

An aerial photograph of a city at sunset, with a large white text box overlaid in the center. The sky is a mix of orange, red, and purple. The city lights are visible in the distance.

REVIVE35:

*Fixing congestion in
the heart of Texas*

An aerial photograph of a city at night, with a large white text box overlaid in the center. The city lights are visible in the distance.

**Infrastructure for
Rebuilding America
(INFRA) Grant
Application**
February 2020





What is the Project Name?	Revive35: San Antonio I-35 Northeast Expansion Base Central Project
Who is the Project Sponsor?	Texas Department of Transportation
Was an INFRA application for this project submitted previously? (if Yes, please include title)	Yes, Revive35: San Antonio I-35 Northeast Expansion Project
INFRA Request Amount	\$150.0 million
Total Federal Funding (excluding INFRA)	\$590.1 million
Estimated Non-Federal Funding	\$582.9 million
Future Eligible Project Cost (Sum of three previous rows)	\$1.323 billion
Previously Incurred Project Costs (if applicable)	NA
Total Project Cost (Sum of 'previous incurred' and 'future eligible')	\$1.323 billion
Are matching funds restricted to a specific project component? If so, which one?	No
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on National Highway Freight Network (NHFN)?	\$1.323 billion
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on the National Highway System (NHS)?	\$1.323 billion
Approximately how much of the estimated future eligible project costs will be spent on components constituting railway-highway grade crossing or grade separation projects?	\$0
Approximately how much of the estimated future eligible project costs will be spent on components constituting intermodal or freight rail projects, or freight projects within the boundaries of a public or private freight rail, water (including ports), or intermodal facility?	\$0
State(s) in which project is located.	Texas
Small or large project	Large
Urbanized Area in which project is located, if applicable.	San Antonio Urbanized Area
Population of Urbanized Area (according to 2010 Census).	1,758,210
Is the project located (entirely or partially) in an Opportunity Zone?	Yes, Census Tracts 1212.04 and 1212.03
Is the project currently programmed in the TIP?	Yes
Is the project currently programmed in the STIP?	Yes
Is the project currently programmed in the MPO Long Range Transportation Plan?	Yes
Is the project currently programmed in the State Long Range Transportation Plan?	Yes
Is the project currently programmed in the State Freight Plan?	Yes





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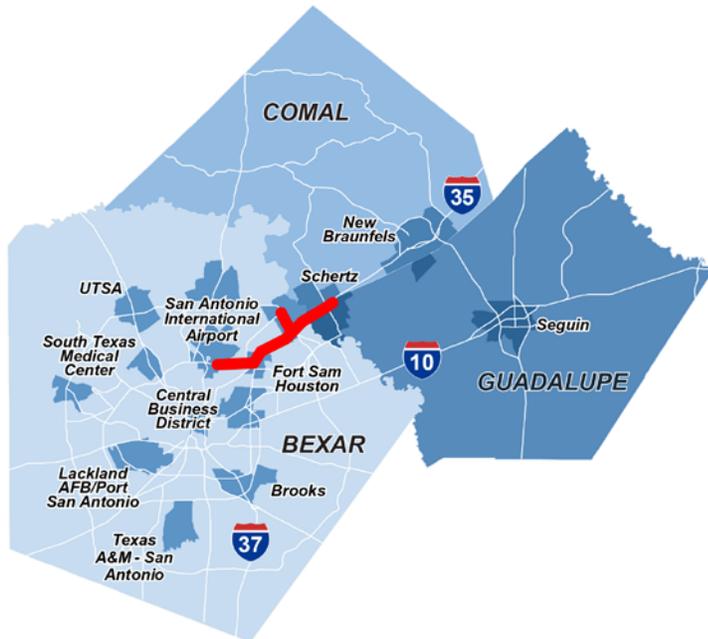
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1 Project Description

The Texas Department of Transportation (TxDOT) is pleased to submit this application for \$150 million of Infrastructure for Rebuilding America (INFRA) grant funding to bolster the \$1.173 billion of committed

Figure 1 I-35 NEX Base Central Project Location



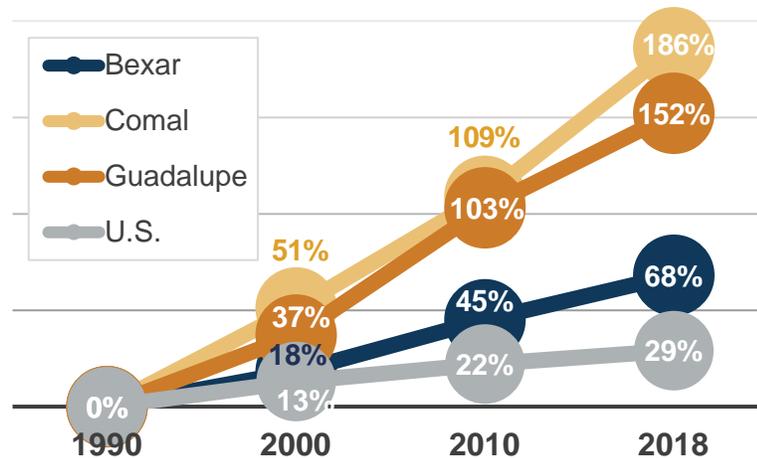
funding for the Revive35 project, known in San Antonio, Texas as the I-35 Northeast Expansion (I-35 NEX) Base Central project. **The project will generate \$5.4 in benefits for every \$1 invested.**

The I-35 NEX Base Central project is an opportunity to partner with the United States Department of Transportation (USDOT) to meet the significant needs of the growing San Antonio region comprised of Bexar, Comal, and Guadalupe counties as shown in **Figure 1**. As an economic engine for the Nation's economy, I-35 is critical to the international, national, and regional transportation networks.

However, necessary improvements on I-35 have not kept pace with tremendous population growth (**Figure 2**) and the subsequent increase in vehicular traffic in the San Antonio region. Freight trucks and the traveling public face unreliable travel times and limited route choices because travel demand on the I-35 corridor exceeds available capacity. This is expected to become worse in the future as demand grows.

The I-35 NEX Base Central project is a critical component of the I-35 NEX program of

Figure 2 Population Growth Rate by County since 1990



Source: U.S. Census Bureau, Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018

projects (described in Appendix E) that will preserve mobility in the near term and the future. The I-35 NEX Base Central project will add three elevated express lanes in each direction with direct connectors to two major regional corridors, Loop 1604 and I-410, as shown in Figure 3.

The limits of the I-35 NEX Base Central project improvements, shown in Figure 4, will provide congestion relief to three segments of Texas' most congested roadways.¹ The existing I-35 facility within the project limits is a major north-south, controlled-access Interstate highway that varies between six to eight barrier-separated mainlanes and two to three lanes of continuous frontage roads in each direction. The success of the I-35 NEX Base Central project depends on several key components, outlined below.

Figure 3 I-35 NEX Base Central Project - Present & Proposed Typical Section

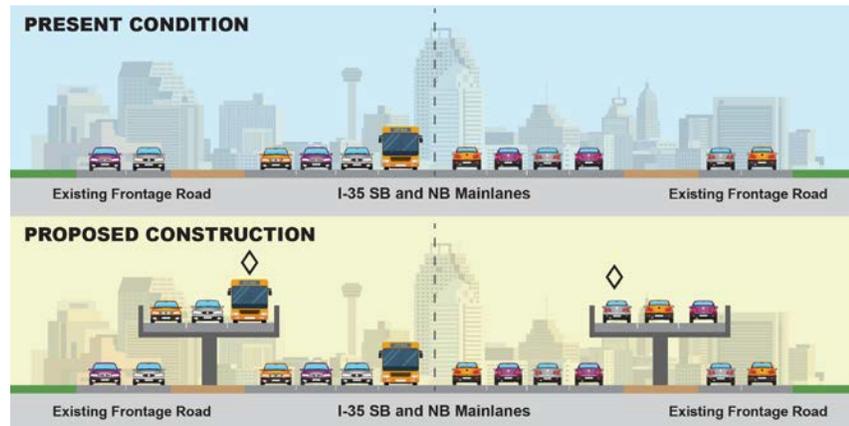
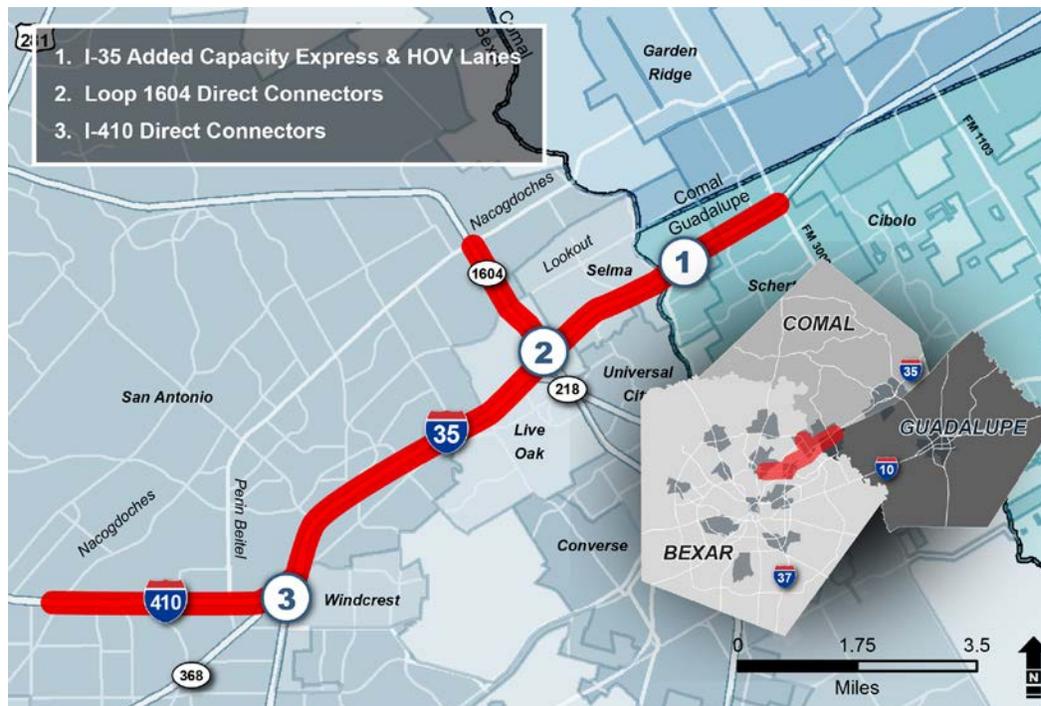
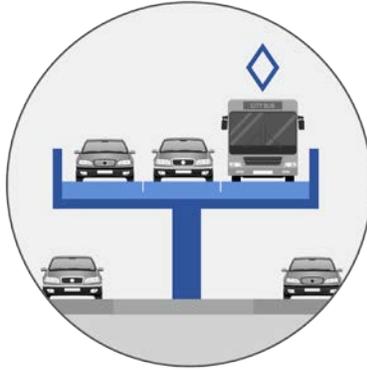


