



I-35 North Tarrant Express "Accelerated Elements"

November 2017

Project Name: I-35W North Tarrant Express "Accelerated Elements"

Was an INFRA application for this project submitted previously?	Yes
If yes, what was the name of the project in the previous application?	I-35W North Tarrant Express
Previously Incurred Project Cost	\$67,000,000
Future Eligible Project Cost	\$845,900,000
Total Project Cost (Sum of the two previous rows)	\$912,900,000
INFRA Request	\$83,000,000
Total Federal Funding (including INFRA)	\$374,200,000
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
Does the project add capacity to the Interstate system?	Yes
Is the project in a national scenic area?	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 INFRA 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:	
• TIP?	Yes
• STIP?	Yes
• MPO Long Range Transportation Plan?	Yes
• State Long Range Transportation Plan?	Yes
• State Freight Plan?	Yes

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Executive Summary

The Texas Department of Transportation (TxDOT) submits this application for \$83 million in Infrastructure for Rebuilding America (INFRA) grant funding to advance the final construction elements of a 10 year economically vital phased plan of highly leveraged public-private improvements, known as the North Tarrant Express (NTE). The NTE encompasses approximately 31 miles of variably priced managed lanes and other highway improvements critical for enhanced safety, mobility and technology advancements. These final “Accelerated Elements” are integral to unlocking the economic vitality of the Interstate (I) Highway 35W corridor, the north-south portion of the NTE, and to improving safety and mobility within the corridor.

Critical Support for Economic Vitality

An essential north-south highway freight corridor in the United States, I-35 extends from the US border with Mexico in Laredo, Texas to Duluth, Minnesota. One of the most important stretches of I-35, and the subject of TxDOT’s state-of-the-art public-private partnership (P3) (the I-35W NTE Partnership), is the portion of I-35W that runs through the heart of Fort Worth within the Dallas-Fort Worth-Arlington Census-designated Urbanized Area (ID 22042) and north into Tarrant County. The I-35W NTE serves as the lifeline for the entire Urbanized Area, connecting one of the world’s largest inland ports, the Alliance, Texas, Global Logistics Hub, with major employers, communities and other transportation systems, including rail and air. These include the following nationally critical air/highway/rail commerce connections:

- The Alliance Airport, the world’s first industrial airport;
- The BNSF Alliance Intermodal Facility;
- The Union Pacific and BNSF Class-1 rail lines;
- The FedEx Southwest Regional Sort Hub;
- Other major employment centers, such as UPS and Amazon;
- DFW International Airport and the warehouse and logistics centers in Grapevine;
- Interconnections with Interstate Highways 20, 30 and 40, important east-west interstate freight corridors offering access to our nation’s coastal ports.

I-35 is a prominent piece of the Texas Freight Network. Its importance is highlighted in the Texas Freight Mobility Plan which can be found: <https://www.dot.state.tx.us/move-texas-freight/studies/freight-plan.htm>

For the last decade, TxDOT and other agencies have been focused on economic development, successfully investing over \$5.3 billion in essential highway infrastructure improvements in this key I-35 commerce corridor. The investments have worked, resulting in dramatic increases in truck and other traffic mobility, fueling regional gross domestic product and employment growth.

Major Leveraging of Federal Funding



Figure E-1: I-35W NTE Segments

The \$83 million INFRA grant, equalling 10%, is traditional federal funds. The private partner in the NTE Partnership supplies closed and scheduled financing of \$752 million, equalling 88% of the total financing, through \$238 million in private activity bonds, \$291 million in TIFIA loans and \$223 million in equity investment. See Figure E-2. These amounts of private debt and equity are far greater than the amount of capital TxDOT could have raised through conventional public toll revenue bond financing. In addition, the largest land developer in the region has committed to donate a significant portion of ROW needed for Segment 3C. TxDOT is supplying state funds for the balance.

To date TxDOT has leveraged billions of dollars in private financing for the NTE through toll-concession public-private partnerships, attracting the first equity investment from a US pension fund in a US P3, and accessing billions of dollars in TIFIA financing. For these reasons, TxDOT's improvements to the NTE serve as the leading model in North America for toll P3s.

TxDOT and its private partner are developing the I-35W NTE in three segments – Segments 3A, 3B and 3C. Segments 3A and 3B are a combined \$1.64 billion, 9.5-mile project that includes the reconstruction of general purpose lanes and addition of two tolled managed lanes per direction along I-35W from I-30 in downtown Fort Worth north to I-820, and from I-820 north to US 287 (Figure E-1). Segment 3A is currently under construction. Segment 3B is open. Segment 3C is a \$845.9 million, 7-mile project from US 287 north to Eagle Parkway near Fort Worth Alliance Airport that includes two tolled managed lane in each direction. TxDOT is currently in negotiations with its private partner to include Segment 3C as part of the NTE Partnership.

TxDOT has accessed every source of capital available to achieve the I-35W NTE. The requested \$83 million INFRA grant will not displace or substitute for state, local and private funds, as those sources are already maximized. The \$83 million of INFRA funding will leverage the I-35W NTE's combined \$2.271 billion in improvements, to facilitate economic development of regional and national significance.

However, that is only the direct leveraging. The benefit cost analysis in Attachment B clearly establishes that the federal investment not only leverages off of significant non-federal funding, but leverages significant benefits from freight and passenger mobility benefits. The analysis demonstrates a 1.21 to 1 multiplier (7% discount rate) from the total investment, which means that an \$83 million INFRA grant will create over \$680 million in total benefit, or an 8-1 multiplier.

Leadership in Innovations

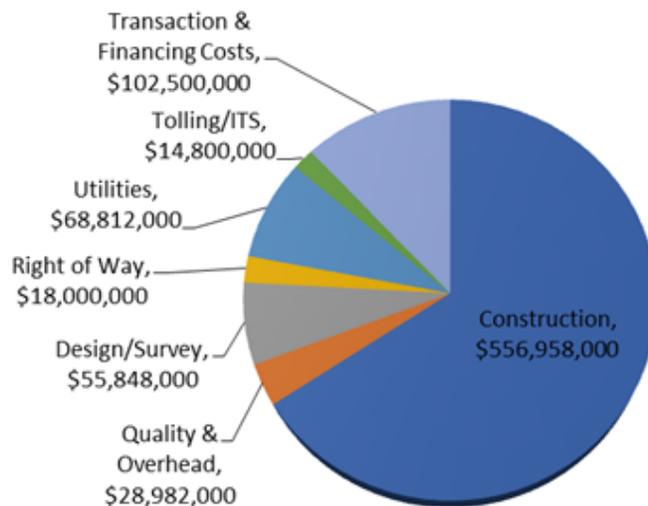


Figure E-2: I-35W NTE Segment C Costs

Starting in 2009 with the competitive award of a P3 toll concession to a consortium led by Cintra US and Meridiam Infrastructure Finance, and continuing with the negotiation and execution of a second P3 toll concession with this consortium in 2013, TxDOT and its private partners have successfully deployed the full array of public and private financing and development tools. These include:

- Variable toll pricing of managed lanes;
- Extensive involvement of the private partner in preparing analyses and studies and other documentation for the environmental review of the I-35W NTE under the National Environmental Policy Act (NEPA);
- TxDOT's successful use of a SEP-15 application for ten experimental innovations in its procurement and contracting methods for the NTE. These include acceleration of the procurement process ahead of final NEPA approval, features to facilitate the combined procurement of a hard money toll concession agreement and a pre-development agreement for future NTE phases, extensive involvement of the selected developer in NEPA support services, pre-award negotiations with the apparent best value proposer, and a long term warranty; and
- USDOT delegation of federal environmental review functions to TxDOT, one of the very few states to have sought and received this delegation. As a result, NTE Segment 3C and the improvements that are the subject of this application have benefitted from accelerated environmental review and are truly "shovel ready." USDOT's INFRA grant support will enable the USDOT to highlight the I-35W NTE as a shining example of how NEPA process reforms save time and money while maintaining environmental outcomes;

Conclusion

The I-35W NTE easily fulfills the full range of merit criteria for award of the requested INFRA grant. It:

- Supports economic vitality by:
 - Accelerating a ready-to-complete, major, complex highway project through the use of a public-private toll concession that is a model for the nation;
 - Promoting the safe, efficient, reliable movement of freight;
 - Providing competitive advantages to rural production centers in the region; and
 - Making a positive demonstrative impact on economic development in the region and the nation.

- Leverages federal funding by:
 - Incorporating hundreds of millions of dollars in private equity and financing;
 - Completing the final elements of the NTE, a regional mega-project, that has achieved unprecedented leverage through innovative financing methods and first-of-its-kind private involvement;
 - Relying on tolls to fund long term project investment, operations and maintenance, allowing TxDOT to recycle its limited state funding into other priorities on the state highway system;
 - Attracting a major right-of-way (ROW) donation, a testament to the project's importance to economic development;
 - Using federal financing tools to be as efficient as possible; and
 - Delegating the private partner and its lenders responsibility, accountability and risk regarding life cycle costs and performance of the I-35W NTE in exchange for the right to toll revenues, ensuring that the project will be properly operated, maintained and renewed for five decades without reliance on future federal funding.



Figure E-3: I-35W NTE Merits

- Promotes innovation in:
 - The methods adopted for the project's environmental review;
 - Using SEP-15 both previously and in proposed new ways to enable self-certification of selected federal requirements in order to maximize efficient project delivery;
 - Deploying a leading edge dynamic pricing tolling model throughout the entire region to improve throughput and safety while reducing congestion and environmental impacts; and
 - Deploying some of the latest safety technologies and measures.
- Achieves performance and accountability by:
 - Utilizing project delivery methods that are intrinsically designed to, and have historically demonstrated on-schedule completion and long-term performance;
 - Relying on TxDOT's experience with complex asset management to hold private partners accountable; and
 - Establishing specific, measurable outcomes and financial structuring to ensure long-term asset management without relying on future federal assistance.

The \$83 million INFRA grant requested will enable TxDOT to fund construction of four carefully defined improvements to the I-35W NTE. With the benefits from this INFRA grant, the NTE Partnership is poised to start construction of Segment 3C in 2018 and make an \$845.9 million investment in next generation safety, supply chain enhancements and technology improvements. TxDOT's ground-breaking use of the NTE Partnership enables construction of these vital improvements. This will ensure the I-35W NTE corridor contributes even further to maximizing economic growth in the region and nationally. In providing this modest but essential piece to the funding plan, the USDOT will be partnering with TxDOT to showcase the country's leading example of the exact program objectives the INFRA seeks to foster--the newly evolving federal/state/private infrastructure investment model.

