



Interstate Highway 35W North Tarrant Express (NTE) FASTLANE Grant Application

Project Name: I-35W North Tarrant Express	
Previously Incurred Project Cost	\$20,773,325
Future Eligible Project Cost	\$631,528,000
Total Project Cost	\$631,528,000
FASTLANE Request	\$83,000,000
Total Federal Funding (including FASTLANE)	\$280,752,000
Are matching funds restricted to a specific project component? If so, which one?	Yes, ROW acquisition, U-Turn Bridges, and Mark IV Parkway improvements
Is the project or a portion of the project currently located on National Highway Freight Network?	Yes
Is the project or a portion of the project located on the National Highway System?	Yes
<ul style="list-style-type: none"> Does the project add capacity to the Interstate system? Is the project in a national scenic area? 	Yes No
Do the project components include a railway-highway grade crossing or grade separation project?	No
Do the project components include an intermodal or freight rail project, or freight project within boundaries of a public or private freight rail, water, or intermodal facility?	No
If answered yes to either of the two component questions above, how much of requested FASTLANE funds will be spent on each of these projects components?	NA
State(s) in which project is located.	Texas
Small or large project	Large
Urbanized Area in which project is located, if applicable.	Dallas-Fort Worth-Arlington
Population of Urbanized Area.	7,102,796
Is the project currently programmed in the:	
<ul style="list-style-type: none"> TIP STIP MPO Long Range Transportation Plan State Long Range Transportation Plan State Freight Plan 	Yes Yes Yes Yes Yes

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Project Description

Running through the heart of Fort Worth, Texas and the Alliance Texas Global Logistics Hub is Interstate Highway 35W (I-35W), an aging and outdated highway that traverses the middle section of our country. Of particularly importance, I-35W is on the National Primary Freight Highway System as designated by the FHWA and is a direct route from Mexico to Canada and has easy connections to Interstate Highways 20, 30 and 40.

I-35W serves as the lifeline for the entire Dallas-Fort Worth-Arlington Census-designated Urbanized Area (ID 22042), connecting one of the world's largest inland ports with major employers, communities and other transportation systems, including rail and air. Although the major sections of the highway are currently being improved through a Public Private Partnership (the North Tarrant Express), there are **five critical projects that cannot be completed without a federal grant within the proposed timeframe**. These five projects are necessary improvements that will allow this region to create its own **"Ladders of Opportunity."**

The Alliance Global Logistics Hub (AGLH) is one of only two intermodal logistics facilities connecting air, road and rail in Texas. The AGLH includes the Alliance Airport (the world's first industrial airport), BNSF Alliance Intermodal Facility, Union Pacific and BNSF Class-1 rail lines, the FedEx Southwest Regional Sort Hub, and the Walmart Southwest eCommerce fulfillment hub. Operations at AGLH contributed \$10.9 billion to the Texas economy in 2015 alone, with employment nearing 45,000.

BNSF Railway is one of North America's leading freight transportation companies with a rail network of 32,500 route miles in 28 states and three Canadian provinces. It is one of the top transporters of products and materials that help feed, clothe, supply and power communities throughout America and the world. BNSF moves those goods more safely and efficiently, on significantly less fuel, with fewer emissions than the all-highway alternative.

In 2014, the Dallas-Fort Worth-Arlington region was considered the ninth largest export market in the United States with



approximately **\$28.7 billion in total merchandise exports**, much of which utilizes I-35W. Keeping the Metroplex competitive in this market requires mobility and supporting transportation infrastructure.

On November 30, 2016, Texas Comptroller Glenn Hegar held a press conference in Fort Worth, touting the importance of the Alliance Global Logistics Hub. “These facilities serve as important logistics hubs, providing tenants access to runways, major highways and railways. Ongoing capital investments and recently announced expansions are strong indicators of Alliance’s economic potential.” When asked about the economic importance of I-35W to the region, Mr. Hegar said, “Oh, it’s critical.”



Knowing that transportation is critical to connecting people and communities to economic opportunity, the 35W Coalition addresses the mobility challenges facing the region, particularly along the I-35W corridor. [Click to view video.](#)

To connect the overall Fort Worth community, and the AllianceTexas community (Appendix A), including the Alliance Global Logistics Hub and corporate campuses, office complexes, tech and data centers, retail and entertainment venues, residential housing, schools, churches and community shopping steaming from this transportation hub, in particular, to the massive economic engine in this region comprised by automotive, aerospace/aviation, logistics, eCommerce/electronics, pharmaceutical/healthcare, and consumer goods/services, TxDOT seeks an \$83 million FASTLANE grant advance unfunded construction elements of particular importance to residents, businesses and stakeholders (Appendix B) along the I-35W corridor. **These projects are “shovel-ready” and will greatly enhance our ability to revitalize, connect and provide work in the region.**

Eligibility

The Texas Department of Transportation (TxDOT) is officially requesting an \$83 million large project Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE grant for the I-35W North Tarrant Express (NTE) Project in Tarrant County, Texas.

To begin the I-35W improvements, TxDOT utilized an innovative financing method, a public-private partnership. The interim configuration of the I-35W NTE Project is currently being financed, constructed, operated and maintained for 52 years through a comprehensive development agreement (CDA) in exchange for toll collection. The region undoubtedly benefits from enhanced through-movement of goods, people and services provided by general purpose and managed lane construction. However, TxDOT recognizes the need to better connect communities to commercial, recreational and job centers.

Funds and Usage

Except for overall assistance with corridor ROW purchase, grant request elements enhance local connectivity, access to jobs, development opportunities, freight movement and general mobility. U-Turn bridges, northwest quadrant frontage road and Golden Triangle intersection

improvements are all planned elements of the I-35W NTE Ultimate configuration. With this grant, adjacent businesses and communities will not have to wait until 2040 or beyond for construction of the Ultimate. These Ladders of Opportunity will be available with initial construction. Described here are the five elements requested as a part of this \$83 million grant request.



U-Turn Bridges

1 Right-of-Way (ROW)

As part of the I-35W NTE construction, TxDOT is responsible for \$18M in ROW acquisition cost. ROW acquired with this funding accommodates the Ultimate configuration so that property owners will only be inconvenienced once by the process – not twice. Acquiring to Ultimate now also allows purchase at current value rather than at a much greater cost in the future.

2 U-Turn bridges

SH170, Heritage Trace, and North Tarrant Parkway intersect I-35W and carry significant local traffic volumes. With the rapid growth of residential, retail and commercial centers on either side of I-35W, U-turn bridges will improve connectivity to these centers, reducing already existing intersection congestion and improving travel times.



Interchange Frontage Road

3 I-35W/IH820 Interchange frontage road

The NW quadrant frontage road in the interchange is not included in interim construction of I-35W NTE, yet it is the important final piece to completing circulation for the church, elementary school, apartments, neighborhoods and distribution centers in the vicinity. This frontage road provides access to Mark IV Parkway which connects these lower income neighborhoods and industry north of the interchange to those south of the interchange.