Figure 4 I-35 NEX Base Central Project – Project Limits



¹ The 2019 Texas' Most Congested Roadways report by Texas A&M Transportation Institute Urban Mobility Information ranked I-35 from Connally Loop NE to Charles West Anderson Loop/1604 NE as the 42nd most congested road segment. I-35 from Connally Loop NE/I-410 to Connally Loop E/I-410 as the 80th. Connally Loop N/I-410 from McAllister Freeway/US 281 to I-35 was ranked 79th.



1. I-35 Added Capacity Express Lanes and High-Occupancy Vehicle (HOV) Lanes

The added capacity express lanes in the I-35 NEX Base Central project are expected to improve travel time reliability for local, State, national, and international freight movement and for traveling residents and employees of Bexar, Comal, and Guadalupe and other surrounding counties. The I-35 NEX Base Central project is projected to decrease travel delay by 65 percent by 2045 along the corridor.² The express lanes will improve commuting times between rapidly growing suburban residential areas and central San Antonio, Fort Sam Houston, and Randolph Air Force Base. Freight moving through the region will benefit from the express lanes and improved reliability.

The new HOV lanes will enable efficient passenger travel for regional vanpool services and express service provided by VIA Metropolitan Transit along with Alamo Regional Transit rural demand response services. These services will ensure reliable trips to employment, education, and health facilities within the region.³ Improving air quality in the San Antonio region has also become a priority; reducing congestion and increasing the number of people per vehicle means fewer emissions and cleaner air.



2. Loop 1604 Direct Connectors

Regional commuters along I-35 will have uninterrupted access to Loop 1604 through direct connectors. This project element will facilitate improved mobility to major employment centers located along Loop 1604 including the corporate headquarters of CST Brands, regional hospital facilities in Stone Oak, the University of Texas at San Antonio, Valero Energy, and the retail and entertainment districts of Stone Oak, the Rim, Fiesta Texas, and La Cantera.



3. I-410 Direct Connectors

The I-35 NEX Base Central project maximizes travel time savings and trip reliability for regional commuters. The I-410 direct connectors provide essential access to the I-35 express lanes for regional travel to and from the San Antonio International Airport, employment centers, and key freight industry assets along I-410.

² Comparison between build and no-build travel demand modeling results for the corridor, as documented in Appendix D.

³ Future Metro Express service connecting New Braunfels, Schertz, Randolph Park and Ride and Downtown San Antonio was identified in VIA Metropolitan Transit's Long Range Long-Range Plan, Vision 2040 http://www.viainfo.net/wp-content/uploads/2018/05/2016_0824_VIA_2040_LRP.pdf

This project will manage vehicle congestion by providing express lanes with limited access points; it will promote the efficient use of existing transportation facilities and minimize impacts on the natural and built environment by designing elevated structures within the existing right of way. The I-35 NEX Base Central project also complements other efficient modes of transportation by using HOV lanes.

The I-35 corridor is more than an interstate highway: it is a vital artery through the heart of San Antonio, Texas and the United States. As one of the State's primary freight and passenger vehicle corridors carrying almost 60 million tons of freight in 2016, I-35 facilitates national and international freight movement, as well as local and regional commute travel in major metropolitan cities like San Antonio and hundreds of smaller suburban communities and rural towns.⁴

I-35 NEX Base Central Project Meets the Key Program Objectives of INFRA by:

- Leveraging significant State dollars,
- Improving mobility,
- Managing vehicle congestion,
- Promoting efficient use of existing facilities,
- Utilizing innovation to enhance project delivery, and
- Accounting for transportation performance achievement.

Critical to national and regional long-term economic vitality, the I-35 NEX Base Central project accomplishes the following:

- Increases U.S. global economic competitiveness by **alleviating supply-chain bottlenecks and enhancing last-mile connectivity** to freight-intensive industries, such as Port San Antonio and the Toyota Texas Manufacturing Plant in South San Antonio. I-35 is a major international trade corridor connecting Canada and Mexico with the U.S. In Texas, I-35 terminates in Laredo, Texas, the largest land-based port of entry for the U.S. and locally serves Port San Antonio.
- **Supports critical military missions** at Joint Base San Antonio sites including Fort Sam Houston and Brooke Army Medical Center both located adjacent to the I-35 NEX Base Central project, and Randolph Air Force Base located five miles away along Loop 1604, and Lackland Air Force Base, located 21 miles from the I-35 NEX Base Central project.
- **Enhances accessibility to numerous regional activity centers** and economic drivers such as Fort Sam Houston, Brooke Army Medical Center, Union Pacific Railroad Facilities, Randolph Air Force Base, the Forum shopping center, and the Amazon Distribution Center.
- **Improves air quality** through improved traffic flow and transportation demand management strategies such as the HOV lanes supporting regional commute solutions.
- Facilitates the **future expansion of freight-carrying capacity** by maintaining flexibility for potential truck platoons, advanced sensors and connected vehicle technologies.
- Connects residents to jobs, education, and recreation and ensures businesses can deliver goods on time.

⁴ Freight tonnage estimates are derived from TRANSEARCH and the TxDOT Statewide Analysis Model as reported in the 2018 Texas Freight Mobility Plan

The I-35 NEX Base Central project is a quality investment because it:

- Maximizes non-Federal funding through the **new innovative state funding sources provided through Propositions 1 and 7** resulting in a 44 percent State funding and 56 percent Federal funding split for eligible project costs.
- Incorporates innovative project elements aligned with Federal Highway Administration (FHWA) investments in cutting-edge technology through the 2017 Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant for the Texas Connected Freight Corridor Project, as described in **Section 5.3**; and
- Utilizes innovative contracting and project delivery to expedite delivery and minimize risks such as traffic control and utility relocations.

Performance and accountability are ensured with the I-35 NEX Base Central project due to:

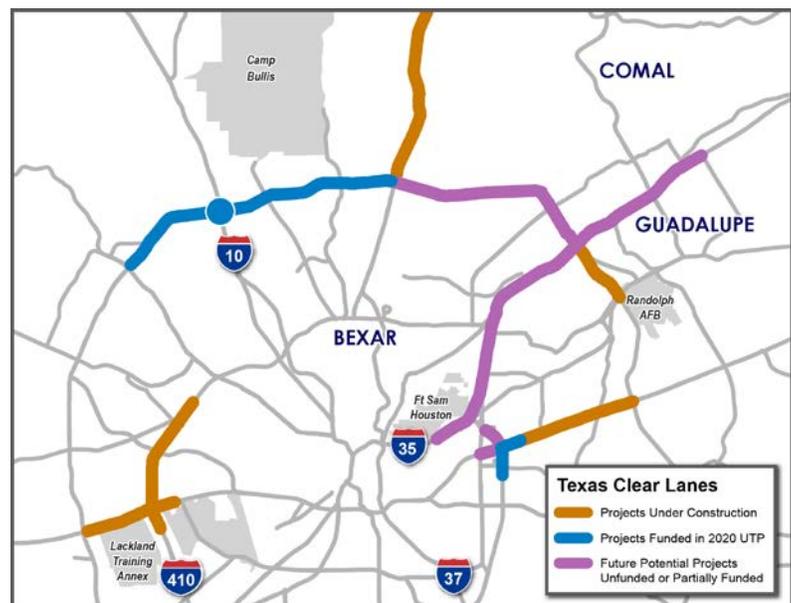
- **Stable State funding sources** that draw upon State funding initiatives recently passed by Texas voters to support 44 percent of the eligible project costs totaling \$582.9 million.
- Specific travel time savings accountability measures to **ensure successful project delivery**.

1.1 Project Background

Given the I-35 corridor's critical function within the region,⁵ multiple planning studies over the last 30 years have underscored the importance of continued investment in mobility solutions for the corridor, as documented in **Appendix E**.