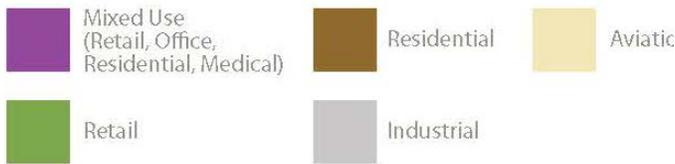
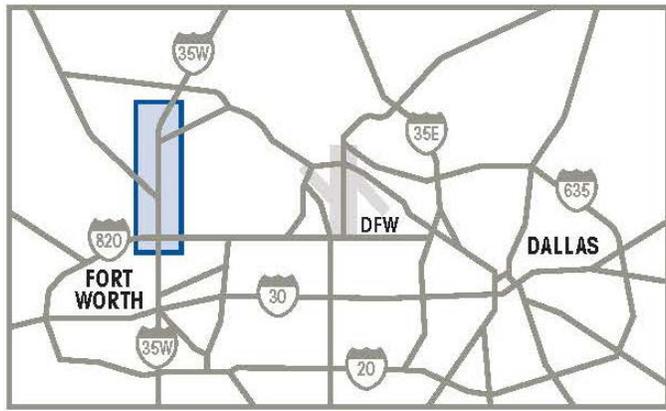


Figure 1-1: I-35W NTE Location. See Accelerated Element detail to the right.

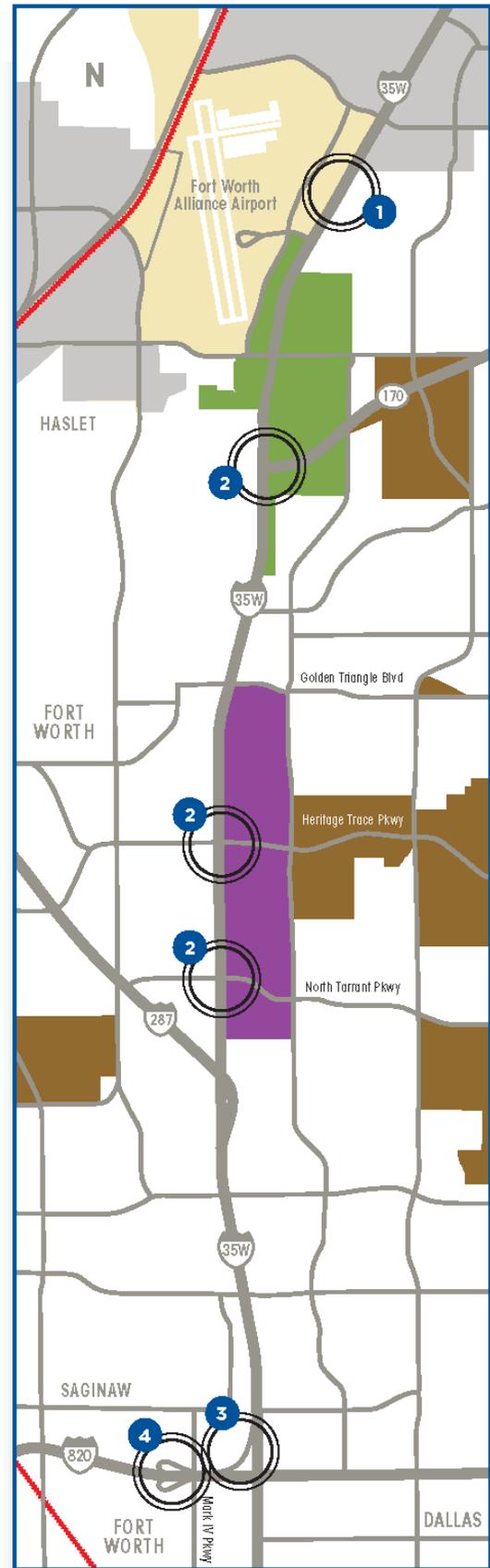
1. Project Description

1.1 The North Tarrant Express Managed Lanes Project

TxDOT has implemented two public-private partnerships (P3s) to deliver the \$5 billion North Tarrant Express (NTE) managed lanes project. One partnership encompasses approximately 13 miles of tolled managed lanes on Interstate Highway 820, which is constructed and fully operational. Using the Design Build Finance Operate Maintain model, this first NTE segment opened nine months ahead of schedule and 10 years faster than a traditionally built project. The comprehensive development agreement (CDA) establishing the P3, and the underlying design-build contract unified the flow of work from conception to completion for faster delivery, lower costs and better design.

1.2 The I-35W North Tarrant Express

The other P3 – (the I-35W NTE Partnership) - is a \$2.2 billion investment in the I-35W NTE in Tarrant County, Texas, the north-south portion of the NTE (see Figure 1-1). The I-35W NTE 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, the Alliance, Texas, Global Logistics Hub, with major employers, communities and other transportation systems, including rail and air.



As a major commerce corridor, the I-35W NTE plays a significant role in connecting supply chains for many industries to support regional, national and global freight movements. Of particular importance, the I-35W NTE is a vital part of a direct route from Mexico to Canada and has connections to Interstate Highways 20, 30 and 40. The I-35W NTE is the nexus of the tremendous growth in the region, providing better mobility through one of the most congested corridors in Dallas-Fort Worth metro area.

Utilizing an innovative private financing model aimed to meet transportation needs currently affected by a lack of federal and state resources in Texas, the I-35W NTE is currently being improved with the addition of managed lanes for commuter traffic and reconstruction of existing infrastructure. It features safer design and construction and new pavement technology. The project, as part of the broader NTE, is a national model for public-private investment and is lauded in the press and by the transportation industry.

The I-35W NTE will:

- Ease the daily drives of workers commuting within the Dallas/ Fort Worth Metroplex;
- Promote 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 the core and selling point for logistics parks in the urbanized Metroplex area.
- Be safer and feature an innovative design with advanced pavement and infrastructure technology.

1.2 *The Accelerated Elements*

Due to a current lack of programmed funding, TxDOT currently plans to have the private partner build and operate, in 2040, several Segment 3C elements (shown on Figure 1-2) (the Accelerated Elements) that include ROW, U-Turn bridges, northwest quadrant frontage road and Mark IV Parkway improvements. However, until these improvements are made, the I-35 NTE will suffer local bottlenecks and safety risks. The INFRA grant requested in this application will enable TxDOT to accelerate delivery of these Accelerated Elements, which are environmentally cleared and truly “shovel ready”. They are particularly important to stakeholders along the I-35W corridor, as they will enhance safety, local connectivity, access to jobs, development opportunities, freight movement and general mobility. With this grant, adjacent businesses and communities will not have to wait until 2040 or beyond for construction of the improvements. Each of the Accelerated Elements can be constructed independently. In the event of a partial grant award, TxDOT is willing and able to prioritize and construct as grant funding allows. The Accelerated Elements are described below.

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.



U-Turn Bridges

2 U-Turn bridges

SH170, Heritage Trace Parkway, 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/I-820 Interchange frontage road

The northwest 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.



Mark IV Parkway Improvements

4 Mark IV Parkway improvements

The I-35W/I-820 interchange bridges over Mark IV Parkway are 50+ years old and are not wide enough to accommodate the planned Mark IV Parkway footprint. Once those are rebuilt, the Mark IV Parkway intersection can be improved and the small radius jug handle ramps can be replaced with standard ramps. Truck traffic that moves in and around the Mark IV Parkway area will be able to access the I-35W/I-820 interchange. 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.

2. Project Location

The I-35W NTE (Figure 1-1) is located within the Dallas-Fort Worth-Arlington Census Metropolitan Statistical Area — designated Urbanized Area (ID 22042) — commonly referred to as the DFW Metroplex. It encompasses 13 counties in Texas, is larger than Rhode Island and Connecticut combined, and is the largest inland metropolitan area in the United States. Project elements requested as a part of this application are in Tarrant County within the northernmost portion of the greater NTE project that stretches from the Alliance Airport corridor to the interchange with I-820.

The 2015 U.S. Census official estimate has the DFW Metroplex at 7,102,796 — having grown by about one million since 2000. The region is, by population, the largest metropolitan area in Texas, the largest in the South, the 4th largest in the United States and the 10th largest in the Americas. It also has the 4th largest gross metropolitan product (GMP) 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.

In 2015, the Dallas-Fort Worth-Arlington region was considered the eighth largest export market in the United States with approximately \$27.4 billion in total merchandise exports, much of which utilizes I-35W. Further, the Houston, El Paso and San Antonio Metropolitan areas rank 1st, 11th and 21st, respectively, and rely on the fluidity and efficiency of freight movement in the DFW area to support the integrity of regional supply chains. Operational aspects of I-35W in the DFW Metroplex directly affect the competitive posture of businesses in the DFW market area and other Texas metropolitan areas which require efficient, reliable and safe highways.

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 Segment 3C of the I-35W NTE is the Alliance Global Logistics Hub, the nation's fastest-growing industrial complex. The Hub is one of only two intermodal logistics facilities connecting air, road and rail in Texas.

3. Project Parties

The I-35W NTE 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 other major project party is NTE Mobility Partners Segments 3 LLC, which is the private partner under the comprehensive development agreement (CDA) with TxDOT forming the I-35W NTE Partnership. The private partner holds a 52-year concession from TxDOT to finance, construct, operate and maintain Segments 3A and 3B of the I-35W NTE, and is currently in negotiations with TxDOT to add Segment 3C to the I-35W NTE Partnership. The private partner holds the right to managed lane toll revenues. It represents a group of companies that include Cintra US, North Tarrant Infrastructure, Ferrovial Agroman, Webber, Meridiam Infrastructure, and APG.



Figure 3-1: I-35W NTE Project Parties

As shown in Figure 3-1, other agencies that have played roles in project development include: FHWA, the cities of Fort Worth and Haslet, Tarrant County and North Central Texas Council of Governments (NCTCOG).

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

Multiple revenue sources will be utilized throughout construction to balance project needs against the broader fiscal constraints of TxDOT’s statewide construction program. The INFRA grant will meet the requirements that it cover no more than 60% 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 INFRA grant and Transportation Infrastructure Finance and Innovation Act (TIFIA) funds would represent about 34% of the total sources. (The anticipated TIFIA loan of \$291.2 million is 34% of the total project cost.) A substantial infusion of private equity and private activity bonds totalling \$461 million complete the funding plan.

4.1 *Previously Incurred Expenses*

Future eligible project costs are sufficient for the I-35W NTE and Segment 3C to qualify as large projects. TxDOT does not request consideration of costs incurred prior to selection of the project for an INFRA grant.

4.2 *Future Eligible Costs, Sources and Uses, and Budget*

The future eligible cost of Segment 3C of the I-35W NTE, \$845.9 million, is comprised of design, construction, ROW, utilities, and tolling/ ITS components, which are deemed as future eligible costs under this funding program. All costs of the Accelerated Elements fall within these categories of eligible costs. A budget, showing each category of eligible cost and planned funding sources and uses is shown in Table 4-1 and Table 4-2.