4 I-35W/IH820 Interchange bridge replacement over Mark IV and Mark IV improvements

The I-35W/IH820 interchange bridges over Mark IV are 50+ years old and are not wide enough to accommodate the planned Mark IV footprint. Once those are rebuilt, the Mark IV intersection can be improved and the small radius jug handle ramps can be replaced with standard ramps. Excess ROW will be reserved for a planned park and ride facility. Truck traffic that moves in and around the Mark IV area will be able to access the I-35W/I-820 interchange. A U-Turn bridge will be added so that the vacant property in the northwest quadrant will have improved access to the interstate and thus more attractive to develop. These elements will improve connectivity, mobility and access to both existing and future jobs that will no doubt be created with the planned improvements.



Interchange Bridge Replacement and Mark IV Improvements

5 Golden Triangle

Improvements to this intersection are compatible with City of Fort Worth Master Thoroughfare Plan and increase connectivity to residential and commercial centers.

See also Figure 1 on page (i).

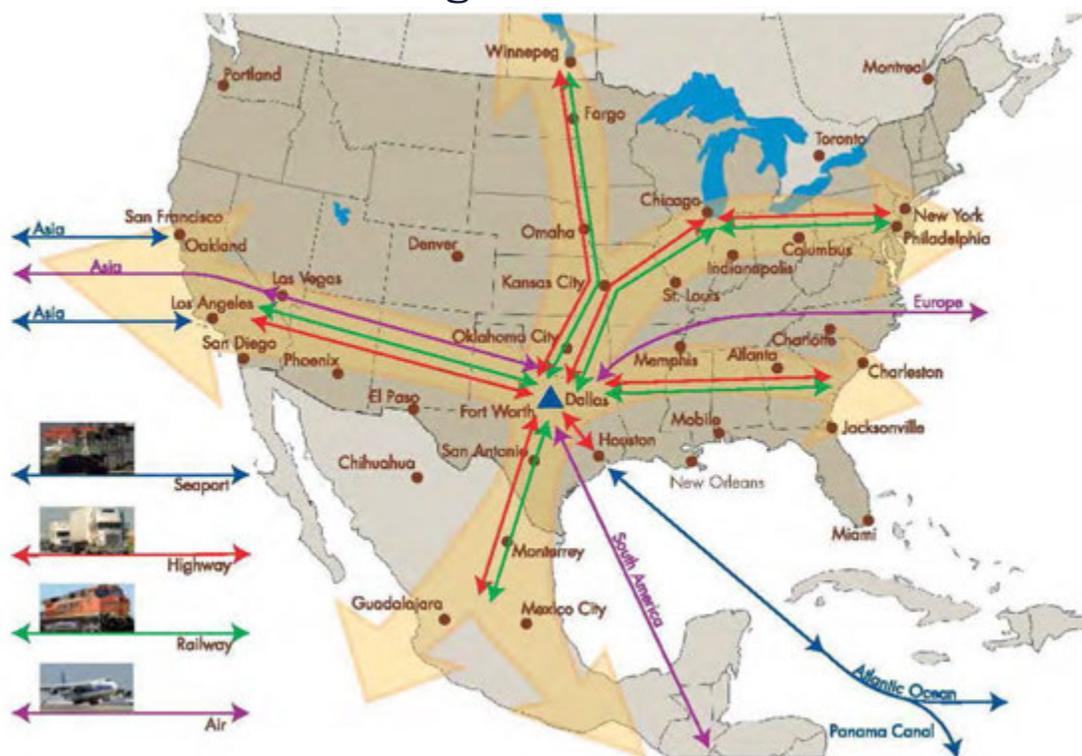
National and Regional Significance

The Dallas/Fort Worth Metroplex is home to Alliance Global Logistics Hub, a one-of-a-kind supply chain inland port that is not found any other place in the world, and, as shown in Figure 2, is connected to many parts of the country and world. This large, heavily commercialized facility has many tenants serving a wide variety of market sectors that rely on commercial freight carriers to receive and deliver products. The AGLH is also home to Foreign Trade Zone #196, a specialized area that provides national and international companies with economic, supply chain and tax benefits, which makes the area an attractive location for global businesses. As a result, the Dallas-Fort Worth Metroplex is one of the largest global inland distribution centers in the world with significant trade activity coming through land, air, and rail intermodal facilities linking all the freight transportation modes.

The Dallas/Fort Worth Metroplex is serviced by the nation's three largest Class 1 railroads (BNSF, UPRR and KCS). They have major regional operations hubs that offer efficient freight movement to key sea ports and Inland Ports of Entry across the United States, Mexico and Canada. In part due to the North American Free Trade Agreement (NAFTA) and linking East and West coast destinations, the region has become an important regional, national, and intermodal center for air, rail, and truck distribution. And I-35W is the backbone for it all.

I-35W is essential to trucking services between the AGLH and populations up to 500 miles away. After the I-35W NTE Project is constructed, improved access and connectivity to this global logistics hub will facilitate efficient and safe movement of freight and enhance economic competitiveness of the region, state, and nation. It will also improve first and last mile connections to the air cargo airport, rail facilities, and the distribution complex in the region.

Figure 2: Alliance Global Logistics Hub



Beyond that, the area adjoining I-35W NTE Project is home to many of the **largest employers** in the region and some of the **most recognized brands in the world**:



Housing construction, healthcare and retail development around the I-35W NTE corridor have accelerated at a pace consistent with job growth in the area. However, local governments have struggled to keep up with infrastructure needed to connect people with opportunities.

NTE Users

Locally, the I-35W NTE Project will provide citizens with reliable, closer and affordable connections to employment, education, healthcare and other critical services. It will allow more people to realize their economic potential and improve businesses' access to a diverse workforce. It will have a dramatic impact on neighborhoods, schools and the overall region by allowing for healthy "main street" centers and by helping small and disadvantaged business enterprises.

Globally, the I-35W NTE Project will facilitate the efficient and safe movement of freight and people through the region, state of Texas, nation, and to and from Mexico and Canada. The North Central Texas Council of Governments (NCTCOG) conducted an origin-destination study as part of the project's Environmental Assessment (EA) and found that approximately 42 percent of the region will have at least one trip a day on I-35W in 2035 with a potential total of approximately 44,000 daily trips. The origin-destination study found that many of the project's freight and passenger users will come from the local region.

According to the project's 2007 Traffic Analysis study, approximately 11.6 percent of traffic along this segment of the I-35 NTE Project is comprised of freight traffic. Of the 42 percent of traffic using the proposed I-35W NTE Project, approximately 4 percent would include regional truck traffic. The remaining traffic is freight and passenger vehicles with destinations and origins other than the NCTCOG region.

