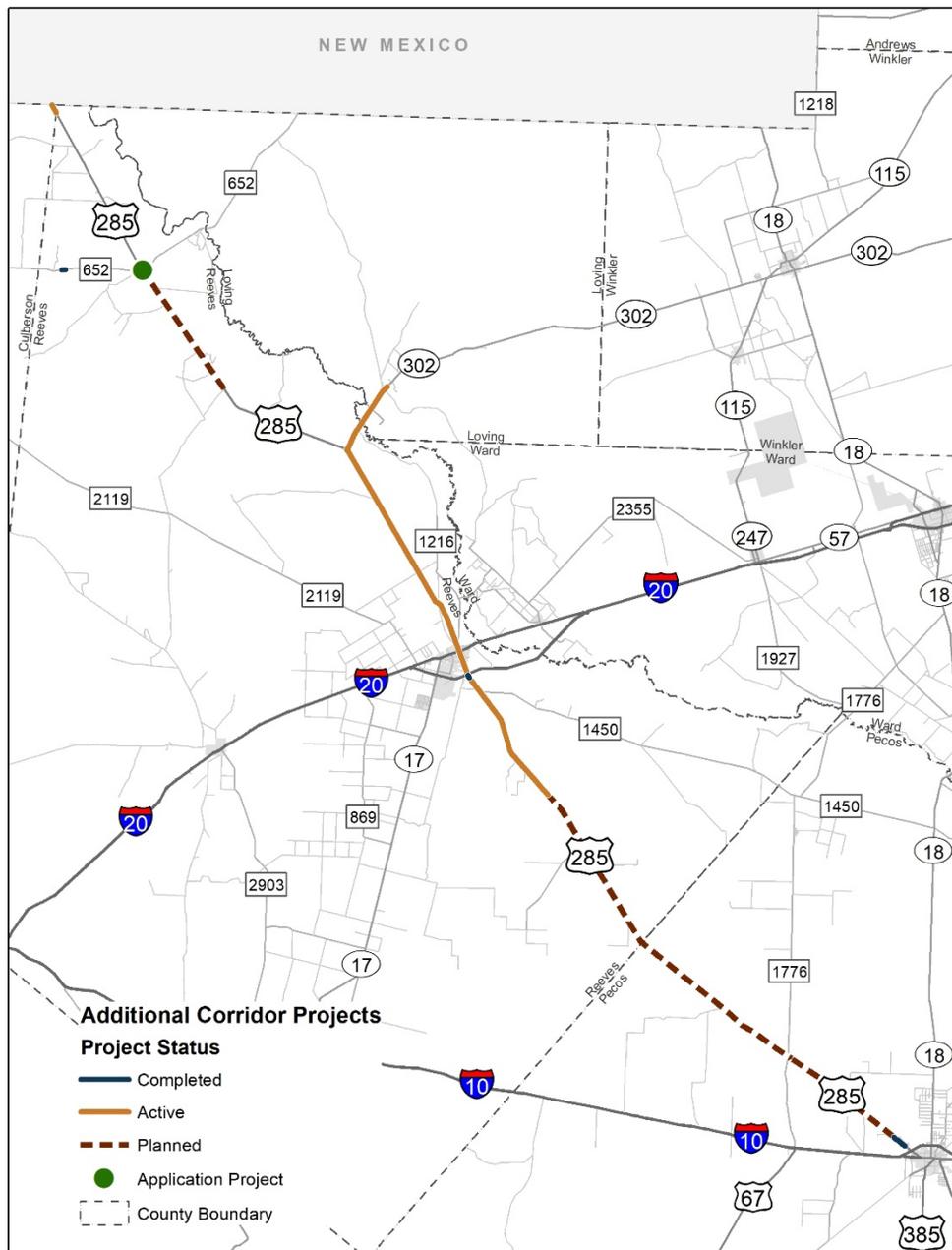


Source: TxDOT Odessa District, April 2020.

These projects include features like adding passing lanes, improving intersections, rehabilitating roadways, repairing bridges, and other projects designed to accommodate the significant increase of truck loads in the energy sector. Sample projects include roadway widenings along U.S. 285 between RM 652 and the New Mexico border and replacing a bridge on RM 652 crossing Salt Creek just west of U.S. 285. A full list of active and planned projects in the Odessa District is included in **Appendix A**.



Exhibit 2. Map of Additional Projects in the Project Corridor



Source: TxDOT Odessa District, April 2020.

These projects also complement two recent BUILD grant awards being carried out in the area. First, in December 2018, TxDOT received a \$25 million FY2018 BUILD grant for the construction of a grade separation at Highway 115 and Highway 302 (approximately 50 miles east of the Project). Second, NMDOT received a FY2019 BUILD grant for the U.S. 285 Safety and Resilience Project in November 2019 to help the rural highway accommodate an increasing amount of heavy industrial traffic. This project will improve a segment of U.S. 285 that begins 14 miles northwest of the Project intersection. Thus, this Project complements the investments made by TxDOT, NMDOT, and USDOT on U.S. 285.

ABOUT THE REEVES COUNTY IMPROVEMENT PROJECT

The Reeves County Improvement Project involves reconstructing the existing at-grade roadway geometry at U.S. 285 and RM 652 to a grade-separated interchange by constructing an overpass for U.S. 285 over RM 652 and a signalized at-grade intersection for the remaining traffic. The Project will include:

- 12-foot lanes with shoulders for U.S. 285;
- 12-foot lanes with turn lanes at the intersection on RM 652;
- Signalized intersection with turnarounds;
- Pavement design to accommodate current and future vehicle and truck requirements;
- Utility adjustments and culvert installations;
- Roadway safety lighting and bridge underpass lighting;
- Driveway installations; and
- Right of Way (ROW) acquisition as required for improvements.

The corridor is a direct north/south highway link between Texas and New Mexico, and provides connections to I-20, which is a National Freight Network Corridor. **Exhibit 3** identifies specific area and corridors of the Project. **Table 2** summarizes the Project’s benefits.

Exhibit 3. Reeves County Improvement Project

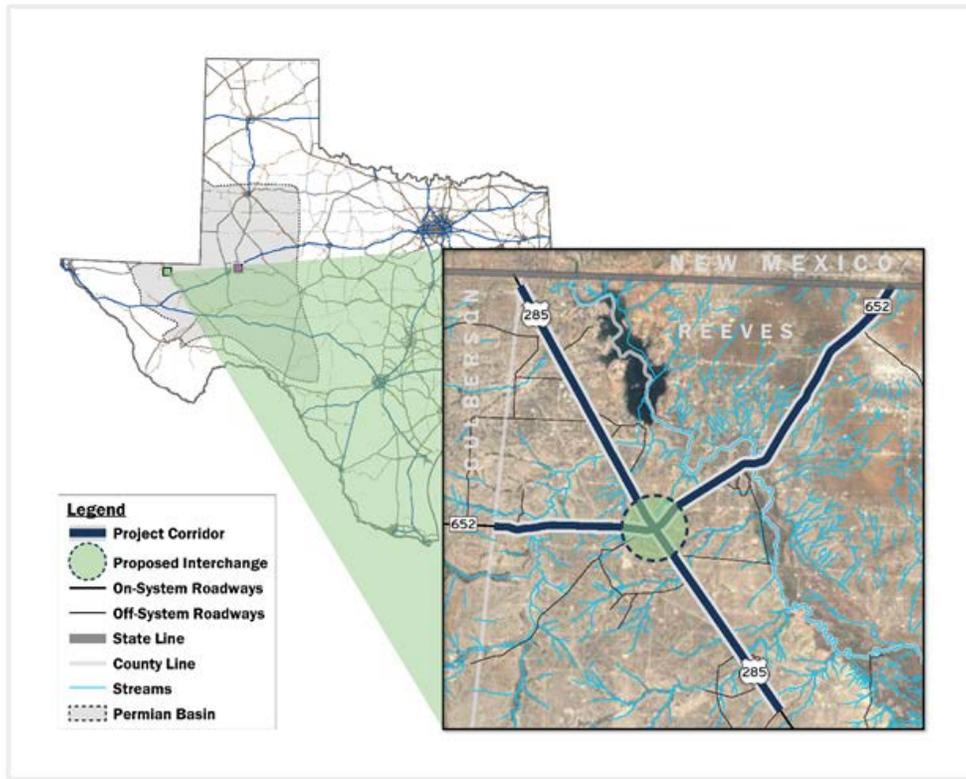


Table 2. Project Benefits at a Glance

Reeves County Improvement Project at a Glance	
Demand and Economic Vitality	<p>! Existing traffic regularly results in delays at peak periods of more than 20 minutes and up to an hour.</p> <p>! Delays will worsen if the bottleneck at the existing intersection is not resolved.</p> <p>✓ <i>Project will reduce delay and have a positive impact on the economic vitality of the region resulting in travel time savings and reduced emissions.</i></p>
Providing Safe and Reliable Transportation	<p>! The Permian Basin region is 7% of the Texas population but accounts for 13% of state highway fatalities.¹⁰</p> <p>! Heavy truck and freight traffic on rural ranch and farm to market roads not designed for freight.</p> <p>✓ <i>Project will reduce conflict opportunities between intersecting roadways.</i></p>
Growth and Livability in Rural Areas	<p>! Existing rural roadways were not designed for high traffic volumes or the level of heavy freight seen today (50% freight on U.S. 285).</p> <p>! There is an existing need for improved infrastructure for residential and transient workforce mobility.</p> <p>✓ <i>TxDOT has coordinated with residents and leaders (including a “Livability Workshop”), and Project will improve condition and durability of infrastructure, improving network connectivity and reliability for residents.</i></p>
Innovative Approach	<p>! Project area was not designed for the level of truck traffic present today.</p> <p>✓ <i>TxDOT is leveraging a new and innovative funding measure, Proposition 1, directing a portion of existing oil and gas production tax to the State Highway Fund (SHF).</i></p> <p>✓ <i>Roadways designed for easy integration of fiber and broadband infrastructure in the future, as needed.</i></p>
National Energy Security	<p>✓ <i>Project supports the energy production and distribution industries in the region deemed vital to national energy security.</i></p>