I-35 has also been identified as a corridor of State significance. The I-35 NEX Base Central project is part of the Texas Transportation Commission's Texas Clear Lanes Initiative, a congestion relief program funded by voter-approved gas and severance taxes and initiated to spur economic development and create jobs by addressing congestion in the State's largest metropolitan areas.⁶ Clear Lanes projects included in the San Antonio region are depicted in **Figure 5**.

Figure 5 Texas Clear Lanes in San Antonio Region



⁵ The corridor was deemed regionally significant in both the 2035 and 2040 Alamo Metropolitan Planning Organization (MPO) Metropolitan Transportation Plans. AAMPO Mobility 2035, http://www.alamoareampo.org/Plans/MTP/docs/Mobility2035/Mobility2035_FULLL.pdf AAMPO Mobility 2040, <http://www.alamoareampo.org/Plans/MTP/docs/Mobility2040/Final%20MTP%20Revised%20March%2010%202015.pdf>

⁶ The Texas Clear Lanes program identified I-35, from I-410 in San Antonio to FM 1103 in Schertz, as a priority project of state significance. <http://ftp.dot.state.tx.us/pub/txdot/commission/2018/0926/2-presentation.pdf>

2 Project Location

The I-35 NEX Base Central project is located on the northeastern side of the San Antonio Urbanized Area within Guadalupe County and Bexar County, Texas.

The northern terminus of the project begins at FM 3009 in Schertz near the border of Comal and Guadalupe counties. The project continues south along the I-35 facility for about 10 miles, terminating at the intersection of I-35 and I-410 in San Antonio (see **Figure 6**). In addition, the project also includes direct connectors that facilitate travel between the project and existing facilities at Loop 1604 and I-410.

Figure 6 I-35 NEX Base Central Project within the Region



The 10-mile I-35 NEX Base Central project encompasses a significant portion of the I-35 corridor within the region. This project provides improved mobility for the San Antonio Census-designated Urbanized Area, an area with a population of over two million residents.⁷ Over the past 30 years, the counties of Bexar, Comal, and Guadalupe have experienced remarkable population growth, adding almost one million residents between 1990 and 2018, a 76 percent increase in population. By 2045 the region is expected to grow by another 59 percent.⁸ The I-35 NEX Base Central project is critical to accommodate the significant growth in the region.

⁷ U.S. Census Bureau, Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018.

⁸ Growth calculated between 2018 population, as determined by the U.S. Census Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018, and 2045 population, as forecasted by the AAMPO 2045 Model.

3 Project Parties

The I-35 NEX Base Central project grant recipient will be the TxDOT San Antonio District, which is responsible for planning, designing, building, operating, and maintaining the State transportation system in a 12-county region of Central Texas. TxDOT's vision is to be a forward-thinking leader delivering mobility, enabling economic opportunity, and enhancing quality of life for all Texans.

Other agencies (shown in **Figure 7**) have been involved in the project development, including FHWA; the Alamo Area Metropolitan Planning Organization (AAMPO); the counties of Bexar, Comal, and Guadalupe; and the cities of Live Oak, Windcrest, Selma, Schertz, Cibolo, San Antonio, and Universal City. Many local, regional, and State partners from both the private and public sectors are supportive of the I-35 NEX Base Central project. All letters of support can be found in **Appendix C**.

Figure 7 I-35 NEX Base Central Project Parties



4 Grant Funds, Sources, and Uses of All Project Funds

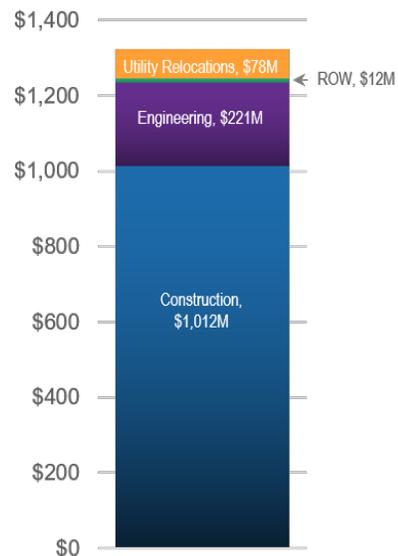
4.1 Previously Incurred Expenses

Future eligible project costs are sufficient for the I-35 NEX Base Central project to qualify as a large project. TxDOT does not request consideration of costs incurred prior to the selection of the project for an INFRA grant.

4.2 Future Eligible Costs

The future eligible cost of the I-35 NEX Base Central project, \$1.323 billion. The project costs include construction, engineering, right of way (ROW), and utility relocations, all deemed as future eligible costs under this funding program. A budget showing each category of eligible cost is shown in **Figure 8** shows a budget with each category of eligible costs.

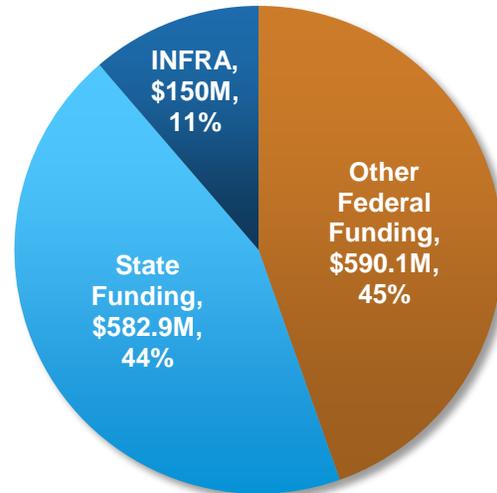
Figure 8 I-35 NEX Base Central Project Budget Uses



4.3 Project Funding Sources

The I-35 NEX Base Central project relies on a combination of State and Federal revenue sources to fund the project’s major construction activities. As shown in **Figure 9**, the INFRA funding represents 11 percent of the total eligible project costs. The State funding commitment represents 44 percent of the total eligible project costs and non-INFRA Federal funding sources represent 45 percent of the total eligible project costs.

Figure 9 I-35 NEX Base Central Project Budget Sources



4.4 Non-Federal Funding Commitments

The State of Texas is a stable and reliable funding partner committed to maintaining the existing system and building new infrastructure to encourage economic growth. A broad range of State funding sources leverage Federal funding support and are dedicated by the Texas Constitution to fund public roadway projects, including:

- State Motor Vehicle Fuels Tax.
- State Vehicle Registration Fees.
- Proposition 1 Funds.
- Proposition 7 Funds.

I-35 NEX Base Central benefits from action taken by the Texas Legislature to end diversions from the State Highway Fund (SHF) and the revenue from two voter-approved sources, Propositions 1 and 7. Combined, Proposition 1, Proposition 7, and the end of diversions from the SHF provide stable, dependable sources of funding to contribute to the construction, maintenance, and operation of the I-35 NEX Base Central project. The total estimated 10-year revenue from the three sources is \$35.4 billion.⁹

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 SHF. The funds may be used for “constructing, maintaining, and acquiring rights-of-way for public roadways other than toll roads.”

In November 2015, 83 percent of Texas voters approved Proposition 7, which authorized another constitutional amendment for transportation funding. Under the amendment, which began in 2018, a portion of sales and use tax revenue is dedicated to the SHF, as long as overall sales and use tax receipts meet a certain benchmark. In addition, beginning in 2020, a percentage of revenue growth from taxes on motor vehicle sales and rentals will be directed to the SHF. Like the funds under Proposition 1, the revenues earned under Proposition 7 may be used for non-tolled public roadways or to pay debt service on certain general obligation bonds.

⁹ Texas Department of Transportation, *Texas Transportation Funding, Including Texas Clear Lanes and Congestion Relief Update: Presentation for Texas Transportation Commission*, March 28, 2018, <http://ftp.dot.state.tx.us/pub/txdot/commission/2018/0328/2a-presentation.pdf>.

In 2015, the 84th Texas Legislature ended diversions from the SHF gas tax to non-transportation projects, increasing transportation funding by \$650 million per year.

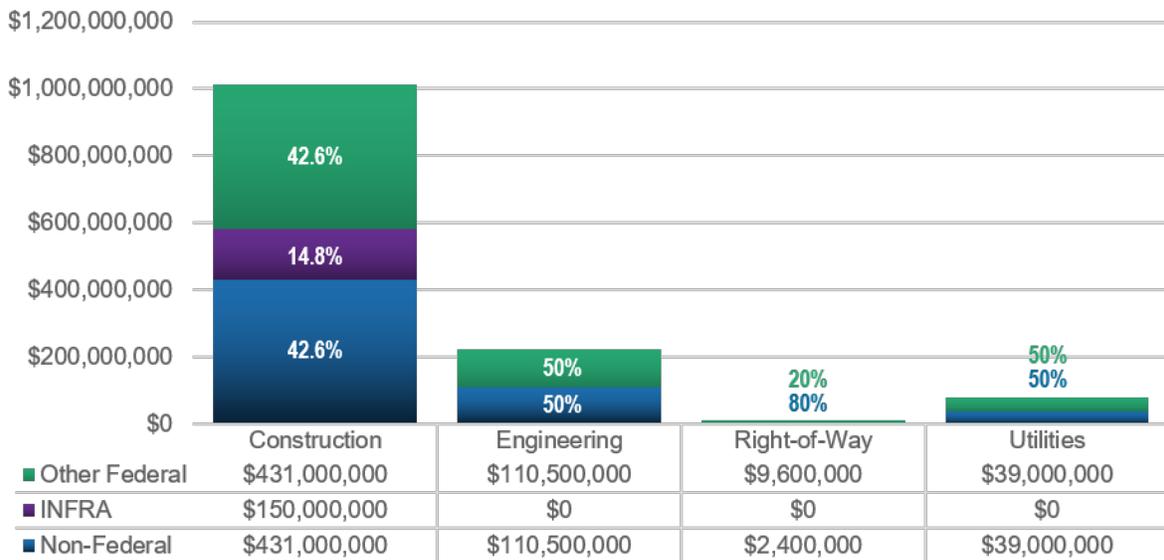
4.5 Non-Federal Funding Match for Federal Funds

Federal funding to be used for future eligible project costs will require a non-Federal funding match. State funding sources such as the Motor Vehicle Fuels Tax, the State Vehicle Registration Fees, and Propositions 1 and 7, as discussed in **Section 4.4** will be leveraged as the match for all Federal funds associated with the I-35 NEX Base Central project.