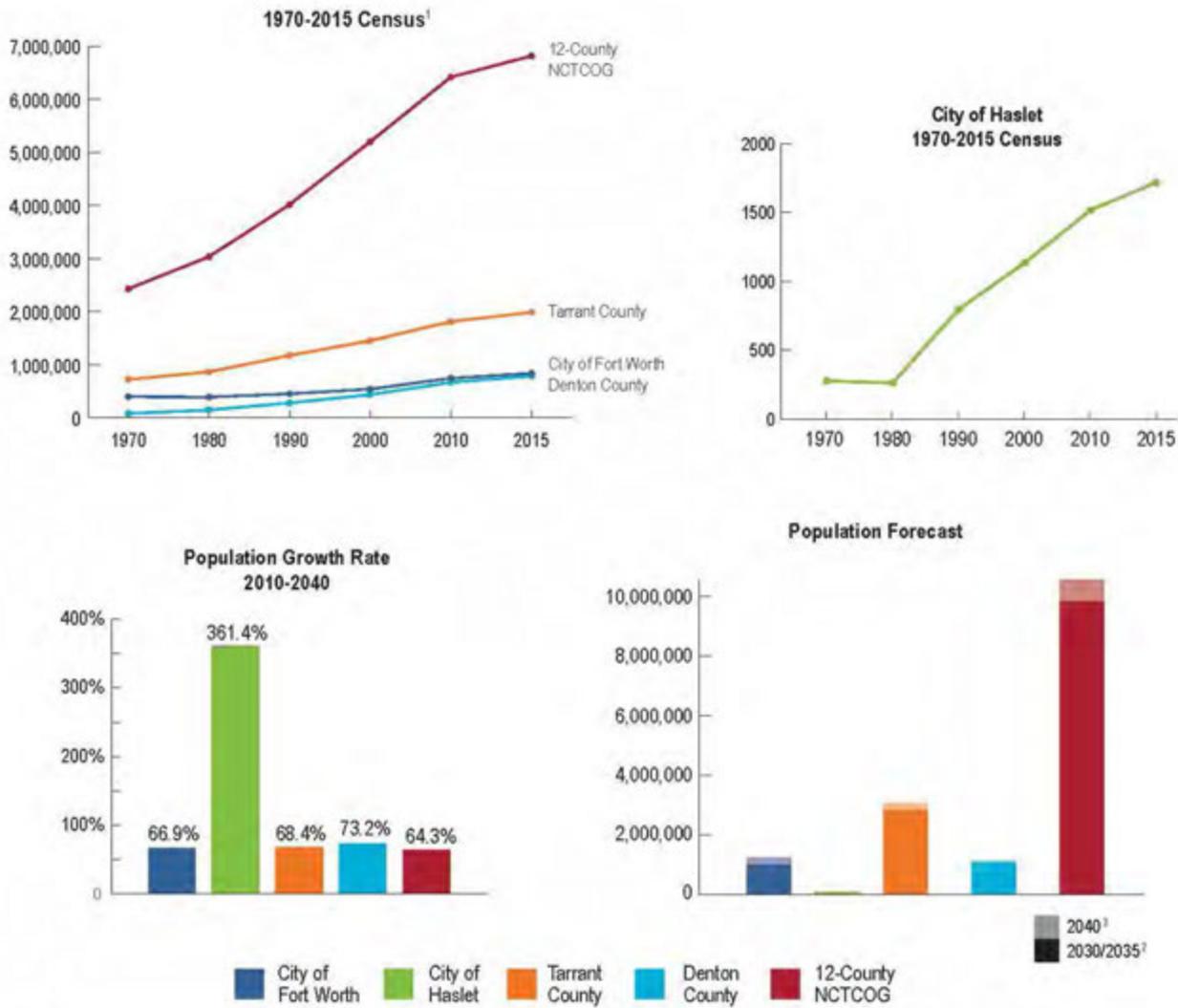
Transportation Challenges and Solutions

Challenge: The I-35W NTE Project is needed due to projected freight, population, and employment growth. As shown in Table 1, the project area and the region are anticipating a staggering 64 percent population growth through 2040. If the needed improvements on I-35W NTE Project are not implemented, freight movement and passenger mobility will be negatively impacted, in addition to the region, state, and nation's economies. According to the EA, traffic congestion has and will continue to increase alongside population growth. The I-35W NTE Project is anticipated to see traffic volume increase from 25,000,000 vehicles per year in 2015 to over 40,000,000 vehicles per year in 2040. This **60-percent increase translates to nearly 26,000 hours in traffic delays in 2040** if no corridor improvements are completed. According to 2016 American Trucking Research Institute Study on the Cost of Congestion to the Trucking Industry, the Dallas Fort Worth-Arlington Metropolitan area ranked 6th among the top ten Metropolitan areas by total cost of congestion to the trucking industry with more than \$1 billion.

In addition, the current highway infrastructure has several design and operational deficiencies. The weaving distances between I-35W and SH 170 are currently too short, which cause unsafe driving conditions. Drivers must make unsafe maneuvers and bottlenecks result. Traffic accident rates for I-35W in the project area from March 2013

through February 2016 showed that I-35W experienced **518 crashes, including six fatalities**.¹

Table 1: Population and Employment Data for the Project Area



Sources:

- ¹U.S. Census 2010 PL94-171, NCTCOG (February 2011)
- ²Texas Water Development Board, 2011 Regional Water Plan Population Projections for 2000-2060 for Cities, Utilities, and County- Other Region by County, Region C (July 2010)
- ³NCTCOG 2040 Demographic Forecast, <http://www.nctcog.org/nis/demographics/forecast.asp> (February 2011), available at county-level only.

Solution: The purpose of the I-35W NTE Project is to improve the mobility, reliability, and safety of moving people along the corridor. Adding capacity through the additional managed lanes will help meet the projected demands for I-35W. The project will also upgrade the I-35W NTE Project to current design standards and ensure that operational and design deficiencies are addressed to facilitate efficient and safe movement of freight and passenger vehicles in this national highway and freight corridor. Proposed Mark IV improvements included in this

¹ TxDOT (July 2015). Crash Records Information Systems, Retrieved from <http://www.txdot.gov/government/enforcement/data-access.html>. Accessed March 28, 2016.

grant request will **enhance traffic operations, safety and connectivity in the corridor** by providing frontage road connectivity around the interchange, standard ramp design and better destination access through ramp reversal. The elements will also facilitate traffic movements at the I-35W, SH 170, Heritage Trace, and North Tarrant Parkway intersections. U-turn bridges are needed now to **support traffic circulating around shopping centers and nearby residential areas** that eventually funnel onto I-35W.

Relevant Data: Existing and Future Conditions

Table 2 summarizes project benefits. Additional relevant data can be found in the appendix.

Table 2: Project Benefits for Current Year versus Year 2040

Condition	Current Year (2015)	Forecast Year Build (2040)	Forecast Year No Build (2040)
Passenger Vehicle Average Volume per Year	25,038,416	53,157,505	40,427,400
Freight Average Volume per Year	3,285,584	4,811,430	3,372,600
Annual Person-Trips	43,347,050	89,863,438	68,056,440
Total Network Daily Vehicle Hours of Delay	8,707	20,426	25,964

Figure 3: Project Location

Project Location

The Interstate Highway 35W Express (NTE) Project (Figure 3) Dallas-Fort Worth-Arlington Metropolitan Statistical Area — Urbanized Area (ID 22042) — to as the **Dallas/Fort Worth** encompasses 13 counties in Metroplex is larger than Rhode Connecticut combined and is the metropolitan area in the United elements requested as a part of in **Tarrant County** within the **portion of the greater NTE** stretches from the Alliance the interchange with Interstate

The 2015 U.S. Census official Metroplex at 7,102,796 — having million since 2000. The region is, largest metropolitan area in the South, the 4th largest in the



North Tarrant is located within the Census designated commonly referred **Metroplex** which Texas. The Island and largest inland States. Project this application are **northernmost project** that Airport corridor to Highway 820.

estimate has the grown by about one by population, the Texas, the largest in United States and

the 10th largest in the Americas. It also has the 4th largest gross metropolitan product in the United States, and approximately 10th largest by GMP in the world. The project also touches residents, retail, businesses and school districts in the working communities of Fort Worth, Saginaw, Watauga, Haslet, Westlake, Keller, Roanoke and Denton.