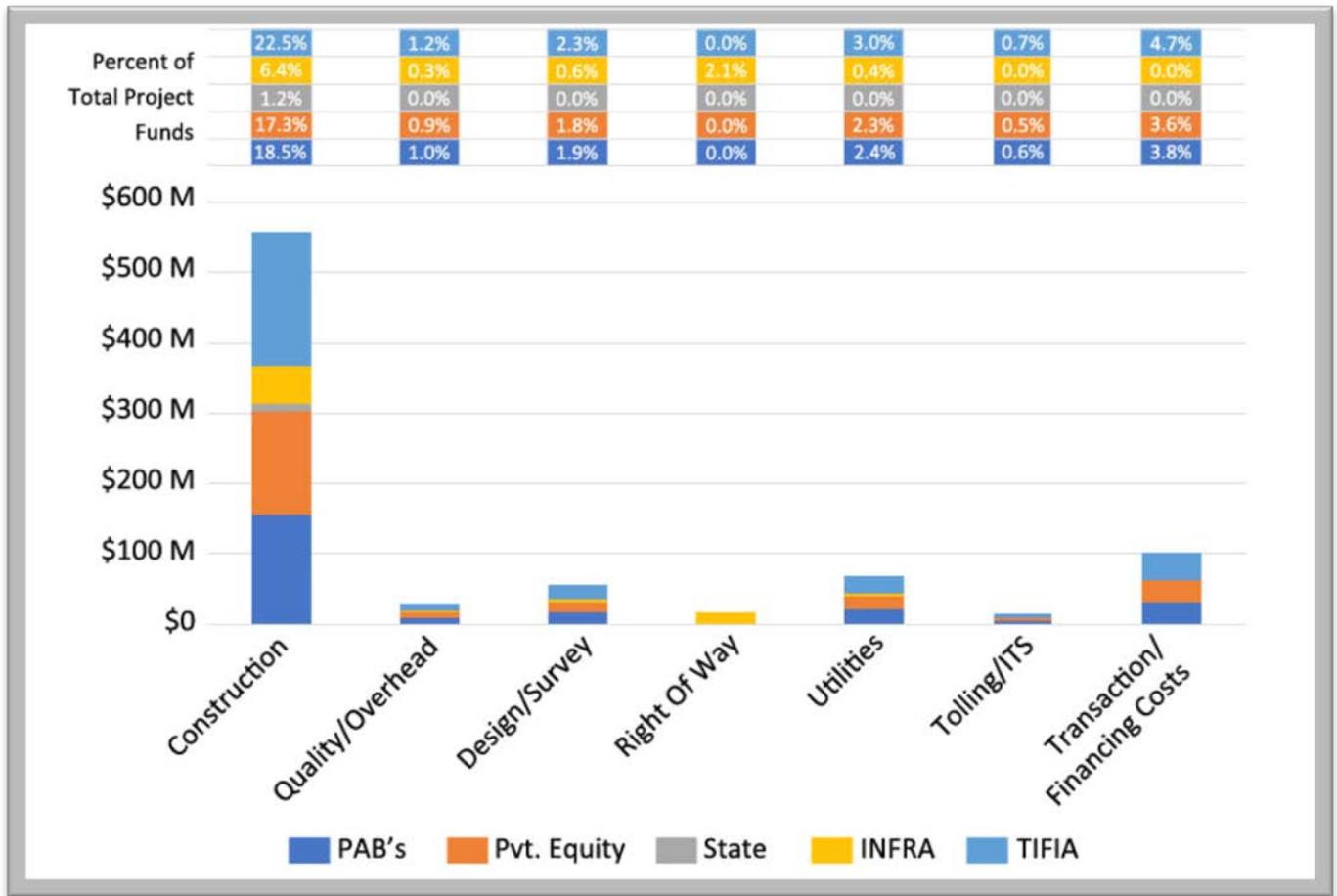


Table 4-1: Overall Project Sources and Uses Expressed as Percentage

MAJOR ACTIVITY CATEGORY	Non-Federal			Federal		TOTALS
	PAB's	Pvt. Equity	State	INFRA	TIFIA	
Construction	\$ 156,144,447	\$ 146,162,047	\$ 10,000,000	\$ 54,000,000	\$ 190,651,507	\$ 556,958,000
Quality/Overhead	\$ 8,388,174	\$ 7,851,913	\$ -	\$ 2,500,000	\$ 10,241,914	\$ 28,982,000
Design/Survey	\$ 16,106,104	\$ 15,076,432	\$ -	\$ 5,000,000	\$ 19,665,464	\$ 55,848,000
Right of Way	\$ -	\$ -	\$ -	\$ 18,000,000	\$ -	\$ 18,000,000
Utilities	\$ 20,687,576	\$ 19,365,008	\$ -	\$ 3,500,000	\$ 25,259,416	\$ 68,812,000
Tolling/ITS	\$ 4,687,900	\$ 4,388,200	\$ -	\$ -	\$ 5,723,900	\$ 14,800,000
Transaction/Financing Costs	\$ 32,466,875	\$ 30,391,250	\$ -	\$ -	\$ 39,641,875	\$ 102,500,000
FUNDING SOURCE TOTALS	\$ 238,481,075	\$ 223,234,850	\$ 10,000,000	\$ 83,000,000	\$ 291,184,075	\$ 845,900,000

Table 4-2: Overall Project Sources and Uses

4.3 Stable and Reliable Fund Commitments

The private partner, which has already successfully raised all the debt and equity financing needed for Segments 3A and 3B, is poised to pursue the TIFIA and private activity bond (PAB) financing for Segment 3C. It has prepared an investment grade traffic and revenue study for Segment 3C, and has provided to TxDOT a financial model that TxDOT regards to be a reasonably achievable plan of finance. It includes the private equity shown in Table 4-1. The traffic and revenue study and capital cost projections provide the private partner a high level of confidence that they will be obtain investment grade ratings for the PABs and TIFIA debt.

The investment grade ratings for the first private financing of the NTE project, for Segments 1 & 2W, have recently been affirmed by Moody's and Fitch. E.g., [Moody's NTE Rating](#). These segments, entering their fourth year of operation, have kept pace with expectations during this early "ramp-up" period of rapid growth. The same investment grade rating is expected for the financing for Segment 3C.

A draft letter of interest for the TIFIA loan has been submitted to the Build America Bureau, and the private partner will submit a PABs application to the USDOT Secretary once the Texas Private Activity Bond Surface Transportation Corporation issues its inducement resolution. TxDOT, the private partner and the Corporation will execute a PABs agreement to establish their respective rights, obligations and commitments regarding the PABs. TxDOT and the private partner have negotiated a term sheet and will soon enter into a Change Order Agreement for Segment 3C under which the private partner will provide \$10 million as security for its commitment to diligently pursue close of the financing. In addition, when the Change Order Agreement is signed, the equity members will provide letters in support of their equity commitments to Segment 3C. Copies of the most recent drafts of the TIFIA letter of interest, PABs application, and Term Sheet are included in Attachment A.

4.4 *Contingency Reserves*

Despite the strong funding plan that is in place, TxDOT recognizes the need for contingency funding if risks occur that are retained by TxDOT under the I-35W NTE Partnership. 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 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 contingency solutions ranging from short term cash management techniques to longer term access to credit and capital markets.

Likewise, the private partner and its design-build contractor have built into their fixed price to design and build Segment 3C contingency for risks assigned to them. Assurance of performance and completion of Segment 3C and the Accelerated Elements will also come from a performance bond of at least \$250 million and the economic interest of the project finance lenders in protecting the value of its security interest and preventing a breach by the private partner borrower.

4.5 *Effect on \$500 Million Maximum*

Segment 3C and the Accelerated Elements do not constitute freight rail, water (including ports) or other freight intermodal projects. Accordingly, none of the requested INFRA grant should count toward the \$500 million aggregate available for such projects under the FAST Act.

5. Merit Criteria

The I-35W NTE is a large, complex project that is essential to the intermodal transfer of goods in one of the fastest-growing and vital regions of the country. This Project unlocks even greater economic vitality through an extraordinary investment of non-federal public and private capital to leverage federal funds, innovative environmental and safety solutions, and a commitment to long-term asset performance.

5.1 Support for National or Regional Economic Vitality

The DFW Metroplex is home to the 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 5-1, 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 Hub 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 DFW 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.

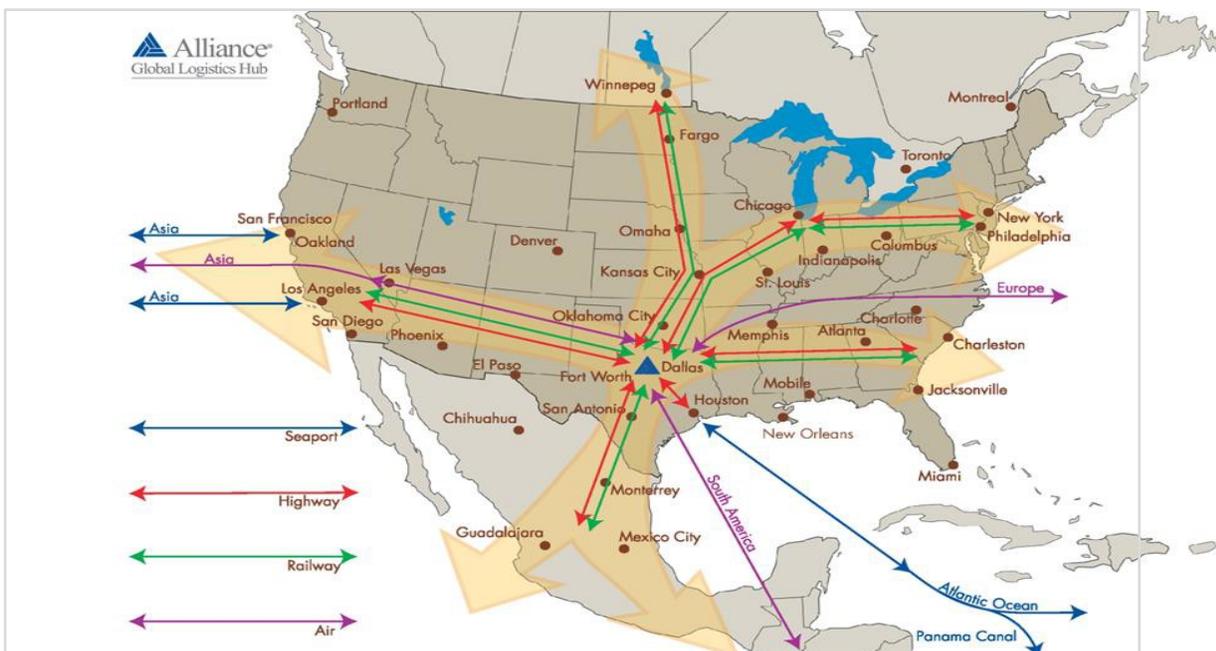


Figure 5-1: Alliance Global Logistics Hub.

The DFW Metroplex is serviced by the nation's three largest Class 1 railroads (BNSF, UPRR and KCS) that have major regional operations hubs that offer freight movement to key sea ports and lane Ports of Entry across the US, Mexico and Canada. Due to this North-South freight movement and by linking East and West coast destinations, the region has become an important regional, national, and intermodal center for air, rail, and truck distribution.

The Hub includes the Fort Worth Alliance Airport (the world's first industrial airport), BNSF Alliance Intermodal Facility, Union Pacific and BNSF Class-1 rail lines, and the FedEx Southwest Regional Sort Hub. Operations at the Hub contributed \$10.9 billion to the Texas economy in 2015 alone, with employment nearing 67,000.