4.6 Project Budget by Funding Source

A budget depicting each category of eligible cost and planned funding sources and their corresponding share of each major construction activity is depicted in **Figure 10**.

Figure 10 I-35 NEX Base Central Budget and Funding Source Share



4.7 Contingency Reserves

Despite the strong funding plan that demonstrates State funding support totaling 44 percent of the eligible project costs, TxDOT recognizes the need for contingency funding and has budgeted sufficient contingency amounts to cover unanticipated cost increases. TxDOT includes a project contingency of \$60 million in the cost estimate to account for unknowns and detailed items that are difficult to estimate specifically at the current stage of project development. The possibility of Federal or State transportation dollars being unavailable for such project expenditures is remote. Historically, periodic short-term interruptions in Federal reimbursements have not hindered projects due to the State's cash management practices. In the unlikely event that Federal and State dollars are both unavailable, Texas has contingency solutions ranging from short-term cash management techniques to longer-term access to credit and capital markets.

4.8 Effect on \$500 Million Maximum

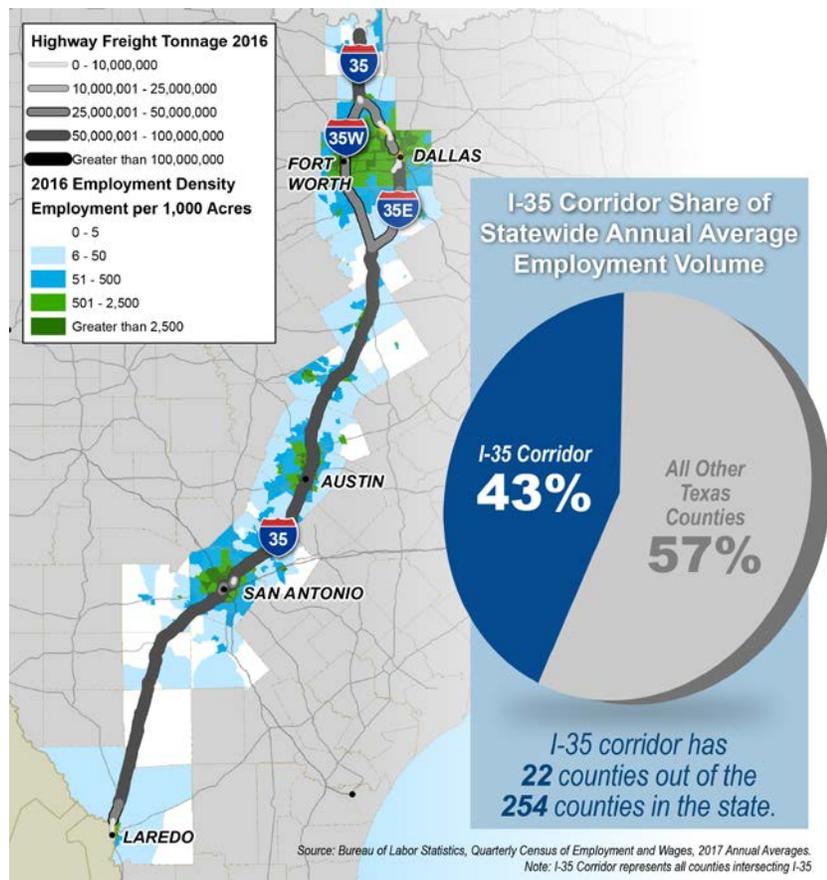
No components of this project are subject to the FAST Act limits on freight, rail, port, and intermodal infrastructure.

5 Merit Criteria

5.1 National and Regional Economic Vitality

As one of Texas' most heavily traveled freight and passenger corridors, the I-35 NEX Base Central project is critical to national and regional long-term economic vitality. I-35 serves as a critical gateway for the Nation's strategic trade relationships with Mexico, Central America, and South America, connecting to the port of entry in Laredo, Texas and the Port San Antonio Foreign Trade Zone. The I-35 NEX Base Central project elements position the State to benefit from the continued increase in trade between the United States, Canada, and Mexico. Trade with Mexico relies on efficient highway travel along I-35 in Texas, including both freight destined for the State and freight moving through to other markets.¹⁰ The I-35 NEX Base Central project improvements provide a solution to keep freight moving reliably through the San Antonio region.

Figure 11 Highway Freight Tonnage & Employment (2016)



I-35 is one of Texas' top three statewide corridors for highway freight tonnage, carrying almost 60 million tons in 2016 (shown in **Figure 11**).¹¹ Between 2008 and 2018, Gross Regional Product (GRP) for the San Antonio-New Braunfels Metropolitan Statistical Area (MSA) grew by 68 percent to over \$133 billion.¹² Given increasing freight demand, particularly from the core export industries of agriculture, energy, and consumer electronics, the Texas Freight Mobility Plan (2018) expects that the I-35 corridor will be one of the six most

¹⁰ Texas Freight Mobility Plan 2018, <http://ftp.dot.state.tx.us/pub/txdot/move-texas-freight/studies/freight-mobility/2018/plan.pdf>

¹¹ Freight tonnage estimates are derived from TRANSEARCH and the TxDOT Statewide Analysis Model as reported in the 2018 Texas Freight Mobility Plan

¹² U.S. Department of Commerce, Bureau of Economic Analysis, Gross Domestic Product by Metropolitan Statistical Area, 2018.

congested statewide corridors in Texas.¹³ The expanded capacity and limited access express lanes of the I-35 NEX Base Central project will enhance U.S. global economic competitiveness by alleviating supply-chain bottlenecks and enhancing last-mile connectivity to freight-intensive industries.

The corridor is not only a primary trade route connecting U.S. markets to Mexico and Canada, but serves major U.S. population and goods movement centers, including San Antonio, the Dallas-Fort Worth Metroplex, Kansas City, and Minneapolis. **Along the I-35 NEX Base Central project segment of I-35, highway freight tonnage is expected to triple between 2016 and 2045.** By 2045, trucks are projected to represent 13 percent of all traffic within the region and 24 percent of all traffic along the I-35 NEX Base Central project.¹⁴ As freight movement continues to rise, **population and employment are also projected to increase by 59 and 86 percent respectively between 2018 and 2045.**¹⁵ Innovative technology applications discussed in **Section 5.3.1** are key to supporting future growth and development and enhancing both freight and passenger mobility.

The project will also **enhance accessibility to numerous regional activity centers** and economic drivers such as Fort Sam Houston, Brooke Army Medical Center, Union Pacific Railroad Facilities, Randolph Air Force Base, the Forum at Olympia Parkway, AT&T Center, and Amazon Distribution Center.

Providing essential connections for military personnel, civilian employees, and students, the I-35 NEX Base Central project has a significant impact on the San Antonio region's military installations. Joint Base San Antonio is estimated to contribute over \$30 billion annually to the Texas economy.¹⁶ Joint Base San Antonio houses the largest hospital and the only Level I trauma center of the U.S. Department of Defense and serves more students than any other installation. While base housing for military personnel and students is available, the communities surrounding the I-35 NEX Base Central project within northeastern Bexar County and Comal and Guadalupe counties are also home to many military families, students, retirees, and civilian contractors employed or associated with Joint Base San Antonio.

Joint Base San Antonio

Joint Base San Antonio is comprised of several military installations including:

- U.S. Army Fort Sam Houston (including Brooke Army Medical Center),
- U.S. Air Force Randolph Air Force Base,
- Lackland Air Force Base and
- Martindale Army Airfield.

Port San Antonio, a Foreign Trade Zone and major trade hub located southwest of downtown San Antonio near I-35, would also benefit from the proposed mobility improvements by enhancing freight reliability through San Antonio from northern markets.

There are at least 11 major proposed developments totaling more than 5,000 acres in the project area. Future residential and mixed-use developments in New Braunfels, Schertz, and surrounding areas depend

¹³ Texas Freight Mobility Plan 2018, <http://ftp.dot.state.tx.us/pub/txdot/move-texas-freight/studies/freight-mobility/2018/plan.pdf>

¹⁴ AAMPO 2045 Travel Demand Model, Ratio of truck vehicle miles traveled (VMT) to total VMT.

¹⁵ Change calculated between 2018 BLS employment, US Census Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018 population figures and AAMPO 2045 Model population and employment forecasts.