The region is home to Dallas/ Fort Worth International Airport, which is the 3rd busiest airport in the world by aircraft movements and the 10th busiest airport in the world by passenger traffic. Immediately adjoining the project is Alliance Global Logistics Hub, the nation's fastest-growing industrial complex.



Detailed Description

The nexus of this growth is the I-35W NTE Project. It is a \$2.2 billion public-private partnership investment that is providing better mobility through one of the most congested corridors in Dallas-Fort Worth metro area. **Utilizing an innovative financing model**, aimed to meet transportation needs currently affected by a lack of federal and state resources in Texas, the North Tarrant Express features safer design and construction, and managed lanes for commuter traffic. The **project has become a national model for public-private investment** and has been lauded in the press and by the transportation industry.

The function of a managed lane corridor is to minimize traffic congestion by allowing drivers to choose how they will get from their points of origin to their destinations. With a minimum speed of 50 mph, the TEXpress Lanes provide a faster congestion-free trip with more predictability during drivers' commutes. The 21st century version of the NTE is safer and features an innovative design with advanced pavement and infrastructure technology. Using the design-build model, the first NTE segment was able to open nine months ahead of schedule and 10 years faster than a traditionally built project. As one of the first TxDOT CDA projects in Texas with financing, the NTE was built several years earlier than it would have

been had it relied solely on statewide funding. The design-build contract unified the flow of work from conception to completion for faster delivery, lower costs and better design.²

Figure 4 illustrates the typical I-35W NTE roadway section. The Project will ease the daily drives of workers commuting between Dallas and Fort Worth, thus, promoting quality of life by improving access to all employment centers in the fastest growing large city of the nation, enhance highway access for commercial trucks and land with a high concentration of industrial, retail and Research & Development offices along I-35W, and promote multi-modal development, which has been used as the core and selling point for logistics parks in the urbanized Metroplex area.

Figure 4: Proposed I-35W NTE Roadway Section



Project Parties

The I-35W NTE Project grant recipient will be the **TxDOT Fort Worth District**, which is responsible for executing the regional responsibilities of TxDOT. TxDOT, in partnership with local and regional officials, is responsible for planning, designing, building, operating and maintaining the state's transportation system. This includes acquiring ROW for state highways and other modes of transportation; researching issues to solve transportation problems and save lives; constructing roads and bridges; and improving and maintaining roadways, bridges, airports, and other transportation infrastructure. The Dallas-Fort Worth-Arlington region's economy is heavily dependent on Texas' extensive highway and rail network. It is vital that TxDOT target improvements that hold the greatest potential for long-term, system-wide impacts.

The other major project partner is **NTE Mobility Partners**, which represents a group of companies that are developing the project under a Comprehensive Development Agreement (CDA). These companies include Cintra US, North Tarrant Infrastructure, Ferrovial Agroman, Webber, Meridiam Infrastructure, and the Dallas Police and Fire Pension System. Other agencies that have played roles in project development include: **FHWA, the cities of Fort Worth and Haslet, Tarrant County and NCTCOG.**

² *Who Is The Regional Transportation Council and How Are They Using Comprehensive Development Agreements?* Public Works Council, November 27, 2007, Dan Lamers, P.E., North Central Texas Council of Governments Transportation (NCTCOG).



Sources and Use of All Project Funding

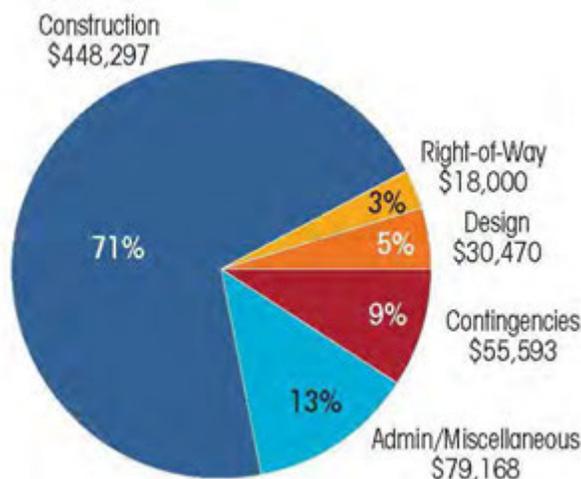
The I-35W NTE Project represents a significant surface transportation infrastructure investment to improve freight and passenger vehicle mobility.

Accordingly, multiple revenue sources will be utilized throughout construction to balance project needs against the broader fiscal constraints of TxDOT's statewide construction program. Table 3 and Table 4 show the planned sources and uses of project funds, which assume an \$83 million FASTLANE grant.

**Table 3: Overall Project Sources
(Thousands)**

Source	Cost
FASTLANE (Grant)	\$83,000,000
Other Federal Funds (TIFIA)	\$197,752,000
Private Activity Bonds	\$191,000,000
Private Equity	\$159,776,000
TOTAL SOURCES	\$631,528,000

Table 4: Overall Project Uses



Viability and Completeness of the Project’s Financing

Table 3 shows that the FASTLANE grant will meet the requirements that it cover no more than 60 percent of the total project costs. Also, the proposed funding plan meets the requirement that federal funds do not exceed 80 percent of the total funding for the project, since the combination of FASTLANE grant and Transportation Infrastructure Finance and Innovation Act (TIFIA) funds would represent about 43 percent of the total sources. A substantial infusion of private equity and Private Activity Bonds totalling \$350.77 million complete the funding plan.

Stable and Reliable Fund Commitments

TxDOT annually oversees \$7.5 billion in the state highway fund (35 percent), \$3.4 billion in state bond proceeds (16 percent), \$1.8 billion in other funding mechanisms (tolls, mobility fund, concession fees), and over \$8.6 billion in federal funds (40 percent) to construct, maintain, and operate approximately 197,100 miles of state highway system.

Contingency Reserves

Despite the strong funding plan that is in place, TxDOT recognizes the need for contingency funding in the event of funding interruptions. The possibility of federal or state transportation dollars being unavailable for project expenditures is remote. Historically, periodic short-term interruptions in federal reimbursements have been successfully managed through cash management practices. In 1946, language was added to the Texas Constitution requiring three-fourths of all net revenue generated by motor fuels taxes to be used only for acquiring ROW; constructing, maintaining, and policing public roadways; or for the payment of principal and interest on certain road district bonds or warrants. In the unlikely event that federal and state dollars are both unavailable, Texas has a contingency solutions ranging from short term cash management techniques to longer term access to credit and capital markets.

Financial Condition of the Project Sponsor

As a 100-year-old organization, TxDOT has the financial wherewithal to see the I-35W NTE Project through to completion. TxDOT oversees a biennial budget of \$8.6 billion and can access capital markets by selling general obligation debt backed by the full faith and credit of the state government. This debt is **rated triple-A** by all three national rating agencies.

Ability to Manage Grants

TxDOT has a long and successful track record of managing several types of federal grants and hundreds of federal contracts, both as a recipient and a pass-through agency for sub-recipients. TxDOT complies with all federal government expenditure and reporting requirements, including the general requirements of the Office of Management and Budget's "Super Circular" and the transportation specific guidance outlined in the Stewardship and Oversight Agreement between TxDOT and FHWA.