II. PROJECT LOCATION

Latitude: 31.825500 | Longitude: -103.908920

The Reeves County Improvement Project addresses movement of vehicles whose origin and destination are within the Permian Basin. The Project and its adjacent components run along U.S. 285 and RM 652 and serves rural areas of Pecos, Kermit, Odessa, and Midland, Texas, and Carlsbad/Loving, New Mexico.

The proposed grade separation is located at the intersection of U.S. 285 and RM 652 within Reeves County, Texas, in the town of Orla. It is in a census tract (GEOID 48389950100) which has been designated as an Opportunity Zone.^{11,12} The intersection is located approximately 40 miles north of I-20 near the Texas-New Mexico state line. **Exhibit 4** details the project

¹⁰ Accessed at: <https://www.txdot.gov/driver/share-road/be-safe-drive-smart/energy-sector.html>

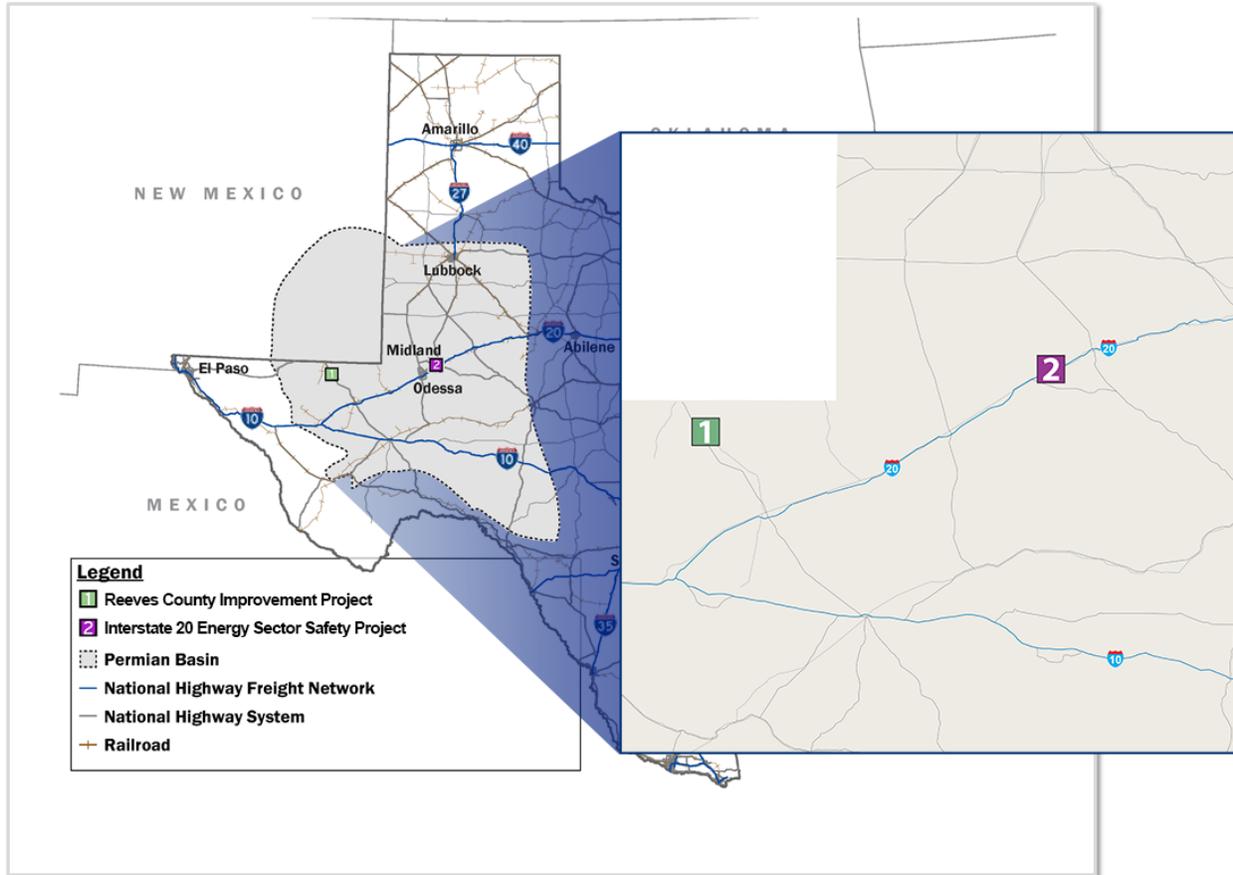
¹¹ Accessed at: <https://gov.texas.gov/business/page/opportunity-zones>

¹² Accessed at: <https://www.cdfifund.gov/Pages/Opportunity-Zones.aspx>



location as well as the location of the second project within the Permian Basin (the Interstate 20 Energy Sector Safety Project) for which TxDOT is applying for funding during this round of the BUILD program.

Exhibit 4. Map of TxDOT’s BUILD Permian Basin Project Submittals



U.S. 285 and RM 652 are both TxDOT-designated primary Energy Sector Corridors. Additionally, it is anticipated that they will both be part of the Permian Basin Highway Freight Network, which is currently in development as part of the ongoing Permian Basin Regional Freight and Energy Sector Plan being conducted by TxDOT. The Project is located within the Delaware Basin, a geologic depositional and structural basin in West Texas and southern New Mexico, famous for holding large oil fields and for a fossilized reef exposed at the surface. It is part of the larger Permian Basin, itself contained within the Mid-Continent oil province. Energy outputs in this region, which produces oil, natural gas, solar, and wind, for the region, state, and nation, are expected to continue.

III. GRANT FUNDS, SOURCES, AND USES OF PROJECT FUNDS

The Reeves County Improvement Project includes a grade separation at U.S. 285 and RM 652 with a total estimated cost of \$33,660,000, including \$25,700,000 for construction costs and \$7,960,000 in engineering fees, right-of-way acquisition, contingency, etc. TxDOT already





has budgeted for funding of 100 percent of the packaged connecting roadway improvements (totaling \$85.7M exclusive of the grade separation), and the subject BUILD grant is requested to fund 74 percent of the grade separation. TxDOT is requesting \$25,000,000 in FY2020 BUILD grant funds for the Reeves County Improvement Project (estimates in year of expenditure dollars) to implement the U.S. 285 and RM 652 interchange. These funds will be used for construction only. State match has been identified for the ROW and part of the administration portions of the Project, and state funds were allocated for the strategic projects adjacent to the U.S. 285 and RM 652 interchange.

The remaining \$8,660,000 in costs will be state-funded under the TxDOT 2020 Unified Transportation Program (adopted August 2019) via:

- Gas tax revenues,
- Vehicle registration fees,
- Federal reimbursements,
- Bonds,
- Proposition 1 funding,¹³ and
- A \$10,000 contribution from the Shell Corporation.

Table 3 below, as well as the project information form, the 424 form and 424C form included in **Appendix B**, provide details on the cost, committed and expected funding, Federal funding overview, project budget, BUILD funding allocation, and TxDOT’s financial condition and grant management capabilities. TxDOT, in managing this project, utilizes their procurement standard in compliance with the latest provisions of Buy America as listed at 23 CFR 635.410.

Table 3. Total Project Cost and Funding Sources

Reeves County Improvement Project	Total Cost	Other Federal Funds	State Funds	Private Funds	BUILD Grant
U.S. 285 and RM 652 Grade Separation	\$33,660,000	\$0	\$8,650,000	\$10,000	\$25,000,000

¹³ In November 2014, 80 percent of Texas voters approved Proposition 1, which authorized a constitutional amendment for transportation funding, guaranteeing half of the existing oil and natural gas production taxes to the State Highway Fund. The funds may be used for “constructing, maintaining, and acquiring rights-of-way for public roadways other than toll roads.”