¹⁶ <https://www.sanantonio.gov/Portals/0/Files/OMA/2017-economic-report.pdf>

on I-35 to **connect residents to jobs, education, and recreation and to ensure that businesses can deliver goods on time**. By 2045, the I-35 NEX Base Central project is projected to improve vehicle speed by 40 percent.¹⁷ Improved traffic operations and congestion management will continue to make the area an attractive place for residents and businesses and expand the community tax base for further economic growth.

The I-35 NEX Base Central project is **critical to meet the region's air quality goals and emission reduction targets**. In 2018, the Environmental Protection Agency designed Bexar County as nonattainment for the 2015 standard. By significantly reducing recurring delay and improving traffic flow, the I-35 NEX Base Central project reduces vehicle idling and the associated vehicle emissions.

This project's **transportation demand management strategies**, such as the HOV lanes, can optimize roadway space by incentivizing higher-occupant vehicles and off-peak travel, thereby alleviating congestion. The HOV lanes of the I-35 NEX Base Central project will increase the travel speeds and reliability for HOV passengers by supporting efficient operations of regional transit providers, VIA Metropolitan Transit and Alamo Regional Transit, and increasing ease of travel for people carpooling and using vanpools. The improvements will also support the VIA Metropolitan Transit Randolph Park and Ride (I-35 at I-410), which will strengthen the existing and future VIA Metropolitan Transit service operating along I-35 between these peripheral residential areas and downtown San Antonio.

In addition to supporting freight and passenger mobility, the project will increase **safety** by improving interactions between roadway users, utilizing enhanced design standards throughout the corridor, and upgrading key safety components of intersections, bridges, and pedestrian facilities. Improving roadway safety has far-reaching economic benefits and supports numerous regional, State, and national transportation goals. The following section quantifies the project's benefits and costs.

5.1.1 Benefit-Cost Analysis

The project generates nearly \$5.1 billion in total benefits at a real discount rate of 7 percent over 20 years, for a benefit-cost ratio of 5.4 (**Table 1**). The discounted benefits accrue mostly through a combination of travel time savings (nearly \$3.2 billion), vehicle operating cost savings (\$1.0 billion), and traffic safety benefits (nearly \$845 million). Additional information on the input values and methodology used to develop the results of the benefit-cost analysis can be found in **Appendix A**. **Appendix B** provides a fully interactive Benefit-Cost Analysis Excel worksheet. The key assumptions that derived the travel demand model results and input into the Benefit-Cost Analysis can be found in **Appendix D**.

¹⁷ Comparison between the build and no-build travel demand modeling results for the corridor, as documented in Appendix D.

Table 1 Summary of Quantitative Impacts to be Generated by the I-35 NEX Base Central Project

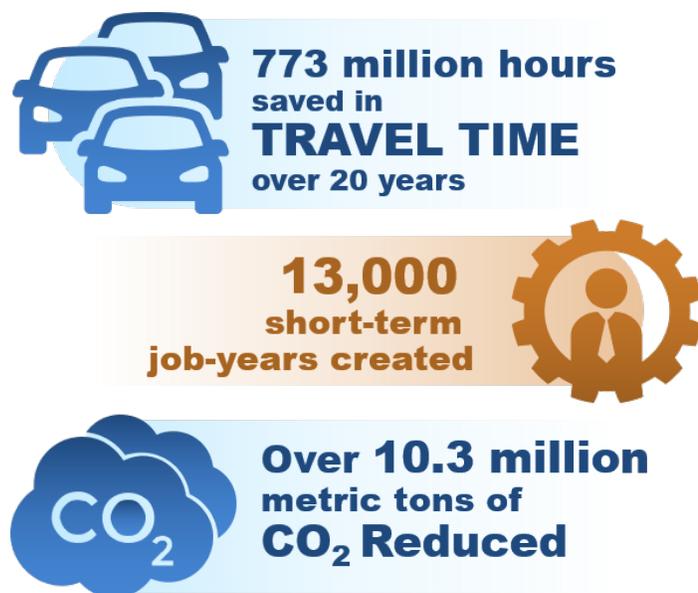
Impact Category	Dollars Discounted at 7%
State of Good Repair of the Roadway Infrastructure	\$880,957
Travel Time Benefits	\$3,228,857,270
Vehicle Operating Costs Benefits	\$1,021,444,714
Emission Costs Benefits	\$54,661,684
Traffic Safety Benefits	\$844,827,731
Operations & Maintenance Costs	-\$3,764,530
Total Benefits/Disbenefits	\$5,146,907,825
Total Capital Costs	\$948,537,653
Benefit-Cost Ratio	5.4

Source: Cambridge Systematics, Inc.

Note: Positive monetary values represent savings (benefits) and negative monetary values represent losses (disbenefits).

The I-35 NEX Base Central project generates numerous benefits, as shown in **Figure 12**. The project is projected to generate 773 million hours of travel time savings over a 20-year period, amounting to \$3.2 billion in time saved. The project's construction and operations and maintenance (O&M) spending are anticipated to create 13,000 short-term jobs which would generate \$872 million in labor income over a 20-year period.¹⁸ Nearly 50 percent of these jobs would be created within the highway, street and bridge construction industry in the state. Additionally, the project is expected to reduce carbon dioxide emissions by over 10.3 million metric tons, contributing to the savings of \$54.6 million in pollution costs.¹⁹ The I-35 NEX Base Central project also improves road safety resulting in \$845 million in savings associated with a reduction in traffic crashes over 20 years.

Figure 12 I-35 NEX Base Central Project Benefits



¹⁸ The benefit of increased short-term jobs and personal income was estimated using the IMPLAN economic model for Texas and assumes that all construction costs and operations and maintenance costs would be expended in Texas.

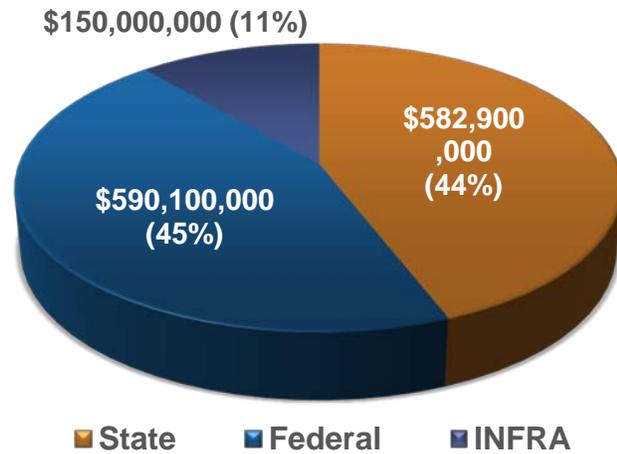
¹⁹ Monetized value of reduced emissions includes Carbon Dioxide (CO₂), Volatile Organic Compounds (VOCs), Nitrogen Oxides (NO_x), Particulate Matter (PM_{2.5}) and Sulfur Dioxide (SO₂), as documented in Appendix B

5.2 Leveraging of Federal Funding

5.2.1 Activities to Maximize Non-Federal Funding

The estimated cost of the I-35 NEX Base Central project is \$1.323 billion. TxDOT is proposing to leverage \$1.173 billion in existing funding with a requested \$150 million in INFRA grant funds. The I-35 NEX Base Central project will utilize \$582.9 million of State funds including Proposition 1 and Proposition 7 funding as the State match. The INFRA grant funds would represent 11 percent of the project's cost, well below the limit of 60 percent of total project costs. Of the \$1.173 billion in existing funding, \$582.9 million in State funds are projected to match \$590.1 million in other Federal funds. As shown in Figure 13, total Federal funding will account for 56 percent of total project costs, below the limit of 80 percent of Federal funding that can be used for eligible project costs. TxDOT is committed to partnering with USDOT on funding the I-35 NEX Base Central project. Should TxDOT be awarded INFRA funds, the Transportation Improvement Program (TIP), Statewide Transportation Improvement Program (STIP), and Unified Transportation Program (UTP) will be updated to reflect the funding ratios outlined here.

Figure 13 I-35 NEX Base Central Project Funding by Source



5.2.2 Private Funding

No private funding has been identified for use on this project.

5.2.3 Any Fiscal Constraints Limiting Use Non-Federal Contributions

There are no fiscal constraints limiting the use of non-federal contributions.

5.3 Potential for Innovation

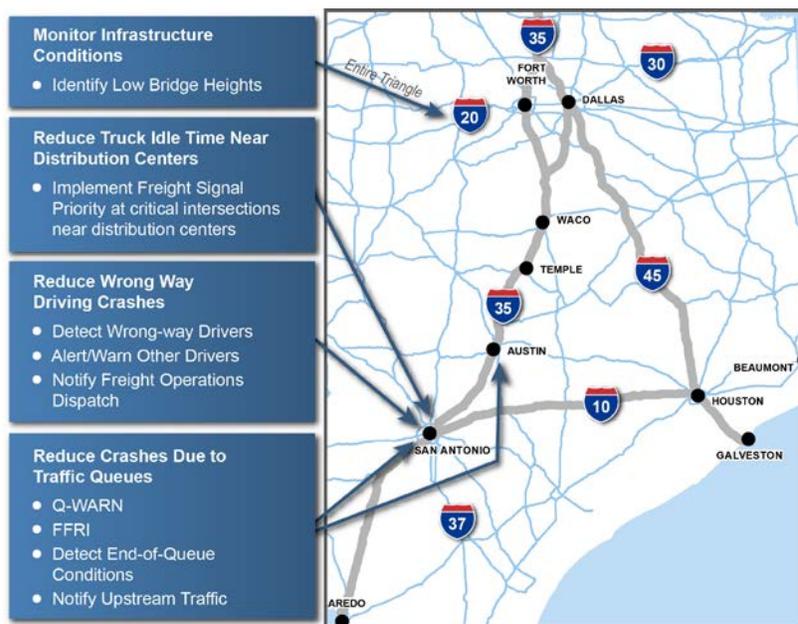
5.3.1 Innovation Area 1: Technology

The design of the I-35 NEX Base Central project will preserve the option for future broadband deployment in the right of way. Broadband deployment in the right of way would help meet the goals set forth in the National Broadband Plan and would assist with the deployment of connected and autonomous vehicle (CAV) technology, an area of current research and application in the San Antonio region and Texas more broadly.