Future Eligible Cost

The future eligible cost of this project, \$631,528,000, is comprised of design, construction, ROW, utilities, and tolling/ ITS components, which are deemed as eligible costs under this funding program.

Availability and Commitment of Funds

As previously described, funding commitment and availability is shown in Table 3.

Federal Funds Already Provided

The I-35W NTE Project is included in the approved 2015-2018 State Transportation Improvement Plan (STIP). The project is also a fiscally-constrained project identified in the NCTCOG's metropolitan transportation plan entitled Mobility 2040. Other federal funds identified are TIFIA funds, which make up 32 percent of the total project cost or \$197,752,000.

Merit Criteria

Economic Outcomes

As illustrated in Figure 1, I-35W is a **critical backbone for freight movement** at a regional, national, and international level. As goods arrive via air through Fort Worth Alliance Airport, rail at the Intermodal Rail Hub and up from the Mexican border in trucks, I-35W has to support not only long-haul truck movement, but also last mile truck traffic alongside overwhelming passenger car traffic volumes. To remain competitive in this market, the surface transportation infrastructure must support mobility. The I-35W NTE Project provides connectivity between the Alliance inland port and the route required for **\$28.7 billion in exports**.

Mobility Outcomes

Managed lanes and continuous frontage roads add capacity for the through movement within the corridor. Elements requested as part of this grant **enhance the mobility of local passenger car traffic as well as the last mile truck traffic and long-haul truck movements**. Existing pavement touched by this project will be completely replaced and protected with a 52-year operations and maintenance agreement as part of the CDA. The operations and maintenance agreement means TxDOT can shift limited funding resources to other area projects.

Safety Outcomes

The project will also **upgrade I-35W to current design** standards and ensure that operational and design deficiencies are addressed to facilitate efficient and safe movement of freight and passenger vehicles in this national highway and freight corridor. Proposed Mark IV improvements included in this grant request will **enhance traffic operations**, safety and connectivity in the corridor by **providing frontage road connectivity around the interchange**, standard ramp design and **better destination access through ramp reversal**. U-turn bridges at SH 170, Heritage Trace, and North Tarrant Parkway intersections are needed now to support traffic circulating around shopping centers and residential areas that eventually funnel onto I-35W.

Community and Environmental Outcomes

Selection of unfunded elements requested as part of this grant application gave specific consideration to community and environmental outcomes. Besides improving access to abutting property, intersection improvements, U-Turn bridges, and continuous frontage roads with pedestrian elements, all **increase connectivity between neighborhoods, retail, education centers, places of worship, hospitals, schools, and employment centers**. Design of these elements considered input received from the public, stakeholders, and many public agencies.

Improving traffic flow will promote better air quality in a region classified as nonattainment for the 2008 and 2015 ozone National Ambient Air Quality Standards. Reducing idling by both commercial and passenger vehicles means fewer emissions floating into the I-35W adjacent neighborhoods.

Partnership and Innovation

Innovative financing is only a part of the partnership between TxDOT and the Developer. Many innovative cost and time saving ideas have been implemented as a part of the design-build effort. All are interested in **finishing construction early** to the benefit of the travelling public.

Cost Share

Elements requested as a part of this grant are unfunded and will not be built until 2040 at the earliest. Stable funding and financing is available and discussed in Section IV Sources and Use of All Project Funding.

Large/Small Project Requirements

1. Does the project generate national or regional economic, mobility, safety benefits?
Yes; See Section V. Merit Criteria

2. Is the project cost effective?
Yes; \$2.2 Billion in infrastructure can be built with \$348 million in federal investment. Also see Section VII. Cost Effectiveness.

3. Does the project contribute to one or more of the Goals listed under 23 USC 150?
 - a. *Safety – See Section V. Merit Criteria*
 - b. *Infrastructure condition – See Section V. Merit Criteria*
 - c. *Congestion reduction – See Section V. Merit Criteria*
 - d. *System reliability – See Section V. Merit Criteria*
 - e. *Freight movement and economic vitality – See Section V. Merit Criteria*
 - f. *Environmental sustainability – See Section V. Merit Criteria*
 - g. *Reduced project delivery delays – See Section V. Merit Criteria*

4. Is the project based on the results of preliminary engineering?
FHWA issued a FONSI for the entire project on March 21, 2012.

5. With respect to non-federal financial commitments, does the project have one or more stable and dependable funding or financing sources to construct, maintain and operate the project? Are contingency amounts available to cover unanticipated cost increases?
Yes; See Section IV. Sources and Use of All Project Funding

6. Is it the case that the project cannot be easily and efficiently completed without other federal funding or financial assistance available to the project sponsor?
Yes; Zero funding exists for construction of project elements listed in Section I. Project Description, Funds and Usage. FASTLANE funding is necessary to construct.

7. Is the project reasonably expected to begin construction not later than 18 months after the date of obligation of funds for the project?
Yes; Refer to Section VIII Project Readiness, Schedule.

Cost Effectiveness

A Benefit-Cost Analysis (BCA) of the I-35W NTE Project was conducted in conformance with Federal guidance regarding evaluation criteria, discount and monetization rates, and evaluation methods recommended by the U.S. DOT in the Guide to Preparing Benefit-Cost Analyses for FASTLANE Grants³ and the Notice of Funding Opportunity (NOFO) for the Department of Transportation's Nationally Significant Freight and Highway Projects (FASTLANE Grants) for Fiscal Year 2017.⁴ The grant request is limited to support four project elements and ROW acquisition that were deferred during construction contract negotiations due to lack of funding. These elements include:

- U-Turn bridges for SH170, Heritage Trace, and North Tarrant Parkway intersections;
- I-35W/IH820 Interchange frontage road
- I-35W/IH820 Interchange bridge replacement over Mark IV, Mark IV improvements
- Golden Triangle intersection improvements

The BCA encompasses the benefits and costs for the entire I-35W NTE Project. This BCA model incorporates project construction costs by component (construction, right-of-way, design, contingencies, and other project support costs), project operation and maintenance expenditures, and quantitative benefits related to state of good repair (SOGR), travel time, vehicle operating costs, traffic accidents, emissions and noise costs.

The BCA model incorporated the parameter updates in accordance with the U.S. DOT Benefit-Cost Analysis (BCA) Resource Guide (November 2016), including the value of travel time, the values of statistical life (VSL), injuries and property damage only (PDO) crashes, damage costs by emission type, and other factors. The U.S. DOT recommended default values are used unless otherwise stated. The real discount rates of 3 and 7 percent, consistent with U.S. DOT guidance and OMB Circular A-4⁵ are used to compute net present value (NPV) of benefits and costs.

A summary of the BCA results is provided in this section and more detail regarding data inputs, sources, and estimation of each benefit category is provided in Appendix C. All monetary values are presented in 2015 dollars, the default value of the U.S. DOT Benefit-Cost Analysis (BCA) Resource Guide (November 2016). In instances where certain values are expressed in dollar values in other (historical) years, the U.S. Bureau of Labor Statistics' Consumer Price Index for All Urban Consumers (CPI-U) is used to adjust them.

³ U.S. DOT Benefit-Cost Analysis (BCA) Resource Guide (November 2016) supplement to the *2016 Benefit-Cost Analysis Guidance for Grant Applicants*, Updated November 17, 2016. Available at <https://www.transportation.gov/fastlanegrants/bca-resource-guide>.