IV. MERIT CRITERIA

A. SAFETY

The Project will improve safety through:

- Improving safety conditions with an anticipated result in a \$37.8M savings in safety costs over the course of the Project's lifecycle.¹⁴
- Reducing congestion on U.S. 285 and RM 652 currently causing back-up and collisions.
- Reducing conflict points through grade separation of U.S. 285 and RM 652.
- Adding right-of-way to U.S. 285 and RM 652 corridors allowing for safer deceleration and turns by heavy freight.

The proposed grade separation at the U.S. 285 and RM 652 intersection, in conjunction with the adjacent roadway improvements currently underway, will result in safer mobility through the region by separating turning traffic from through traffic and reducing the number of potential conflicts between heavy trucks and other motorists. Heavy freight trucks carrying potentially hazardous materials regularly enter and exit these roadway facilities at slow speeds with little acceleration, causing conflicts with other motorists and increasing the likelihood of vehicular incidents. This makes turning into traffic from a complete stop extremely challenging. Additionally, trucks in the project area are often entering and exiting roadways via leased roads (private, often unpaved roads to production sites), increasing the merging challenges throughout the region. The grade separation at the U.S. 285 and RM 652 intersection provides a positive impact by reducing the number of potential conflicts between heavy trucks and other motorists.

Safety is a major concern throughout energy-producing regions of Texas. These regions comprise a large number of the State of Texas' fatalities. Frequent stops and slow acceleration/deceleration of trucks on local roads cause disruptions to traffic flow, impede mobility, and present safety concerns for both the delivery of goods and local travelers. **Currently, the Permian Basin region accounts for roughly 7 percent of the overall Texas population but represents a staggering 13 percent of the fatalities on state highways.**¹⁵ In 2018, there were 485 traffic fatalities and 49,410 crashes in the Permian Basin.¹⁶ Reeves County specifically has a disproportionate amount of crashes compared to the rest of the State (Table 4).

¹⁴ See BCA Calculation Spreadsheet.

¹⁵ Accessed at: <https://www.txdot.gov/inside-txdot/media-center/statewide-news/005-2019.html>.

¹⁶ Accessed at: <https://www.txdot.gov/driver/share-road/be-safe-drive-smart/energy-sector.html>.



Table 4. Crashes per 10,000 Residents, 2018

Area	2018 Population Estimate	2018 Crashes per 10,000 Residents	2018 Commercial Motor Vehicle Crashes per 10,000 Residents
Texas	28,701,845	219	15
Reeves County	15,695	595	252

Source: U.S. Census Bureau, TxDOT Crash Record Information System.

Reported crashes occurred all along the U.S. 285 corridor and along RM 652 predominantly east of U.S. 285. Additionally, there were 16 reported crashes within the project intersection in 2019 (an increase of 220 percent from 2015).¹⁷

Crashes within a quarter-mile of the U.S. 285 and RM 652 intersection increased by 220% from 2015-2019.

More than half of 2019 crashes involved a commercial motor vehicle.

Many of these crashes include Commercial Motor Vehicles (CMV): 9 out of 16 crashes (56 percent) involved CMVs in 2019 compared with 2 out of 5 (40 percent) in 2015. Two fatalities have occurred at the intersection between 2015-2019, as well as two fatalities east of the project on RM 652. Additional safety improvements included in the Project are therefore needed to reduce these numbers.

Exponential traffic growth in the area, in particular at the U.S. 285 and RM 652 intersection, and large numbers of trucks as detailed in **Table 5** may exacerbate existing safety concerns if unaddressed. Due to these recent increases in traffic volumes along this corridor, the current four-way stop creates a bottleneck at this intersection, which may increase the likelihood of traffic crashes.

Table 5. Traffic Growth and Percentage of Trucks from 2016 to 2019

Roadway	Volume Increase (2016-2019)	% Traffic Increase (2016 to 2019)	Truck Volume	% Trucks
U.S. 285 North of RM 652	6,050	153%	4,000	40%
U.S. 285 South of RM 652	5,860	114%	4,400	40%
RM 652 East of U.S. 285	2,468	70%	2,580	43%
RM 652 West of U.S. 285	2,493	71%	2,700	45%

TxDOT has committed to a goal of achieving zero highway fatalities by 2050 and has already conducted safety improvements throughout the U.S. 285 corridor that have already resulted in measurable safety benefits. Three projects completed between the New Mexico state line and SH 302 (approximately 20 miles south of the Project location) have resulted in a 9 percent reduction in crashes between 2018 and 2019 and an 86 percent reduction in fatalities (**Table 6**). The Project’s grade separation will further complement the safety improvements on the U.S. 285 corridor and help move TxDOT toward its Vision Zero safety goal.

¹⁷ Accessed at: <https://cris.dot.state.tx.us/public/Query/#/public/welcome>; measured a quarter-mile from center of intersection.



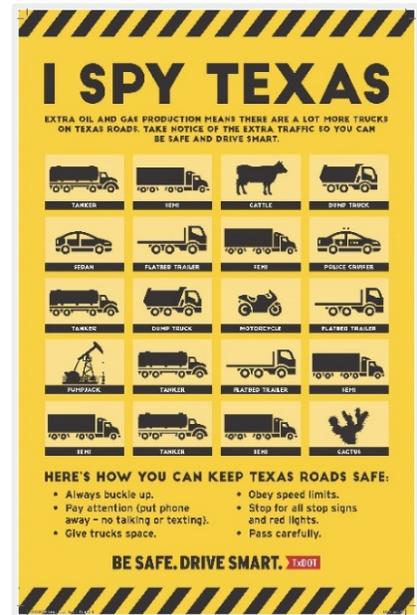
Table 6. Crash Statistics Before and After Three Projects on U.S. 285

Roadway	2018 (Before)	2019 (After)	Change
Crashes	142	129	-9%
Fatal Crashes	7	1	-86%

Source: TxDOT Crash Record Information System, Retrieved April 2020.

Additionally, TxDOT has crafted and implemented a robust public information campaign to improve safety in the Permian Basin. This includes educating the public on crash statistics in the area, providing safety tips, and conducting a targeted safety media campaign that includes print materials, billboards, video public service announcements (PSA), audio PSAs, and utilizing social media. TxDOT continues to coordinate a comprehensive safety program, working with Department of Public Safety, safety groups, governments, companies, and subject matter experts in efforts to reduce injuries, fatalities, and economic losses. Specific to this Project, TxDOT has worked with local governments and residents in the Permian Basin area in the following ways:

- 2016-2019: Participated in the annual ‘Day Without Traffic Fatalities’ after a Road Safety Forum. Have carried out a broad social media and word-of-mouth effort known as #EndTheStreakTX to encourage drivers to make safer choices behind the wheel.
- 2018-2019: Continuously presented major rehab projects to residents and encouraged all people and companies who travel U.S. 285 to share their input.
- 2019: Participated in several safety campaigns (“Be Safe. Drive Smart.,” “Click It Or Ticket,” “Teen Click It or Ticket,” “Share the Road: Look Twice for Motorcycles,” “Heads Up, Texas,” “End the Streak”) in coordination with the Odessa District.
- 2019: TxDOT’s Statewide Impaired Driving campaign spread the safety message at three consecutive Midland RockHounds baseball games. The goal is to urge motorists to develop a safe transportation plan before they go out on the town.
- 2019: The Texas Transportation Commission set the goal of cutting fatal crashes in half by 2035 and to end all fatalities on Texas roads by 2050.¹⁸
- Ongoing: Collaborated to create safety video for Permian Basin residents available on governmental sites and YouTube.¹⁹



¹⁸ Accessed at: <https://www.txdot.gov/inside-txdot/media-center/statewide-news/012-2019.html>

¹⁹ Accessed at: <https://www.txdot.gov/driver/share-road/be-safe-drive-smart/energy-sector.html>

- Ongoing: Developed Energy Sector Safety Campaign Webpage with print and billboards, Video PSAs, and Audio PSAs.
- Ongoing: Participates in the annual National Work Zone Awareness Week every April, which focuses on reminding people of the dangers found in road construction work zones.

While the TxDOT safety campaigns are helping, influencing driver behavior can only reduce crashes so much. The geometric changes being undertaken by this Project are necessary to maximize efforts to increase roadway safety in the Permian Basin.



Permian Basin safety videos available online at <https://www.txdot.gov/driver/share-road/be-safe-drive-smart/energy-sector.html>

IV. MERIT CRITERIA

B. STATE OF GOOD REPAIR

The Project will ensure state of good repair by:

- Upgrading pavement to a level that can withstand heavy freight traffic.
- Improving infrastructure at the existing U.S. 285 and RM 652 intersection.
- Ensuring pavement is high quality, has a long life-cycle, and reduces overall maintenance costs on the roadways to comply with the Texas Transportation Asset Management Plan.