The State of Texas is committed to using innovative technology solutions to address transportation challenges. The Texas Innovation Alliance is a collective of local, regional, and State agencies seek whose mission is to “empower public agencies, research institutions, and industry partners to leverage collective resources, co-create solutions, and share results to improve mobility for all Texas communities.” One of the Texas Innovation Alliance

members located in San Antonio, Southwest Research Institute, is a leader in CAV research and technologies and has worked with USDOT and Texas universities to provide a full-service test track for these technologies. Southwest Research Institute is working with other academic partners in Texas to collaborate with a new CAV Task Force formed by TxDOT. The task force builds on Texas Senate Bill 2205 that allows the testing of self-driving cars on the State’s roads and highways without an operator.²⁰ The task force serves as a repository for information on all on-going CAV projects in Texas and will facilitate progress in advancing CAV technology through hosting industry forums and reporting lessons learned in public and private entity efforts to implement CAV technology.

Figure 14 Connected Freight Corridors Deployment in the San Antonio Region



The I-35 NEX Base Central project is aligned with current FHWA investments in cutting-edge technologies deployed to enhance traffic capacity for commuters and businesses. The 2017 Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant awarded to TxDOT and its partner, the Southwest Research Institute, for the Texas Connected Freight Corridors Project aims to deploy connected vehicle technologies to over 1,000 commercial vehicles to improve traveler information, asset condition management, and system performance. It will deploy vehicle-to-infrastructure (V2I) and vehicle-to-vehicle (V2V) technologies with commercial vehicles to increase safety, improve real-time traffic information, and reduce the time trucks spend in congestion. Anticipating completion within four years, the project components are within the Texas Triangle, which includes I-35 from San Antonio to Dallas, via Austin, and encompasses the site of the I-35 NEX Base Central project, as shown in Figure 14.

The I-35 NEX Base Central project also benefits regional innovative transportation solutions. Recognizing the importance of the I-35 corridor and the potential of autonomous vehicle technology to reduce congestion and crashes and improve levels of service, the AAMPO has enacted a resolution to support the implementation of autonomous vehicle technology in the I-35 North Corridor.²¹

²⁰ <https://capitol.texas.gov/tlodocs/85R/billtext/pdf/SB02205F.pdf>

²¹ Alamo Area Metropolitan Planning Organization, “Resolution of Support for Implementation of Autonomous Vehicle Technology in the I-35 North Corridor,” March 26, 2018.

5.3.2 Innovation Area 2: Project Delivery

Contracting/Procurement and Every Day Counts Initiative. The I-35 NEX Base Central project will use a design-build (D-B) project delivery method. A D-B project delivery method is one of the Every Day Counts innovations recognized by the FHWA to shorten and enhance project delivery. In the I-35 NEX Base Central D-B process, design and construction phases will overlap, allowing the contractor and designer to work closely together in the development of the project. This collaboration is critical for the success of the I-35 NEX Base Central project as it allows for project delivery innovation and reductions in community and environmental impacts. The I-35 NEX Base Central D-B process benefits the project in terms of traffic control, identified as one of the major project risks. The D-B process provides the opportunity for simultaneous development of the construction traffic control plan and the means and methods of construction ensuring the most efficient management of traffic during construction and allow for project design innovations.

The D-B process ensures an efficient and effective design as utility impacts are assessed and avoided based on project risks determined during the design process. Construction is expedited due to the D-B contractor's responsibility for utility coordination, agreements, and relocations. The contractor can incorporate the long lead utilities through early utility coordination into the project schedule and plan the critical path to accommodate utility relocations.

Environmental Requirements (Programmatic Agreements). In 2014, TxDOT became the second State to assume full National Environmental Policy Act (NEPA) assignment authority, and it has become a best practice in streamlining the environmental review process. TxDOT has averaged a start-to-completion time of 18 months for Environmental Assessment projects. Prior to the NEPA assignment, Environmental Assessments took an average of 30 months to complete. NEPA assignment allows TxDOT to have greater control over project planning and scheduling, which allows local governments and stakeholders better access to decision-makers. While the original Environmental Assessment for the I-35 NEX Base Central project was performed in consultation with FHWA, the required Reevaluation was performed entirely by TxDOT staff and consultants. See **Section 6.3** for additional information on Environmental Permits and Reviews.

Environmental Requirements (Use of Permitting/Authorization Agency Liaisons). To streamline the environmental process for transportation projects, TxDOT has established a cooperative agreement with U.S. Fish and Wildlife Service (USFWS) to provide a dedicated transportation liaison.²² When consultation is needed, early coordination with USFWS helps TxDOT plan and design transportation projects to effectively avoid, minimize, and offset potential environmental impacts to natural resources, thereby reducing the time for environmental clearance. This streamlined process has benefited the I-35 NEX Base Central project with consultation, both formal or informal, which will continue throughout the project.

The USFWS liaison continues to provide significant benefits to TxDOT in the timely delivery of reviews of consultation documents. Informal consultations have been reviewed and concurred in under 30 days, and formal consultations with a completed Biological Opinion under 80 days, well under the 135-day statutory requirement. This process also ensures reduced review times as the liaison supports TxDOT District staff and consultants in improving consultation documents.

²² <http://ftp.dot.state.tx.us/pub/txdot-info/env/nepa-assignment/txdot-fhwa-nepa-assignment-mou.pdf>

5.3.3 Innovation Area 3: Innovative Funding

As noted in **Section 4.4** (Leveraging of Federal Funding Commitments), recent efforts to raise significant State funding sources dedicated to transportation investments have been solidified by two voter-approved sources, Propositions 1 and 7, and action taken by the Texas Legislature to end diversions from the State Highway Fund (SHF). Combined, Proposition 1, Proposition 7, and the end of diversions from the SHF provide stable, dependable sources of state funding to contribute to the construction, maintenance and operation of the I-35 NEX Base Central project.

5.4 Performance and Accountability

5.4.1 Plan to Address the Full Lifecycle Costs

The I-35 NEX Base Central project estimated lifecycle costs total \$948.5 million at a real discount rate of seven percent over 20 years. TxDOT is prepared to ensure the continued operation and maintenance of the project through its useful life and has a history of fully funding maintenance on the Texas road system. The anticipated design-build contract for the I-35 NEX Base Central project will include an operations and maintenance period of up to 15 years. TxDOT appropriates funds on a biennial basis. TxDOT's FY 2020 to 2021 Legislative Appropriations dedicated approximately 40 percent of its funding to the maintenance and replacement of State highway projects. The primary funding sources include gas tax revenues, vehicle registration fees, Federal reimbursements, and local funding sources.

TxDOT submitted to FHWA in April 2019 the Texas Transportation Asset Management Plan (TAMP). The TAMP details the processes by which the State 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. These methods include using semi-automated procedures for obtaining pavement condition information; forecasting future pavement conditions to recommend optimized pavement work plans; implementing four-year pavement management plans; and standardized and regularly scheduled bridge inspections to assist in the prioritization of structural rehabilitation and replacement. TxDOT is committed to funding the full lifecycle costs the I-35 NEX Base Central project evident from the dedicated funding sources, private sector contractual obligations and its TAMP strategy ensuring continued network performance.

5.4.2 Accountability Measure

Travel time savings will serve as a project success indicator, representing a key performance objective that supports economic vitality within the region and on the National Freight Highway Network. Should TxDOT be awarded INFRA funds, TxDOT will condition \$10 million of INFRA funding based on the ability of the completed I-35 NEX Base Central project to generate 142 million minutes of travel time savings within 12 months of project completion.

Additional accountability measures focused on ensuring the project's success will be included in TxDOT's design-build contract, such as liquidated damages clauses to protect against delays in completion by the contractor, monthly reporting of schedule progress to include issuing non-compliance points, and recovery schedules if schedule problems arise. The design-build contract will also include lane closure assessment fees to ensure the traffic control plans are optimizing efficient traffic flow during construction.

6 Project Readiness

6.1 Technical Feasibility

TxDOT has completed the I-35 NEX Base Central project geometric design schematics (found on the [Project's Public Hearing website](#)) with the final design to be completed through the design-build contract awarded in early 2021. FHWA environmentally cleared the project in July 2015. Several proposed modifications to the previous NEPA-approved project design necessitated the preparation of a Reevaluation of the EA. This Reevaluation, accepted in September 2019, established the original 2015 FONSI remains valid for federal action, given the expanded project scope.²³

The project design criteria adhere to the TxDOT Roadway Design Manual, TxDOT Bridge Design Manual, Texas Manual on Uniform Traffic Control Devices (TMUTCD), and other State and Federally approved design standards.