The I-35W NTE, with Segment 3C lying adjacent to the Hub, is the critical backbone, providing freight movement at a regional, national, and international level. The I-35W NTE provides connectivity between the Alliance inland port and the route required for \$28.7 billion in exports. As goods arrive via air through Fort Worth Alliance Airport, rail at the intermodal rail hub and from the Mexican border in trucks, I-35W is essential not only for long-haul truck movement, but also for last mile connections to the air cargo airport, rail facilities, and the distribution complex in the region. It must support mobility for truck traffic alongside overwhelming passenger car traffic volumes. After the I-35W NTE is constructed, improved access and connectivity to AGLH will facilitate efficient and safe movement of freight and enhance economic competitiveness of the region, state, and nation. This is true in the region's rural areas, which rely on efficient freight mobility to bring goods to market in a cost-efficient manner, as well as in the Hub and other key freight facilities in the DFW Metroplex. Beyond that, the area adjoining the I-35W NTE is home to many of the largest employers in the region and some of the most recognized brands in the world (Figure 5-2).



Figure 5-2: Employers represented along the I-35W NTE.

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. Letters of support for this grant are found in Attachment E.

Benefit Cost Analysis

A Benefit-Cost Analysis (BCA) of the I-35W NTE was conducted in conformance with the July 2017 Benefit-Cost Analysis Guidance for TIGER and INFRA Applications. The grant request is limited to support the Accelerated Elements, consisting of ROW acquisition and three project elements that were deferred during construction contract negotiations due to lack of funding.

The BCA model incorporated the parameter updates in accordance with the above referenced USDOT guidance, 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 USDOT 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 (Table 5-1) with more detail regarding data inputs, sources, and estimation of each benefit category provided in Attachment B. All monetary values are presented in 2017 dollars, the default value of the USDOT Benefit-Cost Analysis (BCA) Resource Guide (November 2016). In instances where certain values are expressed in dollar values in other (historical) years, the US Bureau of Labor Statistics' Consumer Price Index for All Urban Consumers (CPI-U) is used to adjust them.

	Undiscounted	Discounted at 7%	Discounted at 3%
Total Benefits	\$2,825.6 M	\$678.7 M	\$1,461.9 M
Total Travel Time Savings	\$2384.1 M	\$560.7 M	\$1,223.3 M
Total Emission Cost Savings	\$6.0 M	\$1.3 M	\$3.0 M
Total Vehicle Operating Cost Savings	\$55.0 M	\$11.8 M	\$27.3 M
Total Accident Cost Savings	\$380.6 M	\$104.9 M	\$208.3 M
Incremental O&M	\$0.0 M	\$0.0 M	\$0.0 M
Total Capital Costs	\$795.4 M	\$559.0 M	\$669.4 M
Total Project Support Costs	\$99.9 M	\$78.7 M	\$90.0 M
Total Right of Way Costs	\$13.0 M	\$11.6 M	\$12.4 M
Total Mitigation Costs	\$1.0 M	\$0.8 M	\$0.9 M
Total Construction Costs	\$681.5 M	\$467.8 M	\$566.1 M
Net Present Value		\$119.8 M	\$792.5 M
Benefit-Cost Ratio	—	1.21	2.18
ROI	—	21.4%	118.4%
IRR		8.46%	

Table 5-1: Outcomes and Benefits

5.2 *Leveraging of Federal Funding*

(a) **Activities to Maximize Non-Federal Share; Private Funding Outcomes**

As shown in Table 4-1 above, Segment 3C of the I-35W NTE achieves extraordinary leverage of direct federal funding to complete one of the country's most complex and necessary improvements. Instead of merely complying with the requirement that the requested grant cover no more than 60% of the total project costs, TxDOT has structured the I-35W NTE Partnership to achieve value for each committed federal dollar. The only direct federal funding TxDOT proposes to use for Segment 3C is the INFRA grant. Since the notice of funding opportunity (NOFO) considers Federal credit programs to be non-Federal funding for the purposes of this criterion, the Federal share for this Project is only 10%—nearly 10-to-1 leverage. The remaining project costs will be covered with a TIFIA loan and \$461 million in private equity and PABs. This proposed funding plan meets the requirement that federal funds do not exceed 80% of the total funding for Segment 3C, since the combination of the INFRA grant and the TIFIA loan would represent only 44% of the total sources.

TxDOT has utilized state of the art procurement and contracting methods to optimize the amount of leveraging of federal funds for the I-35W NTE and its Segment 3C. The I-35W NTE Partnership is one of the most successful P3s in the nation, adopting the following cutting-edge procurement and contracting terms and provisions:

- Use of a competitive, combined DBFOM and pre-development agreement procurement that applied best value selection criteria to choose a developer with the most innovative and cost-effective concepts and plans to move an immature I-35W NTE project to the point of environmental, legal, technical and financial feasibility, years ahead of when TxDOT could have proceeded with the project.
- A financing approach that leverages managed lane toll revenues to secure private debt and equity financing for a significant amount of the capital costs, as described above. Neither the federal government nor TxDOT is responsible for repayment of the debt; and no public revenues are pledged to debt repayment or to paying any return on equity.
- Capital leveraged through private financing far exceeds the amount of capital that TxDOT could have raised against the toll revenues through public financing. This differential is not well understood by most public agencies. Public agencies necessarily take a more conservative view of project revenues and costs and seek a high investment grade credit rating for public debt placements, driving down the capital formation. The I-35W NTE private partner maximized the debt raised by structuring a low investment grade rating. In addition, private equity took a more aggressive view of revenues and costs, enabling infusion of private equity that simply was not available to TxDOT if it had publicly financed the I-35W NTE. These private finance leveraging advantages have had a major impact on the scope, scale and timing of the I-35W NTE.

Aside from these non-Federal funding sources, TxDOT is further leveraging federal funds with the donation of a large portion of new ROW for Segment 3C from the largest land developer in the region. This donation indicates how important the project is to promoting economic development and mobility along the corridor.

(b) Fiscal Constraints on Non-Federal Contributions

Because of the P3 structure described above, the projected future managed lane toll revenues are the fundamental fiscal constraint affecting TxDOT's ability to use non-Federal contributions. The private partner has no other committed source of revenue with which to raise capital for the project; but has used those toll revenue projections to maximize non-governmental capital formation. TxDOT has adequate other non-Federal resources available if necessary to pay for contingent risks allocated to TxDOT under the I-35W NTE Partnership.

(c) Transportation Program Non-Federal Share

TxDOT's non-federal funding comes from state fuel tax revenues, vehicle registration fees, oil and natural gas production tax revenues and local government participation which make up the bulk of the State Highway Fund. TxDOT has also used non-federal funding for projects from municipal bonds and up-front payments/revenue sharing on concession arrangements. Beginning in 2019, TxDOT will receive a portion of the state's general sales and use tax revenue. The non-Federal share of TxDOT's capital funding program was 64% for fiscal year 2016-2017 and expected to be 61% in fiscal year 2018-2019.

(d) Plan Addressing Project Life-Cycle Costs

TxDOT's plan to address the project's full life cycle costs centers on the 52-year toll concession under the I-35W NTE Partnership. It contains the following key features:

- Private partner exclusive responsibility to pay for its costs of operating and maintaining the project, relying on toll revenues as the funding source. Other than for a limited set of contingency events (e.g. future changes in law, third party releases of hazardous material), TxDOT has no obligation to pay for, and bears no risk regarding, those costs;
- First call on toll revenues to pay for the project O&M costs, before servicing any debt of the private partner;
- Requirements for the private partner to prepare, for TxDOT's approval, and adhere to, a quality management plan, operations and maintenance plan and safety plan throughout the term;
- Detailed performance metrics and criteria that the private partner must meet in carrying out operations and maintenance, designed to keep the project in a constant state of safety and good condition. These performance standards are at a higher level than TxDOT follows for its own maintenance of state highways;
- Regular monitoring and reporting on operations and maintenance performance;
- A non-compliance points system imposing liquidated damages on the private partner and other consequences if it fails to meet any of the operations and maintenance performance metrics; and
- Handback requirements and standards for the condition of the project at expiration of the I-35W NTE Partnership, together with reserve funding requirements to assure the work needed to meet those requirements is properly performed.

5.3 *Potential for Innovation*

The I-35W NTE maximizes opportunities for innovation in the three areas identified in the NOFO.

(a) **Environmental Review and Permitting**

TxDOT is a leader among state departments of transportation in environmental stewardship and innovation in environmental review and permitting. TxDOT was the first agency to pursue and receive assignment for NEPA responsibilities under the Surface Transportation Project Delivery Program (23 U.S.C. § 327), which has allowed TxDOT to achieve unprecedented efficiency in the environmental review process, including for the I-35W NTE. TxDOT also supports the recent guidance from the Council on Environmental Quality (CEQ) announcing a “one federal decision” policy and the CEQ-USDOT cooperation on high-priority infrastructure projects (as such are defined in the President’s Executive Order 13766). Given the I-35W NTE’s importance to the general welfare, value to the Nation, and environmental benefits, TxDOT believes it should be considered a high-priority infrastructure project and TxDOT requests that it be included in these efforts in the future. Section 6.2 below provides more detail on the various federal interests involved in the I-35W NTE and the coordination necessary to achieve clearance. This project is a prime candidate to demonstrate the effectiveness and success of the innovative environmental review and permitting solutions proposed by this Administration.

Another environmental innovation has been the extensive involvement of the private partner in preparing analyses and studies and other documentation in support of TxDOT’s environmental review of the I-35W NTE under NEPA. Acting under the supervision and direction of TxDOT, the private partner has brought to bear its life cycle asset management perspective, traffic modelling expertise and design expertise to help TxDOT hone in on preferred project alternatives. Its contributions have enabled a more timely and efficient environmental review process and a better project definition outcome.

The private partner developed a real-time turbidity monitoring program for the West Fork of the Trinity River bridge crossings in Segment 3A. The Trinity River Water District intends to adopt a similar program model for future construction projects within its levee system.

To date, the I-35W NTE construction has had no environmental violations. Only minor deficiencies have been noted during audits and were quickly corrected via the continual improvement process. The environmental team has extensive involvement with the construction team, reviewing work plans for environmental permit compliance. The private partner has reduced the use of natural resources by using recycled crushed concrete in flex base instead of natural rock. It also has achieved a reduced number of field issues and instances, which is attributed to weekly distribution of training memos to field and supervisory staff. The memos contain reminders of topics covered in the project’s Environmental Protection Training Program sessions, and apply the information to particular resource areas or construction activities, such as dewatering after a rain event.

(b) Special Experimental Authority

As demonstrated through its assumption of environmental review, TxDOT is a leader in utilizing federal opportunities for additional innovation and responsibility. One of the goals of the Special Experimental Project No. 15 (SEP-15) is to increase project management flexibility, which will result in greater innovation, improved efficiency, and timely project implementation. TxDOT proposes to use SEP-15 for this project to identify areas where TxDOT can self-certify elements of the Project's development instead of relying on federal oversight.

The I-35W NTE Partnership emerged from TxDOT's use of an SEP-15, one of the first P3 procurements to take advantage of this important federal tool. A description of the waivers under this SEP-15 is shown in Attachment C.

(c) Safety and Technology

(i) Innovative Approaches to Safety

As a foundational matter, TxDOT is committed to the primacy of safety in all of its activities and projects. The I-35W NTE is no different.