⁴ Notice of funding availability (NOFA) for the Department of Transportation's Nationally Significant Freight and Highway Projects (FASTLANE Grants) for Fiscal Year 2017. Available at <https://www.transportation.gov/build-america/fastlane/fastlane-ii-notice-funding-opportunity>.

⁵ White House Office of Management and Budget, Circular A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (October 29, 1992). Available at http://www.whitehouse.gov/omb/circulars_a094.

The BCA indicated significant travel time saving benefits. In the summary discussion that follows, individual analysis inputs and results are presented for each of the BCA category areas. Note that there are other potential benefits resulting from the project which have not been included in the BCA summary below. Some of these additional benefits could potentially be quantified, while others are more qualitative. The additional benefits include: improved travel time reliability, ROW cost savings, improved connectivity through U-Turn bridges, I-820 frontage road accessibility for low income communities, interchange improvements that reduce weaving maneuvers, intersection improvements that enhance connectivity to commercial centers, and mitigation of stormwater runoff.

Benefit Cost Analysis

The BCA model calculates the benefit/cost ratio based on inputs including the project type, existing and future highway design and traffic data, and estimated project costs. The estimation of the benefits involved establishing the Baseline (No Build) and Build Scenario and calculating the differences between the two in terms of vehicle-miles travelled (VMT) and vehicle-hours travelled (VHT) by vehicle type (passenger cars and trucks) and trip purpose (commute, business and other trips) in the benchmark years 2020 and 2040. This analysis uses the model outputs provided by the I-35 W NTE Traffic and Revenue (T&R) study⁶.

Project Costs

Project costs and the length of the construction period are among the inputs to the BCA model. Project costs are included for the following categories, as appropriate: right-of-way (ROW), design, construction, contingencies, and other project support costs; and maintenance & operations, and rehabilitation costs.

The initial design and construction cost of the Project is approximately \$631.5 million as described in more detail in Section IV of this application. The construction period is assumed to be four years. Phased construction costs over the construction period are allocated as follows: 10 percent in the first construction year, 35 percent in each of the following two construction years, and the remaining 20 percent in the last construction year. The total project cost is \$692.9 million in 2015 dollars, including maintenance/operations and rehabilitation. The NPV of project costs is \$646.6 Million, when discounted at a 7 percent discount rate and \$600.4 Million, when discounted at a 3 percent discount rate. The breakdown of project costs as reflected in the BCA is indicated in Table 5.

Monetized Benefits

Table 6 below provides a summary of the monetized benefits/disbenefits related to travel time, vehicle operating costs, traffic crashes, emission and noise damage costs, and pavement maintenance over the 20-year life cycle of the Project that are reflected in the B/C ratio. Annual costs and benefits are presented in constant 2015 dollars. The total by category is then discounted at a 7 percent and 3 percent annual rate to convert to present value.

⁶ IH-35W North Tarrant Express (NTE), Traffic and Revenue Study (December 6, 2010).

Table 5: I-35W NTE Project Costs

Year	Project Year	Project Support	ROW	Undiscounted			Discounted		
				Construction	O&M	Rehabilitation	Total Costs	NPV at 7%	NPV at 3%
2018	Cons 1	\$79,410,000	\$18,000,000	\$53,436,000			\$150,604,000	\$150,604,000	\$150,604,000
2019	Cons 2			\$187,026,000			\$187,026,000	\$174,790,654	\$181,578,641
2020	Cons 3			\$187,026,000			\$187,026,000	\$163,355,752	\$176,289,943
2021	1			\$106,872,000	\$1,180,263	\$26,133	\$108,078,396	\$88,224,165	\$98,907,043
2022	2				\$1,434,197	\$43,812	\$1,478,009	\$1,127,566	\$1,313,192
2023	3				\$1,425,024	\$163,312	\$1,588,336	\$1,132,462	\$1,370,113
2024	4				\$1,462,829	\$43,812	\$1,506,641	\$1,003,939	\$1,261,788
2025	5				\$1,456,513	\$326,362	\$1,782,875	\$1,110,285	\$1,449,641
2026	6				\$1,481,333	\$179,938	\$1,661,271	\$966,875	\$1,311,423
2027	7				\$1,467,659	\$105,163	\$1,572,822	\$855,511	\$1,205,437
2028	8				\$1,491,379	\$574,786	\$2,066,165	\$1,050,334	\$1,537,421
2029	9				\$1,448,717	\$1,857,714	\$3,306,431	\$1,570,862	\$2,388,636
2030	10				\$1,483,020	\$6,009,262	\$7,492,282	\$3,326,663	\$5,254,936
2031	11				\$1,460,079	\$3,790,182	\$5,250,261	\$2,178,672	\$3,575,172
2032	12				\$1,428,934	\$1,959,480	\$3,388,414	\$1,314,085	\$2,240,141
2033	13				\$1,431,462	\$650,412	\$2,081,874	\$754,567	\$1,336,276
2034	14				\$1,457,694	\$734,367	\$2,192,061	\$742,527	\$1,366,020
2035	15				\$1,458,568	\$1,209,708	\$2,668,276	\$844,708	\$1,614,351
2036	16				\$1,475,942	\$698,518	\$2,174,460	\$643,344	\$1,277,266
2037	17				\$1,440,768	\$26,247	\$1,467,015	\$405,642	\$836,618
2038	18				\$1,486,310	\$2,989,559	\$4,475,869	\$1,156,650	\$2,478,180
2039	19				\$1,418,399	\$2,667,465	\$4,085,864	\$986,790	\$2,196,353
2040	20				\$1,495,371	\$8,421,508	\$9,916,879	\$2,238,370	\$5,175,545
Total		\$79,168,000	\$18,000,000	\$534,360,000	\$28,884,461	\$32,477,740	\$692,890,201	\$600,384,420	\$646,568,134