Energy development, production, and distribution along U.S. 285 and RM 652 is taking a toll on the existing transportation infrastructure along U.S. 285 and RM 652. Pipe, sand, and water associated with these activities can weigh more than the Empire State Building and, over time, trucks hauling these heavy loads into, out of, and within the region significantly damage the existing transportation infrastructure, diminishing its capacity to serve as high-volume transportation corridors.²⁰

²⁰ Accessed at <https://www.houstonpublicmedia.org/articles/news/2018/05/04/283575/researcher-points-tolegislative-fixes-for-oilfields-crumbling-roads>.



This Project is part of a larger overall asset management effort by TxDOT to maintain and improve rural corridors. More than 1,700 miles of improvements are currently planned by TxDOT which include pavement strengthening, addition of shoulders, and the addition of passing and travel lanes. Upgrading and rehabilitating the existing infrastructure on this corridor will contribute to a state of good repair while strategically planning for economic growth by reducing or eliminating existing mobility barriers. TxDOT has allocated \$1.37 billion in 2020 toward asset preservation activities through its Category 1 (Preventive Maintenance and Rehabilitation) funds, including \$62.9 million for the Odessa District in 2020 (\$640 million over 10 years).²¹

Extremely heavy loads across the region have begun to take their toll and impede the network's utility for high-volume transportation. Texas A&M University's Texas Transportation Institute (TTI) estimates that the total cost of rebuilding the infrastructure as a result of increased energy-related activities is approximately \$1 billion annually to the roadways under TxDOT's jurisdiction. TTI estimates approximately another \$1 billion annually is necessary for roadways under local jurisdiction.²²



TTI field visit image highlighting minimal to almost no shoulder and poor lane pavement conditions

In the Permian Basin, heavy truck trips transporting three key oilfield commodities – sand, fresh water that is injected into wells, and produced water which is generated as a byproduct of petroleum production – comprise a significant share of the region's freight traffic. A new development site can generate between 4,000 and 7,000 heavy truck trips over a 45 to 75 day period as the site is being prepared for oil and/or gas production. Although truck trips drop off after the site is in full operation, the intensity of freight activity generated as a result of new drilling activity results in enormous wear and tear on the region's roadways. **In Reeves County alone, 71.8 million tons of sand, fresh water, and produced water resulted in an additional 3.4 million loaded truck trips transported to, from, and within the County in 2018, which translates into an additional 18,600 loaded and empty truck trips per day.**

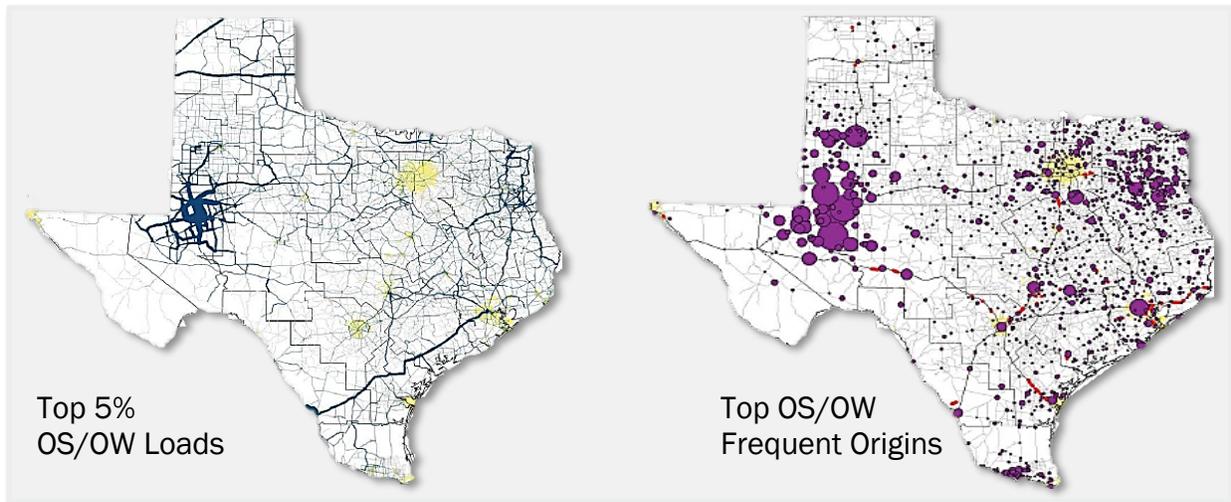
Oversized and overweight loads experienced throughout the State of Texas is shown in **Exhibit 5**. These maps show the distribution of the top 5 percent of oversized and overweight vehicles and origins of those same trucks. As shown in these exhibits, there is a clear density of oversized and overweight loads in the Permian Basin, including along the U.S. 285 and RM 652 facilities. Analysis from the Permian Basin Regional Freight and Energy Sector Plan found that from October 2018 to September 2019 there were nearly 4,500 oversize/overweight trucks routed through the Project location (more than 12 per day).²³

²¹ Accessed at: <http://ftp.dot.state.tx.us/pub/txdot/tpp/utp/2020-utp.pdf>

²² Accessed at: <https://ftp.dot.state.tx.us/pub/txdot-info/sla/strategic-plan-2015-2019.pdf>.

²³ Texas Department of Motor Vehicles, Oversize/Overweight Permits Database, October 2018-September 2019; Cambridge Systematics, Inc. analysis.

Exhibit 5. Oversized and Overweight Load Characteristics in Texas



Source: Texas Freight Mobility Plan 2017

TxDOT maintains more than 80,000 centerline miles and 196,000 lane-miles of highways, which presents challenges for rapidly changing pavement conditions within certain areas across the state.²⁴ The population within Texas has grown more than 70 percent over the last 30 years.²⁵ Texas’ daily vehicle miles traveled increased from 586 million in 2000 to more than 772 million in 2018 and is projected to reach 800 million by 2040.^{26,27} In addition, Texas moved more than 2.2 billion tons of freight in 2016 with more than half of the freight moved by trucks on the state’s highways; freight movement is expected to double by 2045.²⁸ TxDOT is currently conducting a Permian Basin Regional Freight and Energy Sector Plan to further quantify and address the challenges posed by freight movement in the region.



Changes in Texas Demographics and Transportation System

One of the overarching goals assigned to TxDOT is the preservation of transportation assets. It is important that the state continues to develop and maintain its system of highways to support the population, vehicle, and freight movement demand on its highways. Highways that are not maintained in a state of good repair increase transportation costs for people and goods. With increased congestion, the cost of travel and

²⁴ Accessed at: <http://ftp.dot.state.tx.us/pub/txdot-info/tpp/roadway-inventory/2018.pdf>

²⁵ Accessed at: <http://worldpopulationreview.com/states/texas-population/>.

²⁶ Accessed at: <http://ftp.dot.state.tx.us/pub/txdot-info/tpp/roadway-inventory/2018.pdf>

²⁷ Accessed at: <http://ftp.dot.state.tx.us/pub/txdot-info/tpp/2040/plan/exec-summary.pdf>

²⁸ Accessed at: <http://ftp.dot.state.tx.us/pub/txdot/move-texas-freight/studies/freight-mobility/2017/summary.pdf>.

goods will increase as well. According to recent estimates, the trucking industry incurred \$6.3 billion in congestion costs in Texas, the highest cost of any State.²⁹

The [Texas Transportation Asset Management Plan](#) details the processes in which TxDOT utilizes life-cycle planning to forecast network-level funding needs to sustain performance of the existing assets and recommend the most cost-effective way to optimize its long-term condition.³⁰ These methods include using semi-automated procedures for obtaining pavement condition information, forecasting future pavement conditions to recommend optimized pavement workplans and implementing four-year pavement management plans, and standardized regularly scheduled bridge inspections to assist in prioritization of structure rehabilitation and replacement.

IV. MERIT CRITERIA

C. ECONOMIC COMPETITIVENESS

The Project will advance economic competitiveness by:

- Reducing delays and improving travel time reliability anticipated to result in \$99.1M in time savings for all motorists, and \$30.8M in shipper/logistics costs, over the course of the Project's lifecycle.³¹
- Eliminating a freight bottleneck at the U.S. 285 and RM 652 intersection through grade separation.
- Reducing congestion for freight and transport in the energy industry.
- Improving travel time reliability for just-in-time delivery of materials and tools for energy productivity.
- Improving traffic flow and reducing delays for an efficient movement of goods in the region.