The I-35W NTE incorporates safety measures that have been included in TxDOT projects for many years such as edge lines, rumble strips, median barrier, shielding unmovable objects off the roadway, and safe edges; all part of the FHWA Proven Safety Countermeasures. Specific aspects of I-35W NTE including items in this grant proposal improve corridor safety. I-35W NTE addresses three safety categories in the Texas Strategic Highway Safety Plan, FHWA Proven Safety Countermeasures, and FHWA Everyday Counts including intersection, pedestrian and horizontal curve safety improvements.

I-35W NTE improves intersection safety through reducing left turn conflicts, dedicated left and right turn lanes, medians, and turn lane channelization. I-35W NTE reduces left turn conflicts by adding U-turns to many of the cross streets and the Accelerated Elements add U-turns to three additional cross streets. Dedicated turn lanes, medians to separate opposing directions of traffic and turn lane channelization also minimize collisions.

Pedestrian safety is greatly improved by the I-35W NTE. Curbed walkways are added along all of the frontage

roads and all cross streets. Sidewalks are in place for crossing over or under the highway safely. Pedestrian islands are provided in the intersections and all intersections have pedestrian signals and are lighted to improve visibility. The Cypress Street Bridge and Luella Street bridge provide barrier separated bike and pedestrian lanes (Figure 5-3).



Figure 5-3: Cypress Street Bridge with barrier separated bike path and raised sidewalk

The project upgrades I-35W to current design standards, improving horizontal curve safety, and ensuring that operational and design deficiencies are addressed to facilitate efficient and safe movement of freight and passenger vehicles. Specific items included in the I-35W NTE include eliminating the outdated cloverleaf intersection at 28th Street and converting it to a standard diamond interchange. Also, the cloverleaf radius at Spur 280 has been increased, and the Accelerated Elements include eliminating the small radius ramps at Mark IV Parkway.

TxDOT completes Data-Driven Safety Analysis to provide the best data available and produce actionable information specific to the I-35W corridor to identify accident hot spots. TxDOT also utilizes a research contract with Texas A&M Transportation Institute (TTI) to conduct systematic analysis. This contract can be leveraged to expand analysis and tools used to help TxDOT move toward its stated goal in the Texas Strategic Highway Safety Plan of zero fatalities.

TxDOT's private partner uses a camera monitoring system that is operational 24 hours a day, 365 days a year. The data feed is used primarily to monitor the flow of the managed lanes, but also to identify need for roadside assistance and to coordinate with 911 dispatchers and first responders to report and quickly respond to accidents on both tolled and non-tolled lanes. In September 2017 this enabled responses to 17 incidents on the NTE and I-635 managed lanes alone within 1 minute of identification. The average incident was cleared in approximately 60 minutes. As another safety innovation, the private partner will replace the most frequently impacted attenuators on the I-35W NTE with Smart Cushion[®] attenuators, which use a patented system for stopping vehicles. The system is speed dependent and stops small and large vehicles by automatically regulating the stopping force exerted on the vehicle. Non-major damages caused by hitting these attenuators can be repaired and restored to full service by a maintenance crew within an hour, thus improving safety by reducing their exposure to traffic as well as by minimizing inconvenience to motorists.

A further safety innovation is the private partner's use of a Spider remote-controlled slope mower for certain mowing activities. The ergonomic remote control ensures maximum safety and comfort when working on slopes. The remote control allows the operator to stay away from the working area of the mower.

(ii) *Technology.*

The key 21st century technology feature of the I-35W NTE is its all electronically tolled managed lanes that utilize dynamic pricing. The system uses a proprietary dynamic algorithm that considers the traffic performance across the entire corridor to keep the managed lanes moving at 50 mph or more at all times, even during the worst rush hours. Traffic data is collected and updated each minute from dozens of devices, spaced every ½ mile, on the managed lanes, general purpose lanes and entrance and exit ramps. The algorithm processes this data to optimize congestion levels through pricing. The addition of managed lanes allows drivers to choose how they will get from their points of origin to their destinations. The managed lanes on the I-35W NTE provide a faster congestion-free trip with more predictability during drivers' commutes. In addition, the dynamic pricing ensures that the managed lanes can flow smoothly for transit vehicles, which may use them free of charge, encouraging use of public transportation. As demand for mobility increases, managed lanes will form a critical component in any future rapid bus or bus transit options.

The I-35W NTE Partnership will join with the operators of the rest of the NTE and the I-635 managed lanes project to sponsor research being conducted by UT-Austin and the Texas AV Proving Grounds Partnership (TxDOT, TTI, NCTCOG involved heavily) to develop express managed lanes as an autonomous vehicle test bed. More information is available at <https://ctr.utexas.edu/2017/01/24/press-release/>. The safety features of this project, particularly the segregated, limited access design of the managed lanes, will provide opportunity to test and deploy this exciting technology. The private partner is also working with NCTCOG to implement and test HOV rules and auto occupancy detection.

5.4 Performance and Accountability

(a) Proposed Conditions to Funding

The Accelerated Elements will not be implemented unless TxDOT and its private partner successfully conclude the commercial and financial transactions to incorporate Segment 3C into the existing I-35W NTE Partnership. Accordingly, TxDOT proposes that the INFRA funding for the Accelerated Elements be conditioned on closing of the private partner's debt and equity financing for Segment 3C. TxDOT and the private partner anticipate that they will execute the change order, sign the necessary amendments to the I-35W NTE Partnership, and close the financing in the spring of 2018.

Once this occurs, the goals of the INFRA program – maximized leveraging of federal funds, stimulation of economic benefits, a strong benefit-cost ratio, long term life cycle asset management, and project innovations – will be realized by the I-35W NTE. The private partner will post payment and performance bonds to assure completion of Segment 3C and the Accelerated Elements, and will embark on completing design and construction.

(b) Legislative, Regulatory and Policy Changes

There are no state or local legislative, regulatory or policy changes that must be achieved before the I-35W NTE can proceed as envisioned. The project is already the subject of a thriving P3, TxDOT has the legal authority to add Segment 3C to the P3, and project stakeholders are full supportive of proceeding with Segment 3C. Normal regulatory approvals are in process for authorizing execution of a change order and related amendments to incorporate NTE Segment 3C into the existing I-35W NTE Partnership. The FHWA has indicated its approval of the use of a change order, and the final amendments to the CDA for the I-35W NTE Partnership will be subject to the FHWA's approval.

(c) Plan to Assure Performance Outcomes

The I-35W NTE Partnership embodies a DBFOM project delivery method that is intrinsically designed to, and has historically demonstrated, high levels of on-schedule completion and long-term performance. Because the private partner will operate and maintain the I-35W NTE for 52 years, it is in its best interest to construct a quality product. During construction the private partner is required to report construction quality results and progress on a monthly basis. The Independent Engineer validates these reports. In addition, the private partner performs testing to satisfy the requirements of its lenders, who demand compliance with TxDOT's technical provisions to protect their security interest.

Using its experience with complex asset management to hold private partners accountable, TxDOT has approved the I-35W NTE Partnership's implementation of a web-enabled, GIS-integrated maintenance management information system (MMIS). This tool provides value by optimizing project system asset management. The integration of different tools brings all data into one place where information can be shared across systems and departments for analysis of different stages. Logs of work orders provide capability to analyze asset conditions and damage reporting. Work orders can be electronically generated and assigned to maintenance personnel for resolution and closing of maintenance items.

In addition, specific, measurable outcomes that achieve transportation performance objectives for the I-35W NTE throughout the term are built into the contract documents for the I-35W NTE Partnership. These are described in Section 5.2(d) above. These provisions coupled with the financing structure and MMIS ensure long-term asset management without relying on future federal assistance.

6. Project Readiness

6.1 Technical Feasibility

Segment 3C of the I-35W NTE is ready to begin concurrent design and construction upon financial close, expected in the spring of 2018. TxDOT has completed schematic-level drawings. Those drawings and a description of the scope of Segment 3C are included as Attachment D. See Section 1.3 above for a description of the Accelerated Elements. The private partner will perform final design services and construction activities. FHWA environmentally cleared the project in March 2012.

The project design criteria follow 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. These standards are memorialized in the I-35W NTE Partnership technical provisions.

The cost estimate, which includes agency, financial, design and construction costs and contingency, is based on a detailed review of the preliminary design drawings, similar projects, and private partner information. TxDOT has an FHWA approved Cost Estimate Review (CER) which demonstrates that project risks have been carefully considered and project delivery carefully planned. A 10-percent project contingency is included in the cost estimate.

6.2 Project Schedule

The Project Schedule (Figure 6-1) illustrates the anticipated timeframes for major milestones. Construction activities for the INFRA grant meet all identified schedule requirements.

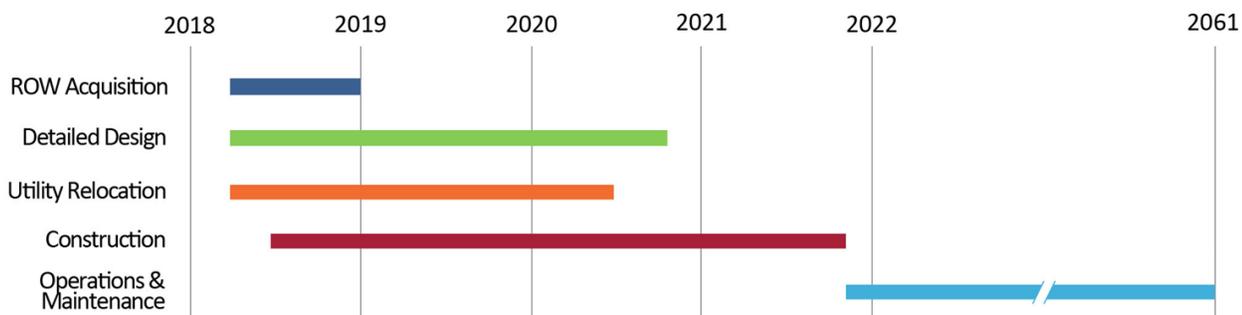


Figure 6-1: Project Schedule

Detailed design, ROW acquisition, and utility relocation are expected to begin the 2nd quarter of 2018. ROW acquisition is expected to be completed by the end of 2018 in accordance with 49 CFR Part 24 and 23 CFR Part 710. Thus, activities that allow construction and obligation of funds readily meet the INFRA schedule requirements. Because this is a design build project, construction activities are expected to begin shortly after detailed design commences. Ground breaking, which is expected in fall 2018, occurs well within the 18-month time period following obligation of the INFRA funds for the Accelerated Elements.

6.3 *Required Approvals*

Environmental Permits and Reviews

(i) 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: 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/business/partnerships/current-cda/north-tarrant-express/environmental-studies.html> under I-35W Study from SH 114 to I-820.

Segment 3C will include wishbone ramps at Westport Parkway, direct connectors at the SH 170, and direct connectors at I-820. These improvements were not part of the project analyzed in the EA and are currently the subject of a NEPA re-evaluation. The re-evaluation is expected to be completed the 1st quarter of 2018.

(ii) Reviews, Approvals, and Permits by Other Agencies

The EA determined the need for coordination with the following agencies. 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 – On May 4, 2009, the project team met with federally-recognized Native American tribes with a historical interest in the area surrounding the project. 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, on July 13, 2010 project staff coordinated with the Texas Historical Commission's State Historic Preservation Officer 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 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.

(iii) *Environmental Studies or Other Documents*

Resources that were reviewed as part of the EA consisted of 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. The EA document provides detailed information on the analysis, potential impacts, and proposed mitigation of the identified resources.