The cost estimate, which includes engineering, construction, right of way, and utility relocation costs, is based on a detailed review of the preliminary design drawings. TxDOT has conducted an FHWA-approved Cost Estimate Review (CER) process, which demonstrates that project risks have been carefully considered and project delivery has been carefully planned. A five percent project contingency is included in the cost estimate to account for unknowns and detailed items that are difficult to estimate specifically at the current stage of project development.

6.2 Project Schedule

The I-35 NEX Base Central project D-B contract should be awarded in early 2021, providing enough time to complete the final design and begin construction within 18 months of the funding obligation. Contract execution for the D-B contract will occur in Spring 2021 as shown in **Figure 15**.

Figure 15 Project Schedule



²³ <http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/i-35-nex/09232019-reevaluation-checklist.pdf>

6.3 Required Approvals

6.3.1 Environmental Permits and Reviews

NEPA Status

An EA was completed in February 2015 for I-35 proposed improvements from I-410 South in San Antonio to FM 1103 in Schertz and included the addition of two tolled managed lanes in each direction on an elevated structure and direct connector improvements at I-410 North, I-410 South, and Loop 1604 West.²⁴ FHWA issued a Finding of No Significant Impact (FONSI) for the entire project in July 2015.²⁵

Several proposed modifications to the previously NEPA-approved project design necessitated the preparation of a Reevaluation of the EA, which was accepted in September 2019.²⁶ The revised project includes the addition of two general purpose (GP) lanes and one HOV lane in each direction on an elevated structure. The revised project also includes direct connectors at the following major interchanges: I-410 North, I-410 South and Loop 1604 West. The original EA and the Reevaluation project limits extend beyond the limits of the I-35 NEX Base Central project. The limits of the environmental documents represent the entire I-35 NEX Corridor from I-410 South in San Antonio to FM 1103 in Schertz. For more information detailing the project limits assessed in the EA and Reevaluation, see **Appendix E**.

Reviews, Approvals, and Permits by Other Agencies

The Reevaluation of the EA determined the need for coordination with the following agencies:

TxDOT Right of Way Acquisition and Relocation Assistance Program. The Reevaluation of the EA found a total of 35.9 acres of proposed right of way would be required, resulting in 19 total displacements. Acquisition and relocation assistance would be coordinated in accordance with the TxDOT Right of Way Acquisition and Relocation Assistance Program. Right of way possession, anticipated by Spring 2021, is needed prior to utility relocation.

Texas Commission on Environmental Quality (TCEQ). TxDOT will use appropriate erosion and sedimentation controls during construction to control the discharge of pollutants in accordance with the TCEQ Construction General Permit and Storm Water Pollution Prevention Plan. After construction, all disturbed areas will be stabilized and re-vegetated according to standard practices for urban areas.

Texas Parks and Wildlife Department (TPWD). Coordination with the TPWD was completed in August 2019 as part of the Reevaluation of the EA process. TxDOT commits to comply with all Federal, State and local laws that protect plants, fish and wildlife.

U.S. Army Corps of Engineers. The Reevaluation of the EA identified a total of 25 waters of the U.S. potentially impacted by the reconfiguration of existing mainlanes and frontage roads of the I-35 NEX Base Central project. The impact to the waters of the U.S. would require various permits from the U.S. Army Corps of Engineers, including Nationwide Permit 14 – Linear Transportation Projects; Pre-Construction Notifications; Individual Permit; or a Section 404 Permit. The D-B contractor will obtain final approval prior to construction in Fall 2021.

Local Floodplain Managers. The project limits considered in the Reevaluation of the EA crosses the 100-year floodplain at 13 potential waters of the U.S. locations. Although the Reevaluation of the EA found that

²⁴ <http://ftp.dot.state.tx.us/pub/txdot-info/sat/projects/i35-pel/ea.pdf>

²⁵ <http://ftp.dot.state.tx.us/pub/txdot-info/sat/projects/i35-pel/fonsi.pdf>

²⁶ <http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/i-35-nex/09232019-reevaluation-checklist.pdf>

no changes to the base flood elevation would occur as a result of the project, coordination with local floodplain managers is required during design and construction phases to ensure local regulations are followed.

Texas Historic Commission/State Historical Preservation Officer. Review and coordination of the proposed project followed approved procedures for compliance with federal and state laws requiring consideration of cultural resources during project planning. This project was determined to have no effect on archeological historic sites or cemeteries and no further work was recommended in the area of potential effect. The Texas Historic Commission and State Historical Preservation Officer concurred with the findings.

Utilities. This project required the relocation of several major utilities. The D-B contractor will obtain utility agreements prior to utility relocations by March 2021. Ongoing coordination with utility companies concerning potential contamination during underground utility adjustments may be required.

Federal Aviation Administration. Located approximately 200 feet from the I-35 NEX Base Central project, the heliport at the Brooke Army Medical Center is within the FAA coordinated “buffer” and has the potential for obstruction of air navigation. The Notice of Proposed Construction or Alteration (Form 7460-1) will be completed and submitted during the design phase of the project. TxDOT anticipates Federal Aviation Administration approval prior to construction by Fall 2021.

Railroads. The I-35 NEX Base Central project requires a construction and maintenance agreement with Union Pacific Railroad to provide TxDOT license and permission to perform work within the railroad right of way. A contractor Right-of-Entry agreement will also be needed between the contractor and the railroad company. TxDOT is scheduled to receive concept approval by Spring 2020. The D-B contractor is anticipated to obtain final approval prior to construction by Fall 2021.

Environmental Studies or Other Documents

Resources reviewed as part of the Reevaluation of the EA and the EA consisted of community impacts (regional and community growth; community cohesion; limited English proficiency populations; environmental justice communities; public facilities and services; rights of way acquisition; easements; displacements and relocations; and Section 4(f) and 6(f) properties; aesthetic considerations; cultural resources air quality; biological resources; water resources; traffic noise; hazardous materials; construction impacts; and airway-highway clearance. The EA document provides detailed information on the analysis, potential impacts, and proposed mitigation of the identified resources.²⁷ The Reevaluation of the EA documents the changes in project design and scope change from the original environmental decision and summarizes the impacts as a result of the changes.²⁸

Discussions with Federal Highway Administration

To ensure proper review and compliance with Federal, State, and local regulations, TxDOT coordinated with FHWA throughout the development of the EA. At the conclusion of the EA, FHWA accepted the findings from the study and issued a FONSI on July 2, 2015.

The project will include continued discussions and coordination with FHWA as part of the design-build procurement, including the conduct of major project requirements (projects with total costs that are greater than \$500 million) and approval of the project’s Interstate Access Justification Report (IAJR). Early coordination on these elements has been conducted with FHWA and is ongoing.

²⁷ <http://ftp.dot.state.tx.us/pub/txdot-info/sat/projects/i35-pel/ea.pdf>

²⁸ <http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/i-35-nex/09232019-reevaluation-checklist.pdf>

Public Involvement

TxDOT held five public engagement opportunities over the course of the EA.²⁹ Outreach for the EA built off the public, agency, and stakeholder involvement programs administered during the I-35 PEL Study. The first public meetings were held in Schertz on October 28, 2013, in Windcrest on October 29, 2013, and online for the month of October 2013. The meetings allowed attendees to provide input on preliminary design options and potential impacts of the proposed improvements. Meetings with affected property owners were held on October 28, 2014, and October 30, 2014. Invitation letters were mailed to all affected property owners, including the project description, location map, and a personalized map showing the proposed right of way needs specific to each owner's property. A public hearing held in San Antonio on February 26, 2015, provided an opportunity for community members to provide input on the Draft EA. The majority of the comments from the public involved issues or questions related to the location of entry and exit points, general support for the project and its capacity to provide options for travel and its ability to have a positive impact on the economy. Other comments focused on utilizing current funding for non-tolled roads and concerns over the right of way acquisition. Overall, commenters generally supported the proposed expansion of I-35 in Northeast San Antonio.

Additional public involvement efforts as part of the Reevaluation included agency coordination, meetings with affected property owners, stakeholder meetings, and a public hearing.³⁰ On November 20, 2018, TxDOT held an agency coordination meeting at the San Antonio District Office. On December 12, 2018, and March 21, 2019, TxDOT held stakeholder meetings with the City of Live Oak. In June and July 2019, TxDOT conducted meetings with affected property owners. Invitations were sent to 67 adjacent property owners and 21 owners attended the meetings. On August 15, 2019, TxDOT held a public hearing in San Antonio that included a formal presentation. A total of 191 individuals attended the hearing and 34 comments were received.

6.3.2 State and Local Approvals and Planning

The I-35 NEX Base Central project has received the necessary State and local approvals to advance into the next phase of project development. The AAMPO included the I-35 NEX Base Central project in the Mobility 2045 transportation plan.³¹ Funds for the I-35 NEX Base Central project are identified in Mobility 2045 and AAMPO's 2019-2022 Transportation Improvement Program (TIP), adopted on April 22, 2019. The TIP has been incorporated into the Statewide Transportation Improvement Program (STIP). The I-35 NEX Base Central project is identified in TxDOT's 2018 Freight Mobility Plan, which identified freight needs, challenges, goals, policies, and investments across the State.³² The project is also identified in TxDOT's 2020 Unified Transportation Program (UTP), which serves as the 10-year planning guide and identifies projects and programs that are planned to be constructed and/or developed within the first 10 years of the 24-year Statewide Long- Range Transportation Plan.