Table 6: I-35W NTE Project Benefits

Year	Undiscounted						Discounted		
	Travel Time Savings/ Disbenefits	Vehicle Operating Costs Savings/ Disbenefits	Accident and Safety Savings/ Disbenefits	Emissions Savings/ Disbenefits	Noise Savings/ Disbenefits	State of Good Repair Benefits/ Costs	Total Benefits	NPV at 7%	NPV at 3%
2020	-6,613,713	5,008,827	0	181,335	106,071	435,842	-881,638	-\$761,425	-\$831,028
2021	-10,469,565	7,321,385	222,576	280,603	146,827	537,322	-1,960,852	-\$1,582,486	-\$1,794,456
2022	-14,325,416	9,633,944	445,152	360,639	187,583	638,802	-3,059,296	-\$2,304,285	-\$2,718,145
2023	-18,181,268	11,946,502	667,729	419,758	228,338	740,282	-4,178,659	-\$2,937,368	-\$3,604,548
2024	-22,037,119	14,259,061	890,305	449,824	269,094	841,762	-5,327,073	-\$3,496,334	-\$4,461,341
2025	-25,892,971	16,571,619	1,112,881	1,007,986	309,850	943,242	-5,947,394	-\$3,651,038	-\$4,835,776
2026	-29,748,823	18,884,177	1,335,457	1,073,314	350,606	1,044,721	-7,060,548	-\$4,043,901	-\$5,573,661
2027	-33,604,674	21,196,736	1,558,034	1,151,046	391,361	1,146,201	-8,161,295	-\$4,358,588	-\$6,254,954
2028	-37,460,526	23,509,294	1,780,610	1,227,260	432,117	1,247,681	-9,263,564	-\$4,615,462	-\$6,892,962
2029	-41,316,378	25,821,852	2,003,186	1,297,296	472,873	1,349,161	-10,372,010	-\$4,819,662	-\$7,492,960
2030	-45,172,229	28,134,411	2,225,762	1,410,828	513,629	1,450,641	-11,436,958	-\$4,948,502	-\$8,021,653
2031	-49,028,081	30,446,969	2,448,338	1,507,400	554,385	1,552,121	-12,518,869	-\$5,044,291	-\$8,524,740
2032	-52,883,932	32,759,528	2,670,915	1,511,363	595,140	1,653,601	-13,693,385	-\$5,158,238	-\$9,052,942
2033	-56,739,784	35,072,086	2,893,491	1,598,657	635,896	1,755,080	-14,784,574	-\$5,187,630	-\$9,489,655
2034	-60,595,636	37,384,644	3,116,067	1,894,704	676,652	1,856,560	-15,667,009	-\$5,091,527	-\$9,763,162
2035	-64,451,487	39,697,203	3,338,643	1,963,492	717,408	1,958,040	-16,776,701	-\$5,083,096	-\$10,150,180
2036	-68,307,339	42,009,761	3,561,220	2,071,586	758,163	2,059,520	-17,847,089	-\$5,029,158	-\$10,483,284
2037	-72,163,191	44,322,319	3,783,796	2,093,585	798,919	2,161,000	-19,003,572	-\$5,001,370	-\$10,837,471
2038	-76,019,042	46,634,878	4,006,372	2,148,519	839,675	2,262,480	-20,127,118	-\$4,937,685	-\$11,143,898
2039	-79,874,894	48,947,436	4,228,948	2,165,857	880,431	2,363,959	-21,288,263	-\$4,877,320	-\$11,443,490
2040	-83,730,746	51,259,995	4,451,525	2,141,506	921,187	2,465,439	-22,491,094	-\$4,828,165	-\$11,737,934
Total	-948,616,814	590,822,627	46,741,007	27,956,558	10,786,204	30,463,457	-241,846,961	-\$87,757,532	-\$155,108,238

Note: Negative values represent savings and positive values represent losses.

This analysis shows that roadway users (both auto and trucks) **will save over 31 million hours of travel time over the life cycle of the I-35W NTE project**. Interestingly truck travel will benefit from an 18.5 million truck-hour reduction. This equates to **\$948.6 million in travel time savings**. Of this total, \$502.7 million (53 percent) come from truck travel time savings and \$445.9 million (47 percent) come from auto travel time savings. However, the increase in vehicle-miles travelled translates to additional vehicle operation (mobility), which logically results in proportional increases in accidents, emissions and noise costs.

The Project has a benefit-cost ratio of 0.24 at a real discount rate of 3 percent and 0.15 at a real discount rate of 7 percent (Table 7).

Table 7: Summary of Benefit-Cost Analysis of I-35 NTE Project

	Discounted at 3%	Discounted at 7%
Benefit-Cost Ratio = (B) / (C) =	0.24	0.15
Project Costs (C) =	\$646,568,134	\$600,384,420
Total Benefits (B) =	\$155,108,238	\$87,757,532

These findings demonstrate that there are significant long-term economic benefits associated with the Project, and is regionally an important project. For instance:

- **Location advantages in terms of travel time savings for highway users.** Travel time savings to be generated by the Project will have a positive impact in the cost of conducting business of key industry clusters (automotive, aerospace/aviation, logistics, eCommerce/electronics, pharmaceutical/healthcare, and consumer goods/services), contributing to the regional economic competitiveness.
- **The proposed I-35W NTE will enhance international freight movements.** Since all imported goods that move north by truck out of Laredo move on the NAFTA trade corridor, the proposed I-35W NTE will facilitate the distribution of Mexican retail goods in the Dallas/Fort Worth Metroplex.
- **Enhanced multimodal transportation access and international trade facilitation.** The proposed I-35W NTE Project will benefit a number of large industrial tenants located at AllianceTexas, including 64 from the Fortune 500, Global 500 or Forbes' top list of private firms.
- **Enhanced regional and local economy.** Locally, the I-35W NTE Project will provide citizens with reliable, closer and affordable connections to employment, education, healthcare and other critical services in the region.

Project Readiness

Technical Feasibility

The I-35W NTE Project is ready to begin concurrent design and construction within 18 months of receipt of the FASTLANCE grant. TxDOT has completed schematic-level drawings with final design services and construction activities to be performed by the

Developer. FHWA environmentally cleared the project in March 2012. The Project Schedule section includes additional information on the project's timeframes.

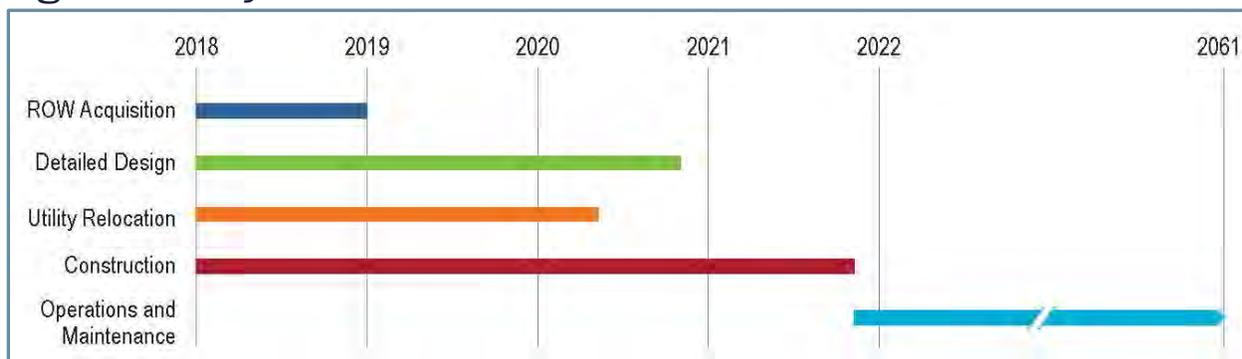
The project design criteria follows the TxDOT Roadway Design Manual, TxDOT Bridge Design Manual, Texas Manual on Uniform Traffic Control Devices (TMUTCD), and other state- and federally-approved design standards.

The cost estimate, which includes agency, financial, design, construction costs and contingency, is based on a detailed review of the preliminary design drawings, similar projects, and concessionaire information. A 10-percent project contingency is included in the cost estimate. The overall statement of work for the I-35W NTE Project is described in the Eligibility section. The project statement of work for the FASTLANE grant includes the following work within I-35W NTE: acquisition of ROW for the overall project segment; construction of U-Turn bridges at SH 170, Heritage Trace and North Tarrant Parkway; I-35W/IH820 Interchange frontage road; implementation of operational, connectivity and safety improvements in the I-35W/IH820 interchange at Mark IV Parkway; and Golden Triangle Intersection Improvements.