Texas has been recognized as the top exporting state in the nation for 16 consecutive years with over \$330 billion in exports in 2019.³² Texas exports some of the world's top commodities, including petroleum and coal products, chemicals, electronic and machinery products, and transportation equipment—many of which originate within the Permian Basin and are reliant on an efficient transportation network to cost-effectively enter the market. Enhancing economic competitiveness in the Permian Basin is a major driving force behind the Reeves County Improvement Project and associated projects. Without these roadway infrastructure improvements, economic growth in the Permian Basin will be stifled due to existing capacity constraints. **Exhibit 6** shows the concentration of new wells in the Permian

²⁹ Accessed at: <https://atri-online.org/wp-content/uploads/2018/10/ATRI-Cost-of-Congestion-to-the-Trucking-Industry-2018-Update-10-2018.pdf>.

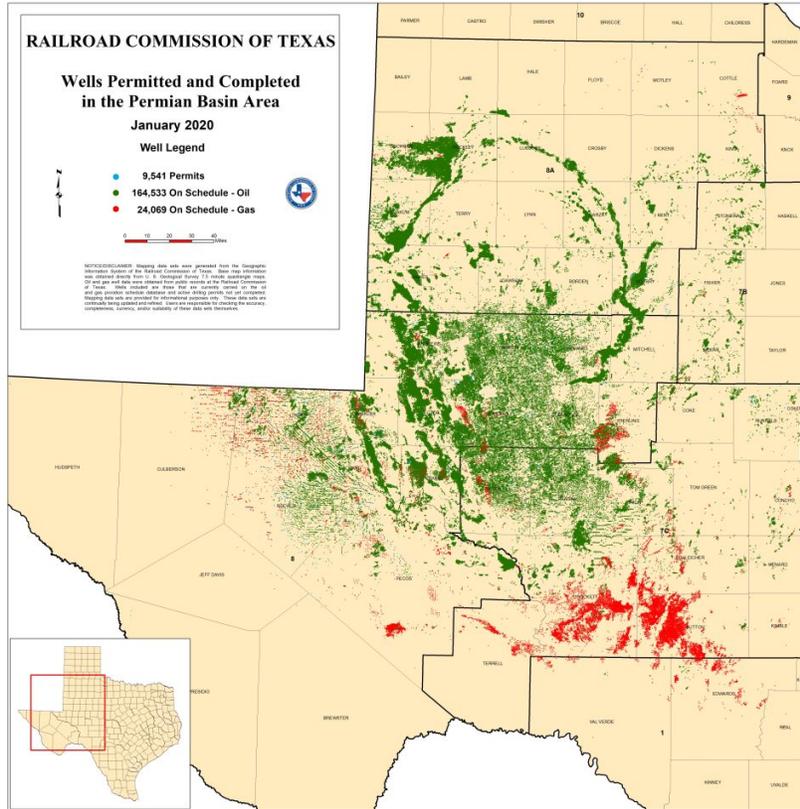
³⁰ Accessed at: The Texas Transportation Asset Management Plan was submitted to FHWA in April 2018.

³¹ See BCA Calculation Spreadsheet.

³² Accessed at: <https://www.census.gov/foreign-trade/statistics/state/data/tx.html>

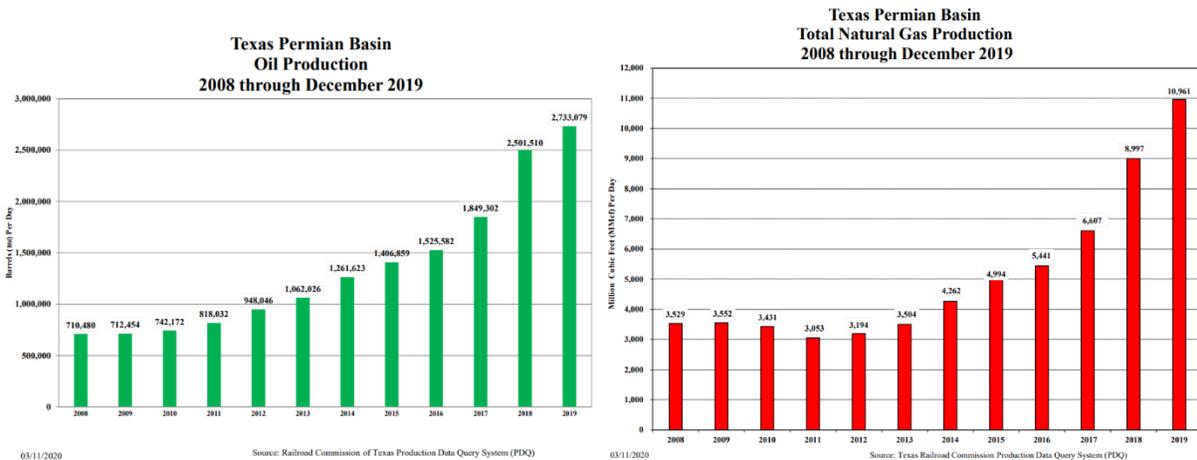
Basin as of January 2020 and **Exhibit 7** shows the increase in oil and natural gas production in the Permian Basin from 2008 through 2019. The energy industry anticipates continued growth in the region, putting an even greater strain on the transportation network.

Exhibit 6. Oil and Gas Wells within Permian Basin, January 2020



Source: <https://www.rrc.state.tx.us/media/55965/pb-area-202001-1g.jpg>

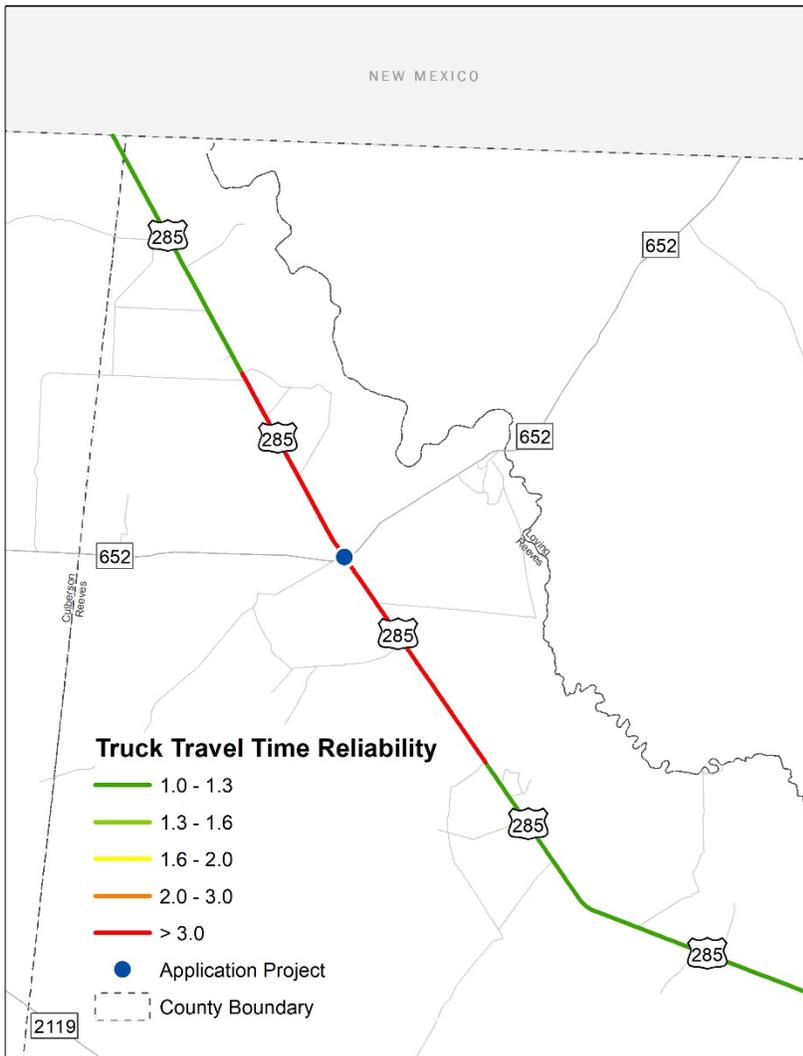
Exhibit 7. Oil and Natural Gas Production in the Permian Basin from 2008 through 2019



Source: <https://www.rrc.state.tx.us/oil-gas/major-oil-and-gas-formations/permian-basin-information/>

If constraints at the U.S. 285 and RM 652 intersection are not addressed, bottlenecks will worsen and congestion will increase. Since the energy sector is reliant on efficient transportation of goods, increased delay has a direct impact on the economic vitality of the region. Energy production in the area depends on efficient truck and freight movements throughout the Permian Basin, and particularly to the nearby I-20 corridor and Union Pacific rail line.

Exhibit 8. Truck Travel Time Reliability at the Project Location



Source: NPMRDS, February 2019, Analyzed by Cambridge Systematics

The existing configuration is underperforming and posing a threat to safety and the movement of goods in the region. **Exhibit 8** displays the Truck Travel Time Reliability (TTTR) Index at the Project location. A TTTR Index of 3.0 indicates that drivers must plan for three times the typical travel time in order to arrive on time 95 percent of the time. The existing delays result in an increased cost of doing business in the Permian Basin and poses an impediment to national security and energy independence. The grade separation at the U.S. 285 and RM 652 intersection, in conjunction with the associated roadway improvements, will increase the efficiency of the movement of goods and people through the region by removing conflicts between heavy trucks entering and exiting these facilities and reducing associated congestion and bottlenecks along the corridors.