(iv) *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.

(v) *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, 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 comments and questions period of the meeting, one comment and one question were received. The third opportunity on July 28, 2009 was a public meeting attended by 59 participants. 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.

(a) State and Local Approvals and Planning

The I-35W NTE 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 in the Mobility 2040 transportation plan. Funds for the I-35W NTE 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 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.

7. Large/Small Project Requirements

The I-35W NTE is considered a Large Project under the INFRA Grant program requirements. As such, this project meets the criteria listed in the NOFO as follows.

7.1 *The project generates national or regional economic, mobility, safety benefits.*

The project meets this requirement. See discussion at Sections 2 and 5.1 above.

7.2 *The project is cost effective.*

The I-35W NTE will provide \$1.21 in public benefits for every \$1 spent (discounted at 7%). See discussion of the benefit cost analysis at Section 5.1 above.

7.3 *The project contributes to one or more of the Goals listed under 23 USC 150.*

(a) Safety

The I-35W NTE Partnership will upgrade I-35W NTE 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. See the discussion of safety benefits, including of the Accelerated Elements, at Section 5.3(c) above.

(b) Congestion Reduction

The I-35W NTE, together with the Accelerated Elements, will deliver significant congestion reduction. See discussion at Sections 1.3 and 5.1 above. The innovative P3 approach will also enable congestion reduction elsewhere on the national highway system. The transfer of primary operations and maintenance responsibility to the private partner, funded solely from toll revenues, means TxDOT can shift limited funding resources to other congested projects.

(c) System Reliability/Freight Movement and Economic Vitality

The proposed I-35W NTE is a regionally and locally important project. Its improvements enhance the reliability of the I-35W corridor and have significant associated long-term economic benefits. See Section 5.1 above.

(d) Environmental Sustainability

Selection of the Accelerated Elements for this grant application gave specific consideration to environmental sustainability outcomes. The 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 into the I-35W NTE adjacent neighborhoods.

(e) Reduced Project Delivery Delays

The negotiated terms with the private partner will require the private partner to build the Accelerated Elements by 2040. The requested INFRA grant funding will allow TxDOT and the private partner to construct the Accelerated Elements by more than 20 years sooner than the current 2040 delivery schedule.

7.4 *The project is based on the results of preliminary engineering.*

TxDOT has completed schematic-level drawings with final design services and construction activities to be performed by the private partner. See Attachment D. 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.

7.5 *The project has one or more stable and dependable funding or financing sources.*

The project cannot be easily and efficiently completed without other federal funding. TxDOT and the private partner have developed a well-conceived and thoroughly vetted financial plan for the I-35W NTE. The P3 structure assures that with financial close the I-35W NTE will have sufficient capital sources, including for contingency, to complete the project without need for further federal funding. See Section 4 above.

7.6 *The project is reasonably expected to begin construction no later than 18 months from obligation.*

The I-35W NTE is ready to begin concurrent design and construction upon financial close, expected in the 2nd quarter of 2018, well within eighteen months after obligation of the INFRA grant. See Section 6 above.

**NTE SEGMENT 3C CHANGE ORDER
TERM SHEET**

This Term Sheet provides a summary of key terms and conditions for a change order under the Facility Agreement, dated as of March 1, 2013 (as amended, modified and/or otherwise supplemented thereafter, the "FA"), for the North Tarrant Express, Segments 3A & 3B Facility (the "Facility"), between the Texas Department of Transportation ("TxDOT") and NTE Mobility Partners Segments 3 LLC, a Delaware limited liability company (the "Developer"), to add to the FA and the Facility the development, design, construction, financing, operations and maintenance of the NTE Segment 3C Facility and the IH 820 managed lane direct connectors in Segment 3A.

Except where specifically stated otherwise, this Term Sheet only addresses a change order for the NTE Segment 3C Facility and the IH 820 managed lane direct connectors in Segment 3A, which change order will be documented separately and independently of change orders for the Downtown Connector and I-30 Connector.

This Term Sheet is intended as a non-binding general description of the intended terms for the change order, and is subject to revision by the parties as the parties negotiate and finalize the change order agreement. This Term Sheet will be superseded by the final signed documentation respecting the subject matter of this Term Sheet. This Term Sheet does not bind either party to enter into the change order contemplated hereby or any related agreement.

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This Term Sheet uses certain terms that are capitalized. See Exhibit 1 to the FA for a full definition for each of these terms that are not defined in this Term Sheet.

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Segment 3C Change Order Scope and Documentation		
1	Change Order Scope	<p>The Change Order will cover design, construction, financing, operation and maintenance of Segment 3C. The term “Segment 3C” is used herein to refer to all the improvements described in Exhibit A hereto. The term “Segment 3C” as used herein does not include the Downtown Connector or the I-30 Connector.</p> <p>Developer will be responsible for environmental studies and documents for any and all NEPA re-evaluations and updates, and bear all risk of related delay and cost increase, respecting (a) the scope and design of Segment 3C, including respecting the Westport Parkway wishbone ramps, SH 170 direct connectors and IH 820 direct connectors, and (b) any federal action to approve a private activity bonds (“PABs”) allocation for Segment 3C, the Downtown Connector and the I-30 Connector.</p>
2	Change Order Agreement	<p>The parties will sign a Change Order Agreement under which:</p> <ul style="list-style-type: none"> • The parties agree to use diligent efforts to satisfy the conditions precedent to Commercial Close (as defined at “Conditions to Commercial Close” below) and Financial Close (as defined at “Conditions to Financial Close” below) and entering into contract documents for adding the design, construction, financing, operation and maintenance of Segment 3C to the FA; • If the specified conditions to Commercial Close are satisfied, the parties will execute applicable Commercial Close Documents noted herein: <ul style="list-style-type: none"> ○ Entering into an amended and restated FA, amended and restated Technical Provisions, and Segment 3C Change Order, each in form and substance to be set forth in attachments to the Change Order Agreement; ○ Entering into an amendment to the form of TxDOT-Developer Tolling Services Agreement, amendments to the Lease and Memorandum of Lease, an amendment to the Joint Work Authorization to add Segment 3C to the scope of the Independent Engineer’s work, and an amendment to the Facility Trust Agreement and Facility Trust and Security Instruments to add Segment 3C to the FA and such other agreements, in each case as may be necessary and applicable; ○ Developer delivering notice to the Escrow Agent under the Intellectual Property Agreement and depositing with the Escrow Agent the updated base case financial model as of Commercial Close to incorporate Segment 3C (the “Commercial Close Base Case Financial Model Update (3C)”), the Financial Modeling Data pertaining to Segment 3C,

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		<p>copies of the amendment to the Design-Build Contract, the other Key Contracts and Key Contract Amendments, and the other Contracts and Contract Amendments, as required by Section 10.1.1 of the FA, and the confidential portions of the Segment 3C Plan of Finance.</p> <ul style="list-style-type: none"> • Developer will pursue the close of financing for Segment 3C in amounts, from sources and on terms consistent with a financial model update incorporating financial assumptions for Segment 3C, as mutually approved prior to entering into the Change Order Agreement (the “Benchmark Base Case Financial Model Update”) and with all the requirements under “Developer Financing” below; • The parties will allocate risks concerning the financing terms for Segment 3C as provided in this Term Sheet; • The parties will mutually approve a Preliminary Baseline Schedule for Segment 3C, which will be an attachment to the Change Order Agreement; and • The parties will agree to cooperate to seek NTTA’s consent to amend its Tolling Services Agreement with TxDOT to add Segment 3C on substantially the same terms as apply to Segments 3A & 3B.
3	Downtown Connector and I-30 Connector Change Orders	<p>The Change Order Agreement will not include in its scope the Downtown Connector or the I-30 Connector, which shall be added to the Facility and FA by separate and distinct change orders; provided that:</p> <ul style="list-style-type: none"> • Developer will include the eligible project costs thereof in the Segment 3C Plan of Finance for purposes of applying for TIFIA financing and PABs financing under the Change Order Agreement; • The Benchmark Base Case Financial Model Update and the Interim Segment 3C Public Funds Amount incorporate assumptions for the cost and revenue impacts of the Downtown Connector and I-30 Connector; and • If Segment 3C does not achieve either Commercial Close or Financial Close, the cost and revenue impacts of the Downtown Connector and I-30 Connector will be determined according to the provisions of the directive letters and change orders previously issued therefor and the applicable provisions of the FA, without regard to assumptions therefor in the Benchmark Base Case Financial Model Update; and nothing in this Term Sheet, the Benchmark Base Case Financial Model Update, the Change Order Agreement or any other document or communication, written or oral (except such directive letters), relating to Segment 3C shall constitute an admission by either party, or prejudice either party, respecting such cost and revenue impacts.
4	Segment 3C Commercial Close Documents	<p>The documents for Commercial Close will include the following (“Commercial Close Documents”):</p> <ul style="list-style-type: none"> • An amended and restated FA that consolidates the original FA, the amendments necessary to incorporate Segment 3C,

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		<p>and all prior amendments to the FA;</p> <ul style="list-style-type: none"> • Amended and restated Technical Provisions that consolidate the original Technical Provisions, the amendments necessary to incorporate Segment 3C, and all prior amendments to the Technical Provisions; • A Segment 3C Change Order; • An amendment to the TxDOT-Developer Tolling Services Agreement to add Segment 3C, consistent with the contemplated amendment to the TxDOT-NTTA Tolling Services Agreement; • An amendment to the Joinder Agreement under the Master Custodial Account Agreement between the NTTA and Wells Fargo Bank, N.A., as custodian, to add Segment 3C; • Amendments to the Lease and Memorandum of Lease to add Segment 3C; • An amendment to the Joint Work Authorization to add Segment 3C to the scope of the Independent Engineer’s work; • An amendment to the Facility Trust Agreement and Facility Trust and Security Instruments to add Segment 3C; • Current documentation and evidence of ownership of Developer and upstream entities, including relevant LLC agreements and other governing documents, and of legal authority of Developer to execute and deliver the applicable transaction documents; • Opinion of legal counsel for Developer; • Opinion of legal counsel for TxDOT; and • Commercial Close Base Case Financial Model Update (3C).
5	Segment 3C Financial Close Documents	<p>The financial documents for Financial Close shall include the following:</p> <ul style="list-style-type: none"> • The Segment 3C Funding Agreements (including any consents of the existing debt holders); • The Segment 3C Security Documents; • If requested by the Collateral Agent, a direct agreement between TxDOT and the Collateral Agent for the Segment 3C Facility Debt, setting forth the precise provisions of Article 20 of the FA; and • The Base Case Financial Model Update (3C), which will be deposited with the Escrow Agent under the Intellectual Property Agreement at Financial Close.
Conditions Precedent		
6	Conditions to Executing Change Order Agreement	<p>The parties will execute the Change Order Agreement if and when:</p> <ol style="list-style-type: none"> (a) The parties agree on the form and content of the Change Order Agreement and all exhibits thereto; (b) Developer submits to TxDOT and TxDOT approves the Preliminary Baseline Schedule for Segment 3C; (c) Developer submits to TxDOT and TxDOT approves the Benchmark Base Case Financial Model Update; (d) Developer submits to TxDOT and TxDOT approves the Segment 3C Plan of Finance, consistent in all respects with the Benchmark Base Case Financial Model Update; (e) Developer submits to TxDOT and TxDOT approves an audit and