Project Schedule

The Project Schedule (Figure 5) discusses anticipated timeframes for major milestones. Construction activities for the FASTLANE grant meet all identified schedule requirements.

Figure 5: Project Schedule



Necessary Activities to Allow Grant Funds to Be Obligated

- Detailed design, ROW acquisition, and utility relocation will begin first quarter 2018. ROW acquisition will be completed by the end of 2018. Thus, the activities that allow project construction and obligation of funds meet the FASTLANE requirements.

Project Construction Timeline

- Because this is a design build project, construction activities are expected to begin shortly after detailed design kick off. Ground breaking, which is expected in fall 2018, occurs well before the required obligation date of September 2019.

Property and/or Row Acquisition Timeline

- All ROW acquisition for the I-35W NTE Project is anticipated to be completed by the end of 2018. This will allow for the FASTLANE funds to be obligated within the required project timeframe.

Required Approvals

Environmental Permits and Reviews

- NEPA Status. An EA was completed in March 2012 for I-35W proposed improvements from SH 114 to I-820. Specific to this application, the EA reviewed potential impacts of improvements of I-35W NTE from Eagle Parkway to US81/US 287, including the following improvements: six non-tolled general purpose lanes and auxiliary lanes; two tolled lanes in each direction; and two frontage road lanes in each directions including auxiliary lanes near ramps and cross streets.

FHWA issued a Finding of No Significant Impact (FONSI) for the entire project on March 21, 2012. The EA and FONSI documents are found online at <http://www.txdot.gov/government/partnerships/current-cda/north-tarrant-express/environmental-studies.html> under I-35W Study from SH 114 to I-820.

- **Reviews, Approvals, and Permits by Other Agencies.** The EA determined that the following agencies would require coordination for the project. The resources and coordination identified below are for the overall I-35W NTE Project covered in the EA.

U.S. Army Corps of Engineers – The EA identified 15 Waters of the U.S. (WOUS), including seven wetlands within the project area. The project is anticipated to impact approximately 5 acres of WOUS, which would require various permits from the U.S. Army Corps of Engineers. Permits include Nationwide Permit 14 – Linear Transportation Projects; Nationwide Permit 25 – Structural Discharges; and Pre- Construction Notifications.

Local Floodplain Managers – The project crosses 15 waters bodies and seven high-risk flood zones, including a portion of the project within the regulated floodway. Although the EA found that 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.

Utilities – Coordination with utility providers may be required due to the relocation and adjustment of subterranean and aerial utilities required for the construction of the project.

Federally-Recognized Native American Tribes – The project team met with federally-recognized Native American tribes with a historical interest in the area surrounding the project on May 4, 2009. No tribes expressed any objections or concerns regarding the project.

State Historic Preservation Officer – The 50-foot lateral buffer for a section of the project's proposed ROW fell within the boundaries of federally-recognized Native American tribes. Due to this, project staff coordinated with the Texas Historical Commission's State Historic Preservation Officer on July 13, 2010, to discuss Section 106 of the National Historic Preservation Act.

Federal Aviation Administration – The Fort Worth Meacham International Airport and the Alliance Airport are within the project vicinity. Sixteen structures fall within the Federal Aviation Administration’s notification surface, which includes a 100:1 slope. Due to this encroachment, the Notice of Proposed Construction or Alteration Form (Form AD-7460-1) will be completed and submitted during the design phase of this project.

Department of State Health and Human Services – Part of the project will include demolition of bridges that may potentially include asbestos containing materials, which will require a 10-Day Notification to the Department prior to demolition.

- **Environmental Studies or Other Documents.** Resources that were reviewed as part of the EA are identified below. The EA document provides detailed information on the analysis, potential impacts, and proposed mitigation of the identified resources, including community Impacts (community cohesion, environmental justice communities, economic tolling impacts, ROW and utilities relocations and acquisitions, and public facilities and services), natural resources, hazardous materials, air quality, noise impacts, cultural and archaeological resources, and indirect and cumulative impacts.
- **Discussions with FHWA.** Throughout the development of the EA, the project team coordinated with FHWA to ensure proper review and compliance with federal, state, and local regulations were being appropriately followed. At the conclusion of the EA, FHWA accepted the findings from the study and issued a FONSI on March 21, 2012, which stated its support of the project team’s analysis and evaluation of environmental, social, and economic impacts of the project.
- **Public Involvement.** The project team held four public engagement opportunities over the course of the EA. Comments, responses, and summary reports for all four opportunities are available for review at the TxDOT Fort Worth District Office located at 2501 Southwest Loop 820, Fort Worth, Texas 76133. The first opportunity was a public meeting held on March 8, 2007, that was attended by 59 people. The meeting and comment period resulted in five comments that generally indicated support for the project. The second opportunity for public engagement occurred on May 11, 2009, for a project coordination work group/stakeholders group meeting. During the meeting, one comment and one question were received during the comments and questions period. The third opportunity on July 28, 2009, consisted of a public meeting that had 59 participants and three comments were received during the comment period. The last opportunity was a public hearing held on December 15, 2011. A total of 48 people attended and 16 comments were received that generally supported the project.

State and Local Approvals and Planning

The I-35W NTE Project has received the necessary state and local approvals to move forward. Furthermore, NCTCOG, the transportation planning organization for the 16-county North Central Texas region, included the I-35W NTE Project in the Mobility 2040 transportation plan. Funds for I-35W NTE Project are identified in Mobility 2040 and NCTCOG’s 2015-2018 Transportation Improvement Program (TIP), adopted on April 10, 2014. The original 2015-2018 TIP and several revisions to it have been incorporated into

the Statewide Transportation Improvement Program. The I-35W NTE Project is identified in TxDOT's 2016 T Freight Mobility Plan, which identifies freight needs, challenges, goals, policies, and investments across the state. The project is also identified in TxDOT's 2014 Unified Transportation Program, which serves as a 10-year planning guide and identifies projects and programs that are planned to be constructed and/or developed within the first ten years of the 24-year Statewide Long Range Transportation Plan.

Project Risks and Mitigation Strategies

The I-35W NTE Project has several risks that are typical of any project of this type and magnitude. TxDOT has been very successful in implementing projects using alternative delivery methods, such as a design-build CDA. One of the key factors contributing to the 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. The I-35W NTE Project is being implemented through a CDA delivery method where several risk elements of the project are typically transferred from the "owner" (i.e., TxDOT) to the developer. This partial or complete transfer of risk does not eliminate risks, but it provides a mechanism to manage risk. Potential risks for the project are outlined below.

- ROW: All needed ROW has not been acquired. However, coordination with affected property owners has occurred throughout the planning process. The corridor is rapidly developing and real estate values are increasing accordingly. This is considered a medium risk considering the length of the ROW acquisition process and increasing real estate values.
- NEPA: The corridor received NEPA clearance. A FONSI was issued by FHWA on March 21, 2012.
- Hazardous Materials: Three leaking petroleum storage tanks/petroleum storage tanks sites on two separate sites were identified during the initial site assessment discussed in the EA. These sites pose a high risk because they are located on parcels identified for acquisition.
- Water Resources: The required U.S. Army Corp of Engineers nationwide permits have not yet been obtained. However, these permits typically do not pose major complications in processing. This is considered a low-level risk element.

Federal Wage Rate Certification

The Federal Wage Rate Certification is included as an attachment to the application.