This Project can alleviate bottlenecks throughout the region which are causing delays on primary energy sector corridors. **Over a 30-year timeframe, savings from operator costs and travel time with implementation of the Project amount to almost \$126.3 million.** These savings are realized by the business community as well as residents when transportation costs are reduced for industry and travelers.





TxDOT has engaged in a series of studies and surveys to support the state’s initiative to remain competitive in local, national, and international markets, and the results from those efforts have further illustrated the need for an efficient network. In 2013 the Corporate Site Survey (an annual research effort to identify the key factors influencing business site location decisions) concluded that 11 of the top 26 site selection factors were related to transportation.³³ Furthermore, highway accessibility has ranked first or second in importance over the life of this study.

Texas feeds the national economy and leads the Nation in energy production, accounting for 37 percent of the Nation's crude oil production and 24 percent of its marketed natural gas production. As of January 2018, the 29 petroleum refineries in Texas were able to process more than 5.7 million barrels of crude oil per day and accounted for 37 percent of the Nation's refining capacity. Texas also has abundant renewable energy resources and has rapidly developed its wind production, leading the Nation in wind-powered generation capacity with more than 23,300 megawatts in 2018.^{34,35}

It is imperative that the resources within the State of Texas are mobilized and distributed throughout the U.S. The energy sector relies on the transportation network to provide the link between the place of origin and the end user. To do so, the transportation network must be well-connected and reliable. Localized congestion on farm-to-market roads and state highways impedes the flow of the state’s resources and slows the necessary freight movement. While the energy sector is planning to significantly increase output, the industry is concerned about capacity, congestion, and safety throughout the Permian Basin. These are real concerns for people relying on the movement of basic goods and energy products.

Whether it is fossil fuels, clean energy, electric power, hydrogen or fuel cells, these energy sources heat and cool homes, assist with the production of food and goods, fuel cars, power buses, and support the Nation’s requirements to maintain a thriving economy. Instability in the energy market worldwide can impact the supply, demand, and price point of energy, which impacts a thriving economy and quality of life. As such, supporting the economic development of sustainable energy delivery and the economic development associated with internal energy production, is important to ensure national stability and national security. This same energy production also can increase cooperation with trade partners and ensure a stable economy.

State and Permian Basin Energy Facts at a Glance



Five of the Nation’s 31 oil basins are in Texas.



Seven of the Nation’s 26 natural gas hubs are in Texas, two of which are in the Permian Basin.



In total, 181 of 551 natural gas processing plants are in Texas with 81 of those located in the Permian Basin.



Of the 1,043 wind power plants nationwide, 152 are in Texas, many of which are in the Permian Basin.

³³ Accessed at: <https://ftp.dot.state.tx.us/pub/txdot-info/freight/one-pagers/freight-and-economic-development.pdf>.

³⁴ Accessed at: <https://www.eia.gov/state/?sid=TX>.

³⁵ Accessed at: <https://www.eia.gov/state/?sid=TX>.

IV. MERIT CRITERIA

D. SUSTAINABILITY

The Project will support sustainability by:

- Reducing congestion and congestion-related vehicle emissions anticipated to result in a savings of approximately \$500,000 in environmental costs over the course of the Project's lifecycle.³⁶
- Reducing congestion and congestion-related vehicle emissions, thus improving air quality.
- Supporting the advancement of renewable energy, particularly wind energy production.
- Investing in rural infrastructure to ensure all residents have equitable mobility.

The Project and adjacent roadway improvements would result in environmental benefits by reducing congestion and congestion-related emissions associated with heavy trucks idling during regular traffic delays and providing better access and mobility to the wind energy sector in West Texas and New Mexico. By improving mobility within the region, air quality impacts associated with traffic congestion will be reduced as congestion is reduced or eliminated through the grade-separation and roadway improvement projects.

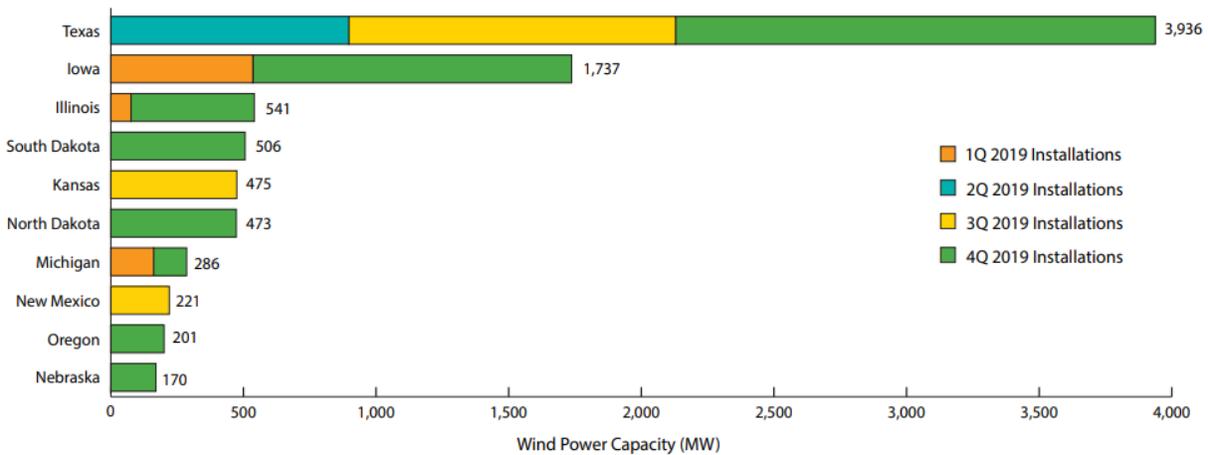
Texas produces energy from a broad range of sources, including wind energy. Based on American Wind Energy Association's (AWEA) market report in Q1 of 2019, Texas greatly surpassed all other states for cumulative installed wind capacity with the capacity to produce just under 25 GW of energy.³⁷ Furthermore, new 2019 installations in Texas, shown in **Exhibit 9**, was more than double what was installed in the second-highest state (Iowa).

Like the heavy and oversized loads in other energy sectors, freight traffic for wind farms causes great strain to the infrastructure and network from heavy loads, slow and oversized loads, congestion, and additional traffic. Corridor improvements and a grade-separated U.S. 285 and RM 652 intersection will help to ensure the safety of other motorists and adequate facility needs for wind turbine transportation.

³⁶ See BCA calculation spreadsheet.

³⁷ Accessed at: <https://www.awea.org/Awea/media/Resources/Publications%20and%20Reports/Market%20Reports/1Q-2019-AWEA-Market-Report-Public-Version.pdf>

Exhibit 9. Top Wind Power Capacity States, Q4 2019³⁸



Additionally, natural gas is an important product collected from the Permian Basin region. The environmental benefits associated with natural gas compared to other fuel sources include reductions in CO₂, NO_x, SO₂, and other emissions.³⁹ This type of fuel supports developing technology that supports the FHWA’s and FTA’s goals of transitioning vehicle fleets, including intercity buses, across the country to zero emission vehicles.

TxDOT implements an Environmental Management System (EMS) as part of its core business processes used to manage environmental considerations during all phases of road construction from concept through final construction. The objective of the EMS is to develop and implement processes that focus on improving environmental compliance and performance so that TxDOT can be and remain fully compliant with the environmental legal requirements.

TxDOT will fully integrate environmental considerations into road construction operations through the EMS for the project. TxDOT commits to:

- Compliance with all applicable environmental laws and regulations, minimizing pollution and associated risks to the environment, and supporting an ongoing process for continual improvement in TxDOT environmental performance.
- Communicate environmental management practices and compliance requirements to all affected TxDOT personnel, consultants, contractors, and other participants in TxDOT’s road construction operations.

TxDOT’s management is fully committed to support all aspects of the EMS, including personnel and resources for development, implementation, maintenance, and improvement. In turn, each employee is expected to exercise his or her responsibility on behalf of TxDOT to ensure that the commitments and goals of the EMS are diligently carried out.

³⁸ Accessed at: <https://engage.awea.org/Shop/Product-Catalog-83/Product-Details?productid=%7B9BF0A1D-2742-EA11-8101-000D3A03FAAF%7D>

³⁹ Accessed at: <http://www.hydraulicfracturing.com/#/?section=air-emissions>

IV. MERIT CRITERIA

E. QUALITY OF LIFE

The Project will improve quality of life by:

- Reducing delays and improving travel time reliability anticipated to result in \$99.2M in time savings for all motorists, and \$30.8M in shipper/logistics costs, over the course of the Project's lifecycle.⁴⁰
- Reducing congestion and improving travel time reliability.
- Improving mobility for rural residents.
- Improving safety of motorists, including truck drivers and residents.
- Designing to preserve right-of-way for fiber network.