²⁹ <http://ftp.dot.state.tx.us/pub/txdot-info/sat/projects/i35-pel/022615-summary.pdf>

³⁰ <http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/i-35-nex/081519-documentation.pdf>

³¹ The I-35 corridor is included in the 2035, 2040, and 2045 Alamo Metropolitan Planning Organization (MPO) Metropolitan Transportation Plans. AAMPO Mobility 2035, http://www.alamoareampo.org/Plans/MTP/docs/Mobility2035/Mobility2035_FULL.pdf, AAMPO Mobility 2040, <http://www.alamoareampo.org/Plans/MTP/docs/Mobility2040/Final%20MTP%20Revised%20March%2010%202015.pdf>, AAMPO Mobility 2045, http://www.alamoareampo.org/Plans/MTP/docs/Mobility2045/Mobility2045_document.pdf

³² <http://ftp.dot.state.tx.us/pub/txdot/move-texas-freight/studies/freight-mobility/2018/plan.pdf>



6.4 Assessment of Project Risks and Mitigation Strategies

TxDOT has completed an assessment of project risks. Mitigation strategies to address those risks will continue throughout the project development process. Some of the identified risks will be mitigated through the innovative D-B project delivery process. The most significant risks and mitigation strategies are summarized in Table 2.

Table 2 Project Risks and Mitigation Strategies

Project Risk	Mitigation Strategy
Project Funding	TxDOT has built a five percent contingency into the project. If additional funds are needed, TxDOT will work to secure additional funding through Proposition 1 and 7 funding sources and/or segment the project in phases.
Traffic Control – Complexity of maintaining traffic flow with constructing structures adjacent to traffic	Risk is dependent on the proposed design developed through the D-B project development process. TxDOT has included traffic control requirements as part of the D-B request for proposals.
Interchange Justification Report (IAJR)	The project design requires a request for approval of new or revised points of access on completed sections of the interstate system. TxDOT will ensure the project’s proposed changes in access are acceptable in terms of safety, environment, design, and operation and will conduct an internal review prior to submittal to FHWA.
Utilities – Conflicts (new and/or unidentified)	The schematic design avoids as many utility conflicts as possible and D-B teams will be motivated to minimize utility conflicts in further project development. All unavoidable conflicts will be addressed early in the project development to minimize the risk to the schedule.
Railroad Coordination	The project design will span the entire railroad right of way to avoid delays in coordination. TxDOT anticipates receiving concept approval by March 2020. The D-B contractor is anticipated to obtain final approval prior to construction in Fall 2021.

7 Large Project Requirements

The I-35 NEX Base Central project is considered a Large Project under the INFRA Grant program requirements. As such, this project meets the criteria list in the Notice of Funding Opportunity as follows.

7.1 The Project Generates National and Regional Economic, Mobility, or Safety Benefits

As described in Section 5.1 this project will generate a multitude of economic, mobility, and safety benefits by alleviating congestion, enhancing freight efficiency and reliability, and connecting communities (Figure 16).



Figure 16 The I-35 NEX Base Central Project Generates National and Regional Economic, Mobility, and Safety Benefits



I-35 NEX alleviates congestion on of the Texas most congested highways

- Between 2007 and 2017, Gross Regional Product (GRP) for the San Antonio-New Braunfels MSA grew by 63 percent to \$130 billion - nearly twice the growth rate of U.S. GDP.

I-35 NEX enhances freight efficiency and reliability

- I-35 is one of Texas' top three statewide corridors for highway freight tonnage, carrying almost 60 million tons in 2016.



I-35 NEX connects communities

- Population and employment is projected to increase by 59 and 86 percent respectively between 2018 and 2045.

I-35 NEX enhances accessibility to numerous regional activity centers and economic drivers

- Joint Base San Antonio alone is estimated to contribute over \$30 billion annually to the Texas economy.



7.2 The Project is Cost Effective

The I-35 NEX Base Central project will generate an estimated \$5.4 in public benefits for every \$1 spent, based on a seven percent discount rate. **Section 5.1.1** provides an in-depth discussion of the benefit-cost analysis.

7.3 The Project Contributes to One or More 23 U.S.C. 150 Goals

7.3.1 Safety

The project will improve interactions between roadway users by improving design standards that include HOV lanes, ramp reconfigurations, and facilities for pedestrians that will result in safer roadway configurations, improved sight distances, and reduced congestion, all resulting in fewer traffic conflicts. Pedestrian facilities are enhanced and expanded in the project. As described in **Section 5.1.1**, nearly \$845 million will be realized in traffic safety benefits from a reduction in crashes due to reduced vehicle miles traveled (VMT).

7.3.2 Infrastructure Condition

Upgrades to the existing system will ensure that Texas' highway infrastructure assets remain in a state of good repair. The Texas Transportation Asset Management Plan supports TxDOT's goal of preserving the State's transportation assets. Plans to address lifecycle costs are discussed in **Section 5.4.1**.

7.3.3 Congestion Reduction

As part of the Texas Clear Lanes program of projects, the I-35 NEX Base Central project has already demonstrated a large anticipated congestion relief benefit along one of the State's most constrained corridors. Impacts on VMT and congestion are discussed in **Section 5.1.1**.

7.3.4 System Reliability

The project's added capacity will increase efficiency and reliability by accommodating growing demand and alleviating bottlenecks that affect both freight and passenger travel. By 2045, the I-35 NEX Base Central project is forecast to decrease vehicle delay by 65 percent.³³ Travel time savings benefits are discussed in **Section 5.1.1**.

7.3.5 Freight Movement and Economic Vitality

As part of the National Highway Freight Network, the project will strengthen access to national and international trade markets, including the Laredo international port of entry and Port San Antonio, and improve supply-chain connections. The I-35 NEX Base Central project will support regional economic growth by improving access to employment centers, new and existing residential areas, and critical services such as education, health care and recreational facilities. National and Regional Economic Vitality are discussed in **Section 5.1**.

7.3.6 Reduced Project Delivery Delays

The project will be delivered as D-B, which will minimize delays in the project development and delivery process. Performing environmental reviews in-house through the NEPA assignment agreement and utilizing TxDOT's USFWS liaison to oversee any needed endangered species consultations will also reduce project delivery delays. See **Section 5.3.2** for more information.

7.4 The Project is Based on the Results of Preliminary Engineering

The I-35 NEX Base Central project is based on the results of the completion of the environmental review process. The Environmental Assessment (EA) and the corresponding Finding of No Significant Impact (FONSI) were issued in July 2015.³⁴ Several proposed modifications to the previously NEPA-approved project design necessitated the preparation of a Reevaluation of the EA, which was accepted by FHWA in September 2019.³⁵

The TxDOT has completed geometric design schematics (found on the [Project's Public Hearing website](#)), with the final design to be completed through the D-B contract awarded in early 2021. The project design

³³ Comparison between the build and no-build travel demand modeling results for the corridor, as documented in Appendix D.

³⁴ <http://ftp.dot.state.tx.us/pub/txdot-info/sat/projects/i35-pel/ea.pdf>

³⁵ <http://ftp.dot.state.tx.us/pub/txdot/get-involved/sat/i-35-nex/09232019-reevaluation-checklist.pdf>

criteria adhere to the TxDOT Roadway Design Manual, TxDOT Bridge Design Manual, Texas Manual on Uniform Traffic Control Devices (TMUTCD), and other State and Federally approved design standards.

7.5 The Project has One or More Stable and Dependable Non-Federal Funding Sources

The I-35 NEX Base Central project has \$1.173 billion in committed funds, which is 89 percent of the total project cost. Of the committed funding, \$582.9 million represents non-Federal financial commitments to construct the project derived from several stable State revenue sources, as outlined in **Section 4.4**, including State Motor Fuel Tax, State Vehicle Registration Fees, and Propositions 1 and 7 funding.

A project budget showing each source of funding's share in the major construction activities is discussed in **Section 4.3**. A project contingency of \$60 million is included in the project budget in order to account for unknowns and detailed items that are difficult to estimate at the current stage of project development.

7.6 The Project Cannot Be Completed Easily or Efficiently without Federal Funding

Federal funds are critical to leveraging the State funds made available through overwhelming voter support through Proposition 1 and Proposition 7. If Federal funding, including the INFRA grant, were not available to support the I-35 NEX Base Central project, the project development schedule would be delayed by five to ten years, causing a significant increase in total project costs and delay in providing the project's full spectrum of economic benefits to the growing community.

An extended schedule would increase the costs of the professional services associated with the D-B contract. It would also increase the risk to the project of increased costs of construction materials and construction labor due to potential material shortages or labor shortages. As discussed in **Section 1**, the counties supported by the I-35 corridor are growing at a rapid pace. Any delay in acquiring right of way would result in increased project costs due to escalating property values and intense development along the corridor. This project is also critical to Bexar County's transportation conformity and a pause in the scheduled implementation would delay the timely attainment of national air quality standards.

7.7 The Project is Reasonably Expected to Begin Construction within 18 Months from Obligation

The project schedule and committed funding of \$1.173 billion ensure that the project is reasonably expected to begin construction within 18 months after the date of the obligation of funds. A draft request for proposals for the project was released in Fall 2019, and the D-B contract is anticipated to be executed in Spring 2021 (as referenced in **Section 6.2**).