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		<p>opinion from the independent model auditor regarding the Benchmark Base Case Financial Model Update, meeting the requirements set forth in the Change Order Agreement and <u>Section 5.2.4</u> of the FA;</p> <p>(f) Developer submits to TxDOT and TxDOT approves Benchmark Rates for each of the PABs financing and the TIFIA loan financing, and credit spreads for the PABs financing;</p> <p>(g) Developer submits to TxDOT and TxDOT approves Lane Rental Charges and the excused amount of Lane Rental Charges for Segment 3C;</p> <p>(h) Developer delivers to TxDOT Closing Security as described at “Closing Security and Liquidated Damages” below; and</p> <p>(i) Developer completes, signs, notarizes and files with the Texas Ethics Commission a Certificate of Interested Parties (Form 1295), which can be found at https://www.ethics.state.tx.us/forms/1295.pdf. Filing must be done on-line at www.ethics.state.tx.us/File.</p> <p>The date upon which the Change Order Agreement is executed and delivered by the parties is referred to in this Term Sheet as the “COA Effective Date”.</p>
7	Conditions to Commercial Close	<p>Commercial close (“Commercial Close”) will be subject to satisfaction of the following conditions precedent, unless waived or extended in writing by the party or parties benefitted by the condition precedent. Each condition precedent will have its own deadline for satisfaction shown in parentheses below (although the failure to meet any such deadline so long as diligent efforts by the relevant party shall have been exercised shall not be deemed to be a failure by such party to exercise such diligent efforts). The parties shall use diligent efforts to reach and satisfy the conditions precedent by the applicable deadlines.</p> <p>(a) Developer submission to the USDOT Build America Bureau of a complete TIFIA letter of interest for a TIFIA loan (which may be submitted in TxDOT’s name subject to TxDOT’s approval, with Developer identified as sole borrower) in at least the amount indicated in the Benchmark Base Case Financial Model Update (10 days after the COA Effective Date). The TIFIA loan is intended to include financing for the Downtown Connector and I-30 Connector as well;</p> <p>(b) Developer submission to the Build America Bureau of a complete application for an allocation of PABs for the Segment 3C Facility Segment in at least the amount set forth in the Benchmark Base Case Financial Model Update (10 days after adoption of an inducement resolution by the Texas Private Activity Bond Surface Transportation Corporation). The PABs are intended to include financing for the Downtown Connector and I-30 Connector as well;</p> <p>(c) Developer submission to at least two Rating Agencies of requests and complete packages for “provisional” investment grade ratings for the Segment 3C debt (90 days before Segment 3C Financial Close Deadline);</p> <p>(d) Receipt of a PABs allocation for Segment 3C, the Downtown Connector and I-30 Connector in at least the amount set forth in</p>

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		<p>the Benchmark Base Case Financial Model Update (90 days before Segment 3C Financial Close Deadline), which allocation is not revoked, replaced or rescinded;</p> <p>(e) Developer's submission to TxDOT of proposed amendments to the Design-Build Contract to incorporate design and construction of Segment 3C (60 days before Segment 3C Financial Close Deadline), and TxDOT approval thereof (30 days after receipt), which approval right shall be limited to confirming that such amendments are consistent with the Benchmark Base Case Financial Model Update and applicable requirements in the FA and Change Order Agreement;</p> <p>(f) Developer submission to TxDOT of the names and resumes of any new Key Personnel that Developer may propose in connection with Segment 3C (60 Days before Segment 3C Financial Close Deadline), and TxDOT approval thereof in its good faith discretion (30 days after receipt);</p> <p>(g) Developer submission to TxDOT of any proposed new Key Contractors and new Key Contracts or amendments thereto in connection with Segment 3C (60 days before Segment 3C Financial Close Deadline), and TxDOT approval thereof in its good faith discretion (30 days after receipt);</p> <p>(h) TxDOT, Developer and NTTA approval of the terms and conditions for amending the Tolling Services Agreement between TxDOT and Developer and the Tolling Services Agreement between TxDOT and NTTA to add Segment 3C to the scope of services thereunder, and NTTA standing ready, willing and able to execute and deliver such amendment at Commercial Close (30 days before the Segment 3C Financial Close Deadline);</p> <p>(i) TxDOT, Developer and NTTA approval of an amendment to the Joinder Agreement under the Master Custodial Account Agreement between the NTTA and Wells Fargo Bank, N.A., as custodian, to add Segment 3C, and NTTA standing ready, willing and able to execute and deliver such amendment at Commercial Close (30 days before the Segment 3C Financial Close Deadline);</p> <p>(j) Approval by TxDOT, Developer and the trustee under the Facility Trust Agreement of an amendment to the Facility Trust Agreement as necessary in connection with Segment 3C, and such trustee standing ready, willing and able to execute and deliver the amendment at Commercial Close (30 days before the Segment 3C Financial Close Deadline);</p> <p>(k) TxDOT, Developer and Independent Engineer approval of an amendment or supplement to the Joint Work Authorization to add Segment 3C to the scope of the Independent Engineer's work, and the Independent Engineer standing ready, willing and able to execute and deliver such amendment or supplement at Commercial Close (30 days before the Segment 3C Financial Close Deadline);</p> <p>(l) Developer submission to TxDOT of a preliminary Commercial Close Base Case Financial Model Update (3C) and preliminary updated Segment 3C Plan of Finance that input all changes, if any, in the terms of financing between those assumed in the</p>

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		<p>Benchmark Base Case Financial Model Update and those set forth in the then most recent term sheets and draft Funding Agreements and Security Documents for Segment 3C, and TxDOT approval of such updates (submission to TxDOT 20 Business Days before the earlier of the scheduled date of PABs pricing or the Segment 3C Financial Close Deadline; continuing updates thereafter as needed or requested by TxDOT, and TxDOT approval thereof, prior to Commercial Close);</p> <p>(m) The U.S. Secretary of Transportation has given written approval of TIFIA loan financing for Segment 3C, and three days' notice to Congress of such approval has elapsed without Congressional rescission of such approval (15 Business Days before the earlier of the scheduled date of Financial Close or the Segment 3C Financial Close Deadline);</p> <p>(n) Developer delivery to TxDOT of drafts of the proposed and final Funding Agreements and Security Documents for the Segment 3C debt (as and when such drafts become available but (i) for the first drafts not later than 15 Business Days before the earlier of the scheduled date of PABs pricing and the Segment 3C Financial Close Deadline and (ii) for the final drafts not later than the earlier of two Business Day before the scheduled date of Commercial Close or seven Business Day before the Segment 3C Financial Close Deadline), and resolution of all applicable TxDOT comments thereon to TxDOT's reasonable satisfaction, which comments shall be limited to ensuring consistency with the requirements of the FA and the Change Order Agreement (earliest of one Business Day before the scheduled date of Commercial Close or six Business Days before the Segment 3C Financial Close Deadline);</p> <p>(o) Delivery to TxDOT of, and resolution of all TxDOT comments on, current documentation and evidence of ownership of Developer and of upstream entities whose sole or primary business interest, direct or indirect, involves the Facility, including all relevant LLC agreements and other governing documents, and of legal authority to execute and deliver (earlier of ten Business Days before the scheduled date of Commercial Close or 15 Business Days before the Segment 3C Financial Close Deadline);</p> <p>(p) Delivery to TxDOT of opinions of legal counsel for Developer, in form and substance reasonably satisfactory to TxDOT (pro forma final opinions by the earlier of five Business Days before the scheduled date of Commercial Close or ten Business Days before the Segment 3C Financial Close Deadline, and executed opinions on the date of Commercial Close);</p> <p>(q) Delivery to Developer of opinions of legal counsel for TxDOT, in form and substance reasonably satisfactory to Developer and the Lenders, which may be a qualified, reasoned opinion as to authority, validity and enforceability (pro forma final opinions by the earlier of five Business Days before the scheduled date of Commercial Close or ten Business Days before the Segment 3C Financial Close Deadline, and executed opinions on the date of Commercial Close);</p> <p>(r) As of the date of Commercial Close, the TIFIA Financing Terms</p>

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		<p>Theoretical Adjustment, if any, determined as set forth under “Changes to PABs and TIFIA Financing Terms; Determination of TIFIA Financing Terms Theoretical Adjustment” below, does not exceed \$20 million (earlier of ten Business Days before the scheduled date of Commercial Close or 15 Business Days before the Segment 3C Financial Close Deadline), unless TxDOT elects in its sole discretion to increase the Public Funds Amount (3C) or decrease the Developer Closing Payment (3C), as applicable, by the portion of the TIFIA Financing Terms Theoretical Adjustment in excess of \$20 million (by the date of Commercial Close);</p> <p>(s) No issuance of any temporary restraining order or other form of injunction by a court with jurisdiction that prohibits prosecution of any portion of the Work that remains pending on the date of Commercial Close or that prohibits or has the effect of prohibiting closing of the Segment 3C financing by the Segment 3C Financial Close Deadline;</p> <p>(t) As of the date of Commercial Close, there exists no Developer Default under the FA that is the subject of a Warning Notice issued by TxDOT to Developer, unless such Developer Default has an applicable cure period and is completely cured within the applicable cure period and prior to Commercial Close;</p> <p>(u) As of the date of Commercial Close, there exists no material TxDOT Default under Section 17.5.1.1 of the FA that is the subject of a written notice issued by Developer to TxDOT, unless such TxDOT Default is completely cured within the applicable cure period under Section 17.5.2 of the FA and prior to Commercial Close;</p> <p>(v) The FHWA has approved the amended and restated Facility Agreement, amended and restated Technical Provisions, and the Change Order; and</p> <p>(w) TxDOT is reasonably satisfied that Developer’s underwriters and lenders stand ready, willing and able to consummate, not later than five Business Days after Commercial Close, financing that will meet all the requirements under “Developer Financing” below (earlier of one Business Days before the scheduled date of Commercial Close or five Business Days before the Segment 3C Financial Close Deadline).</p> <p>The foregoing conditions precedent are for the sole benefit of TxDOT: (a), (b), (c), (e), (f), (g), (l), (m), (n), (o), (p), (t) and (w).</p> <p>The foregoing conditions precedent are for the mutual benefit of TxDOT and Developer: (d), (h), (i), (j), (k), (s) and (v).</p> <p>The foregoing conditions precedent are for the sole benefit of Developer – (q), (r) and (u).</p> <p>There will be no condition precedent in favor of Developer placing a cap on the Segment 3C Developer Closing Payment (if any).</p>
8	Conditions to Financial Close	Financial close (“Financial Close”) will be subject to satisfaction of the following conditions precedent, unless waived in writing by the party or parties benefitted by the condition precedent. Each