Improving quality of life for area residents is a major driving force behind the implementation of the roadway improvement projects proposed or underway in the area. The Project is in a census tract that has been designated an Opportunity Zone by the State of Texas and the U.S. Department of the Treasury. The poverty rate of this tract is 21.5 percent as of 2018, which has come down from 36.5 percent as of 2011 due to increased access to jobs and direct investment in quality of life from state agencies as well as private entities. For example, the Permian Strategic Partnership is a coalition of businesses focused on improving quality of life in the Permian Basin through increased access to transportation, medical care, education, housing, and workforce development. The Reeves County Improvement Project aims to further increase quality of life by increasing safety and reducing delay.

Due to the rural nature of the region, area residents have limited roadway facility options for traveling within and around the region, and they currently experience significant travel delays on these limited facilities as a result of growing energy sector activity in the region. These delays result in negative impacts not only to commute times but also negative impacts in access to healthcare and other critical destinations in the region. Four medical facilities are located within the area along U.S. 285 and RM 652, including:

- Xtreme MD Medical Clinic (2 miles north of Angeles on U.S. 285).
- Occupational Health and Safety International (SH 302 in Mentone).
- Reeves County Hospital (Pecos).
- Pecos Valley Rural Health Clinic (Pecos).

⁴⁰ See BCA Calculation Spreadsheet.

Existing congestion along the U.S. 285 and RM 652 corridors results in barriers to access to these facilities in emergency situations. **Reducing congestion in the area through these roadway improvement projects, including the U.S. 285 and RM 652 grade separation, would improve access to these critical medical facilities and provide more reliable response times for emergency personnel.**

Safety is another major quality of life indicator and is discussed further in the safety section of this application. The proposed grade separation, in concert with the other roadway improvement projects, would result in fewer opportunities for conflict between heavy freight trucks and everyday motorists through the implementation of the Project's improvements. These improvements would increase safety along the U.S. 285 and RM 652 corridors as well as provide reliable transportation connectivity to jobs. Additionally, emergency response capacity is limited in Reeves County and the surrounding rural areas compared to the amount of traffic and crash incidents present. Reducing crashes also reduces the amount of time and money first responders spend responding to traffic incidents and increases their availability for other community needs.



Google Maps, 2018.

For the mobility, access, and safety improvements afforded to the region through the proposed roadway projects, TxDOT and the Permian Basin MPO have solicited ideas and feedback from residents by hosting events such as a "Livability Workshop." At these events, best practices were discussed with area residents for integration of livability and sustainability goals and objectives in the transportation planning process. While these workshops are not project-specific, the feedback received from these workshops is invaluable to TxDOT and area planners as they continue to identify ways to improve livability and quality of life through area transportation projects.

Additionally, the Reeves County Improvement Project will be designed to provide for the future installation of broadband and fiber optic networks, as demand necessitates. This helps to bridge the 'digital divide' that many rural communities experience throughout the nation. The Project will be designed to preserve ROW for anticipated future fiber in the U.S. 285 and RM 652 grade separation. The planning for the future installation of fiber at the time of construction will save costs through coordination with other utilities in the area and identification of the potential route to avoid conflicts. Broadband access has transitioned from a luxury to a necessity for full participation in the economy and society, and there is a nationwide effort to bridge the 'digital divide' in rural communities. Cooperatives Connect Rural America, a co-op, has seen great success in partnering with Government organizations to bring fiber Internet services to several rural communities in Texas. TxDOT has contacted broadband service providers in the area (AT&T, Windstream Communications, Dell Telephone, and Fiberlight) on partnering in this installation.

IV. MERIT CRITERIA

F. SECONDARY CRITERIA—INNOVATION

The Project will deploy an innovative approach by:

- Following innovative design guidelines that address freight-specific needs and prepare for future transportation needs.
- Streamlining environmental review and approval through the state's NEPA assignment
- Leveraging a unique funding approach that will provide incremental and strategic investments from the energy sector.

TxDOT is a 21st-century organization and continually looks to enter innovative transportation technologies, project delivery methods, and funding arrangements to improve the mobility of Texas residents and those traveling throughout the state. Though, ultimately, the design of the improvements will be guided by how effective the Project and larger initiatives will be at achieving TxDOT's key performance objectives, TxDOT will consider additional innovative options within the design.

Innovative Design and Technology: Prepared for the Future

TxDOT is currently increasing its capacity to design projects to meet the transportation needs of today and the future. Two freight-specific efforts are currently underway that will influence this project: The Permian Basin Regional Freight and Energy Sector Plan and the Freight Infrastructure Design Considerations (Design Considerations). The Design Considerations project is examining best practices throughout the nation for building infrastructure to withstand the physical and technological demands of freight movement. Elements such as pavement design, lane width, shoulder design, turn radius, and vertical clearance are being assessed to ensure that new projects in freight-producing areas not only meet the demands of current freight movement but that of the future. This may also include other technologies such as dynamic messaging signs that can provide information about traffic conditions or truck parking availability and can be deployed to support transportation safety and mobility in the region.

In addition to physical infrastructure, TxDOT is preparing for expanded deployment of automated and connected vehicles throughout the State. TxDOT leads 32 municipal and regional partners in a shared interest in mobility and safety challenges related to automated and connected vehicles on public roadways. The [Texas Automated Vehicle Proving Ground Partnership](#) was one of 10 nationally designated sites and the only statewide consortium to offer controlled environments for the automated vehicles to be assessed. Research is in progress throughout the state for future use of automated vehicles, which may one day use this project's infrastructure.

Innovative Project Delivery: NEPA Assignment

NEPA assignment streamlines the Federal environmental review process by eliminating Federal Highway Administration (FHWA) project-specific review and approval, and provides a



participating state specific review and approval authority. TxDOT was approved and entered into the NEPA assignment program in late 2014. In December 2019, in agreement with the FHWA, TxDOT extended their NEPA assignment for five more years. TxDOT renewed this program after meeting the performance measures established in the original program assignment, showing that TxDOT had successfully implemented this innovative project delivery strategy.⁴¹

Since receiving NEPA assignment, TxDOT has seen specific project development improvements, including:

- Faster environmental review and approval times;
- Improved program guidance, policies, and procedures;
- Improved understanding of the process for agencies, local governments, and the public;
- Improved training program;
- Improved program efficiencies; and
- Greater accountability through internal monitoring and FHWA program audits.

The Project will benefit from TxDOT's NEPA assignment by streamlined environmental reviews and enhanced project delivery. Since receiving NEPA assignment, TxDOT has saved 34 percent of the time needed to obtain categorical exclusions.

Innovative Funding: Proposition 1

On November 4, 2014, 80 percent of Texas voters approved a ballot measure known as Proposition 1, which authorized a constitutional amendment for transportation funding. Under the amendment, a portion of existing oil and natural gas production taxes (also known as severance taxes) would be divided evenly between the Economic Stabilization Fund (ESF) and the State Highway Fund (SHF) and used to construct, maintain and acquire right-of-way for public roads. As of 2020 over \$7 billion has been deposited in the SHF statewide⁴² and between 2015 and 2018, TxDOT allocated over \$77 million of Proposition 1 funds toward the various roadway improvements in the Odessa District.

In November 2015, Texas voters approved a second ballot measure, Proposition 7, adding an additional non-Federal revenue stream to TxDOT's funding. Proposition 7 sets aside a portion of the state sales and use tax for transportation, as long as overall sales tax receipts reach a certain benchmark. Additionally, a percentage of revenue growth from taxes on motor vehicle sales and rentals have been allocated for transportation projects beginning in 2020.

The funds received from the energy sector, through Propositions 1 and 7, and the additional project-specific funds, as well as the broad stakeholder support, show a strong partnership and collaboration between the energy sector and TxDOT. The energy sector understands the impact it has on the region, both positively and negatively, and has partnered with TxDOT to identify ways that regional transportation infrastructure is not only maintained properly and

⁴¹ Accessed at: <http://ftp.dot.state.tx.us/pub/txdot-info/env/nepa-assignment/renewal%20letter.pdf>

⁴² Accessed at: <https://www.txdot.gov/inside-txdot/division/state-affairs/ballot-proposition.html>

upgraded appropriately through participating in funding programs and coordinating efforts with the Permian Road Safety Coalition.

IV. MERIT CRITERIA

G. PARTNERSHIP

The Project has received an overwhelming level of support, including:

- Letters of support from a broad, statewide range of local, state, and Federal elected officials.
- Letters of support from major industry associations and private corporations.

Collaboration between TxDOT and local, regional, and statewide stakeholders within the Permian Basin region has been ongoing for many years. Because of this collaboration, a broad range of partners and stakeholders have offered their support for overall investment in the Permian Basin region and this Project in particular.

In 2012, TxDOT formed the [Task Force on Texas' Energy Sector Roadway Needs](#) (Task Force), which developed recommendations for addressing the state's energy-related infrastructure issues. The Task Force was comprised of representatives from state agencies, local governments, and the energy industry. One of the Task Force's primary challenges was to identify innovative funding strategies for the unique road maintenance and repair needs of the energy sector regions. Additionally, the group focused on ways to raise public awareness around driver safety in these regions. As a result of the Task Force's collaboration, TxDOT has repaired and rehabilitated many segments of key energy corridors throughout the state and is leading ongoing efforts to strengthen pavements and provide safety enhancements on key roadways in energy sector regions.

TxDOT has also established an ongoing, collaborative relationship with freight stakeholders statewide through the [Texas Freight Advisory Committee](#) (TxFAC). This body includes public and private sector partners impacted by freight movement. The TxFAC meets quarterly and has recently advised TxDOT on several efforts impacting the Permian Basin and beyond, including the Statewide Truck Parking Study, Freight Infrastructure Design Considerations, Permian Basin Regional Freight and Energy Sector Plan, Freight Technology and Network Operations Plan, Rio Grande Valley Freight and Trade Transportation Plan, and Economic Role of Freight in Texas. Through this body, TxDOT has been able to create a meaningful dialogue between public and private entities and establish connections between geographically separate regions, such as between the Permian Basin and the Gulf Coast maritime ports.





Specific to the Project region, TxDOT has also established a Permian Basin Freight Study Steering Committee to advise the current Permian Basin Regional Freight and Energy Sector Plan. This body is chaired by the Ector County Judge (the county executive) and includes members of regional planning organizations and commissions and representatives from the energy sector, water haulers, sand mine companies, utility districts, and school districts.⁴³ The Permian Strategic Partnership, a collection of 19 energy sector companies focused on quality of life issues in the region, has also participated in this planning effort. The Steering Committee meets approximately quarterly to establish project direction at major milestones and provide critical insight to the causes and impacts of transportation challenges in the region.

Private sector support of the project is evidenced by letters of support received from 12 industry associations and private companies. Additionally, TxDOT has received 14 letters of support from public entities, including, United States John Cornyn, two U.S. Congressmen, four State Representatives and Senators, the metropolitan planning organization for the region, and six local government entities. These letters of support are included as **Appendix C** to this application.

- Letters of Support from Industry Associations and Private Companies**
- Association of General Contractors-Texas
 - Concho Resources, Inc.
 - ConocoPhillips
 - Midland Chamber
 - MOTRAN
 - Odessa Chamber
 - Odessa Chamber Transportation committee
 - Permian Basin Petroleum Association
 - Pecos Economic Development Corporation
 - Permian Strategic Partnership
 - Spawls
 - Texas Association of Manufacturing

V. PROJECT READINESS

TxDOT is ready to advance the design of the Project. Upon securing BUILD funding, the Reeves County Improvement Project is expected to obligate funds in May 2021, in advance of the BUILD grant obligation deadline. Construction is scheduled for completion in 2024.

TECHNICAL FEASIBILITY

TxDOT has ample experience implementing projects similar to the Reeves County Improvement Project. Improvements for the Project shall adhere to TxDOT’s Roadway Design Manual, Bridge Design Manual, Hydraulic Design Manual, and ROW Utility Manual as design progresses and will follow processes set in the TxDOT Plan, Specifications and Estimate (PS&E) Preparation Manual.

Appropriate levels of design and associated quantities were determined to adequately determine construction costs for the Project. Cost estimates have been detailed using available information on current pricing from average low bid unit prices for determined unit

⁴³ Accessed at: <https://pboilandgasmagazine.com/sphere-of-influence/>





quantities. A contingency level of 10 percent has been provided for the construction of the Project as appropriate for the level of design.

TxDOT has been awarded and managed many grants as part of its overall roadway development and oversight and is familiar with and has complied with U.S. DOT’s processes for grant awards and implementation. A listing of recent Federal awards is shown in **Table 7**.

Table 7. TxDOT Federal Grant Awards

Year	Grant	Project	Amount Awarded
2010	TIGER	Tower 55	\$34 million
2015	TIGER	Texas Rural Transit Asset Replacement Project	\$20.8 million
2016	ATCMTD Grants	ConnectSmart: Connecting TSMO and Active Demand Management	\$8.9 million
2017	FASTLANE	SORR Rehabilitation and Presidio Rail Bridge Reconstruction	\$7 million
2017	ATCMTD Grants	The Texas Connected Freight Corridors Project	\$6.1 million
2018	BUILD	Glascok County Improvement	\$25 million
2018	BUILD	Winkler County Improvement	\$25 million
2018	INFRA	I-35 North Tarrant Express "Accelerated Elements" Project	\$65 million
2018	ATCMTD Grants	I-10 Corridor Coalition Truck Parking Availability System (I-10 Corridor Coalition TPAS)	\$6.9 million

Source: TXDOT, June 2019.

PROJECT SCHEDULE

The Project Schedule shown below in **Exhibit 10** includes the major project milestones for engineering and design completion, ROW acquisition and permitting, and construction. The schedule demonstrates that the project stratifies funding obligation and construction deadlines required by the BUILD grant program. The schedule allows adequate time for procurement, reviews, and contingency. With BUILD funding, the Project and associated noted improvements within Reeves County is scheduled to be fully constructed in 2024.

Exhibit 10. Reeves County Improvement Project Schedule

Work Phase	2021	2022	2023	2024
Draft Environmental Documentation				
Public Involvement				
Anticipated NEPA Clearance				
Right-of-Way Acquisition Process				
Right-of-Way Acquisition Complete (Milestone)				
Right-of-Way Design				
Final Design (Milestone)				
Construction Begins				
Project Completion (Milestone)				

REQUIRED APPROVALS

TxDOT will adhere to NEPA and complete all necessary documentation when the environmental process is ultimately conducted in 2021. A Categorical Exclusion (CE) is anticipated for clearance of the Project. The associated roadway projects have followed the environmental process and portions of those projects have received the necessary NEPA clearance. All the adjacent Reeves County projects that have gone through the NEPA process were found to have no significant environmental impacts. Environmental documentation completed to date is available upon request. The following associated projects have received CE approval:

- RM 652 from U.S. 285 to Pecos River received approval in November 2014.
- RM 652 from Pecos River to New Mexico state line received CE approval in November 2014.
- U.S. 285 from RM 652 to County Road 232 received approval in March 2016.
- U.S. 285 from Culberson County Line to RM 652 received approval in March 2017.

Improvements on RM 652 from Culberson County Line to U.S. 285 have started the environmental process, and the grade separation at U.S. 285 and RM 652 is planned to go through the environmental process in 2021.



All required state and local approvals as well as associated public engagement will be completed in advance of Project clearance.

ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

The Project has several risks that are typical of any project of this type and magnitude. TxDOT has been very successful in mitigating project risks, and one of the key factors contributing to that success is the implementation of a risk management process that identifies potential risks to the project at a very early planning stage and identifies mitigation strategies to manage each risk element. The process tracks each risk element as the Project moves along its development phases. Potential risks and mitigation strategies for the Project are outlined below.

- **Right-of-way:** All needed ROW for the construction of the Project has not been acquired. This is considered a medium risk considering the length of the ROW acquisition process.
 - Mitigation: TxDOT has the ability to acquire ROW through the Advanced Acquisition Process prior to environmental clearance.
- **NEPA:** Anticipated CE approval is in August 2021. This is a low-level risk since other adjacent projects have been cleared in similar timeframes and have had few environmental issues.
 - Mitigation: Preliminary environmental studies have begun on the projects.
- **Design effort:** The design is anticipated to be complete in May 2022. This is considered a low-level risk with TxDOT's familiarity with these types of design efforts and few known challenging design elements.
 - Mitigation: Although the detailed design for PS&E has not yet started, the projects currently are in the preliminary design phase with the development of geometric schematics.

VI. BENEFIT-COST ANALYSIS

A Benefit-Cost Analysis (BCA) was conducted for the Reeves County Improvement Project in accordance with 2020 U.S. DOT BCA Guidance. The Project includes U.S. 285 grade separation at RM 652 and RM 652 roadway rehabilitation improvements. **Based on input data, the Reeves County Improvement Project has a B/C ratio of 6.6 at the 7 percent discount rate.** A Benefit/Cost (B/C) ratio above 1.0 is considered favorable, meaning that the life-cycle benefits of a project exceeds the estimated costs over the same period. See **Appendix D** for details on the BCA.

Project benefits and costs were calculated for the Project. Costs include construction and non-construction costs such as operating/maintenance expenses and residual value. Project benefits classes include operating cost savings, value of time savings, crash cost reductions, logistics cost savings, and emission reductions (environmental benefits).