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		<p>condition precedent will have its own deadline for satisfaction shown in parentheses below (although the failure to meet any such deadline so long as diligent efforts by the relevant party shall have been exercised shall not be deemed to be a failure by such party to exercise such diligent efforts). The parties shall use diligent efforts to reach and satisfy the conditions precedent by the applicable deadlines.</p> <p>(a) Commercial Close has occurred (by no later than five Business Days before the Financial Close Deadline);</p> <p>(b) Developer submission to TxDOT of the Base Case Financial Model Update (3C) in accordance with Section 5.2.1.4 of the FA, and TxDOT approval of such Update, which shall be based on the most recent TxDOT-approved Commercial Close Base Case Financial Model Update (3C) and adjusted for the effect of any movement in the Benchmark Rates and spreads and other changes in financing terms assumed in the Benchmark Base Case Financial Model Update since TxDOT's approval of such Commercial Close Base Case Financial Model Update (3C) (prior to Financial Close);</p> <p>(c) As of the date of Financial Close, the adjustments under "Market Interest Rate Changes" below do not result in a Segment 3C Public Funds Amount in excess of \$35 million, unless Developer elects in its sole discretion to waive the excess (by the date of Financial Close);</p> <p>(d) As of the date of Financial Close, the TIFIA Financing Terms Theoretical Adjustment, if any, determined as set forth under "Changes to PABs and TIFIA Financing Terms; Determination of TIFIA Financing Terms Theoretical Adjustment" below, does not exceed \$20 million, unless TxDOT elects in its sole discretion to increase the Segment 3C Public Funds Amount or decrease the Segment 3C Developer Closing Payment, as applicable, by the portion of the TIFIA Financing Terms Theoretical Adjustment in excess of \$20 million (by the date of Financial Close);</p> <p>(e) No issuance of any temporary restraining order or other form of injunction by a court with jurisdiction that prohibits prosecution of any portion of the Work that remains pending on the date of Financial Close or that prohibits or has the effect of prohibiting closing of the Segment 3C financing by the Segment 3C Financial Close Deadline;</p> <p>(f) The TIFIA lender has executed the loan agreement for the TIFIA loan;</p> <p>(g) As of the date of Financial Close, there exists no Developer Default under the FA that is the subject of a Warning Notice issued by TxDOT to Developer, unless such Developer Default has an applicable cure period and is completely cured within the applicable cure period and prior to Commercial Close; and</p> <p>(h) As of the date of Financial Close, there exists no material TxDOT Default under Section 17.5.1.1 of the FA that is the subject of a written notice issued by Developer to TxDOT, unless such TxDOT Default is completely cured within the applicable cure period under Section 17.5.2 of the FA and prior to Commercial Close.</p>

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		<p>The foregoing conditions precedent are for the sole benefit of TxDOT: (b), (c) and (g).</p> <p>The foregoing conditions precedent are for the mutual benefit of TxDOT and Developer: (a) and (e).</p> <p>The foregoing conditions precedent are for the sole benefit of Developer – (d), (f) and (h).</p> <p>There will be no condition precedent in favor of Developer placing a cap on the Segment 3C Developer Closing Payment (if any).</p>
Closing Deadlines		
9	Segment 3C Financial Close Deadline	The deadline to achieve Financial Close (the “Segment 3C Financial Close Deadline”) shall be the earlier of (a) March 30, 2018, subject to extension upon mutual written consent of the parties, not to be unreasonably withheld, conditioned or delayed; provided that either party in its sole discretion may withhold consent to extension of the Segment 3C Financial Close Deadline beyond August 30, 2018 or (b) five Business Days after the date of Commercial Close.
10	Segment 3C Commercial Close	Unless the Change Order Agreement is sooner terminated, the parties will proceed with Commercial Close for Segment 3C when all conditions precedent to Commercial Close are satisfied or waived.
Segment 3C Financing		
11	Developer Financing	<p>Developer will obtain all capital financing for Segment 3C, except for the TxDOT capital financing described at “TxDOT Funding” below. Developer’s sources for capital financing are anticipated to consist of:</p> <ul style="list-style-type: none"> • Senior priority PABs; • A TIFIA loan; and • Equity capital contributions. <p>Developer will obtain capital financing in a total amount, together with the TxDOT capital financing described at “TxDOT Funding” below, that is sufficient to cover all capital and development costs pertaining to Segment 3C shown in the Base Case Financial Model Update (3C).</p> <p>The assumed terms of Developer financing will be more particularly set forth in the Benchmark Base Case Financial Model Update and in a Segment 3C Plan of Finance which will be consistent with the Benchmark Base Case Financial Model Update, both subject to TxDOT’s approval prior to signing the Change Order Agreement. Both the Benchmark Base Case Financial Model Update and the Segment 3C Plan of Finance will be updated prior to and at Financial Close, via Commercial Close Base Case Financial Model Updates (3C) to reflect the actual Segment 3C financing terms.</p> <p>Developer will cause the Segment 3C debt to comply with all the terms and conditions set forth in Section 4.3 of the Facility Agreement.</p> <p>Developer shall remain solely responsible for all work and efforts to</p>

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		<p>prepare the TIFIA letter of interest and application and related information and materials, and to otherwise pursue the TIFIA financing; and both the letter of interest and application shall identify Developer as the sole borrower.</p> <p>TxDOT will furnish supporting documentation for TIFIA eligible costs estimated at \$123.2 million.</p>
12	TxDOT Funding	<p>TxDOT will fund the following amounts toward the capital costs:</p> <ul style="list-style-type: none"> • Up to the first \$18 million for acquisition prices, severance damages and relocation costs of parties being relocated, for parcels of Facility Rights of Way needed for the Facility Extension that is part of Segment 3C. This funding will be paid directly to property owners and relocated parties as and when needed, as provided in the Change Order Agreement and existing Section 7.4.7.1 of the FA; and • The Segment 3C Public Funds Amount, if any, described under “Risk Allocation Regarding Financing Terms” below. This funding will be paid for Segment 3C as follows: <ul style="list-style-type: none"> ○ 25% at 25% completion of Segment 3C; ○ 25% at 50% completion of Segment 3C; ○ 25% at 75% completion of Segment 3C; and ○ 25% at Substantial Completion of Segment 3C. • Percent completion will be determined according to a TxDOT approved Schedule of Values for all Payment Activities for Segment 3C.
13	Refinancing	<p>Any positive difference between the amount of proceeds from the financing for Segment 3C, the Downtown Connector and I-30 Connector and the amount of proceeds thereof assumed in the Benchmark Base Case Financial Model Update, and any net benefit from a refunding of existing Facility Debt in connection with or as part of the financing for Segment 3C, the Downtown Connector and I-30 Connector, will be treated as a Refinancing for the purpose of calculating sharing of Refinancing Gain. No other portion of the financing for Segment 3C, the Downtown Connector and I-30 Connector will be treated as a Refinancing for purposes of the Refinancing Gain provisions of the FA.</p>
14	Facility Debt	<p>Provided the financing for Segment 3C, the Downtown Connector and I-30 Connector meets all terms and conditions set forth in Section 4.3 of the FA, it will be included within the definition of Initial Base Case Senior Facility Debt.</p>
15	Segment 3C PABs Agreement	<p>The parties and the PABs Issuer will promptly enter into a PABs Agreement governing the roles and responsibilities of the parties thereto respecting issuance of the PABs and related matters. The terms of such PABs Agreement will not necessarily be the same as those for Segments 3A & 3B. Execution of the PABs Agreement must precede adoption of an inducement resolution by the PABs Issuer.</p>
Risk Allocation Regarding Financing Terms		
16	Benchmark Rates	<p>The Benchmark Rates will be the mutually approved benchmark bond, swap and State and Local Government Series (SLGS) securities rates (as applicable) underlying the Segment 3C Initial Facility Debt financing contained in the Segment 3C Plan of Finance</p>

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		<p>and the Benchmark Base Case Financial Model Update; provided that:</p> <p>(a) The Benchmark Rates as of the last date of the relevant market interest rate adjustment period shall be verifiable with either an observable screen shot, including a Bloomberg screen or Reuters screen, or a clearly defined formula/calculation that is based on an observable rate through a publicly verifiable screen shot; and</p> <p>(b) Each debt facility assumed in the Segment 3C Plan of Finance and the Benchmark Base Case Financial Model Update must correspond to a single type of Benchmark Rate.</p> <p>(It is understood and agreed that certain types of Benchmark Rates, such as swap rates, are a combination of several rates.)</p> <p>The Benchmark Rates will be stated in the Change Order Agreement.</p>
17	Market Interest Rate Changes	<p>TxDOT will bear the risk and have the benefit of:</p> <ul style="list-style-type: none"> • Solely with respect to PABs and TIFIA financing assumed and indicated in the Benchmark Base Case Financial Model Update, 100% of the impact (either positive or negative) of the differences between the Benchmark Rates assumed and indicated in the Benchmark Base Case Financial Model Update and the updated Benchmark Rates on the last date of the relevant market interest rate adjustment period; and • 75% of the impact (either positive or negative) of the differences between (i) the credit spreads for PABs assumed and indicated in the Benchmark Base Case Financial Model Update and (ii) the credit spreads for PABs as obtained on the last date of the relevant market interest rate adjustment period.
18	Changes to PABs and TIFIA Financing Terms; Determination of TIFIA Financing Terms Theoretical Adjustment	<p>Except for market interest rate changes, Developer will bear 100% of the risk, and receive 100% of the benefit, of any differences between the assumed and actual financial terms. No such differences will affect the calculation of the Segment 3C Developer Closing Payment or the Segment 3C Public Funds Amount.</p> <p>When the TIFIA loan terms are determined, Developer shall submit, for TxDOT's approval, a financial model that updates the Benchmark Base Case Financial Model Update to determine the lowest value of a theoretical additional public subsidy that would be necessary for the Equity IRR to equal the Equity IRR in the Benchmark Base Case Financial Model Update due only to certain changes in TIFIA financial terms expressly assumed in the Benchmark Base Case Financial Model Update (the "TIFIA Financing Terms Theoretical Adjustment"). The Change Order Agreement will set forth specific terms and procedures for calculating the TIFIA Financing Terms Theoretical Adjustment.</p>
19	Segment 3C Public Funds Amount; Segment 3C Developer Closing Payment	<p>Based on the interest rates and credit spreads assumed therein, the Benchmark Base Case Financial Model Update will indicate a payment from TxDOT to Developer of \$10.0 million (the "Interim Segment 3C Public Funds Amount").</p>

#	Term	Provision
		<p>The Interim Segment 3C Public Funds Amount will be adjusted upwards or downwards, as the case may be, due to TxDOT's share of the risk or benefit of changes in Benchmark Rates and credit spreads, determined by:</p> <ul style="list-style-type: none"> • Taking 100% of the incremental change in the Interim Segment 3C Public Funds Amount due to inputting 100% of the changes, if any, in the Benchmark Rates and holding constant the Equity IRR and the nominal amount of debt in the Benchmark Base Case Financial Model Update; and • Taking 75% of the incremental change in the Interim Segment 3C Public Funds Amount due to inputting 100% of the changes, if any, in credit spreads and holding constant the Equity IRR and the nominal amount of debt in the Benchmark Base Case Financial Model Update. <p>If as a result of this calculation the Interim Segment 3C Public Funds Amount decreases by more than \$10 million, then the final "Segment 3C Public Funds Amount" will equal zero and the portion of the decrease in excess of \$10 million will be the final "Segment 3C Developer Closing Payment", which Developer will pay to TxDOT at Financial Close. Any other result of this calculation will be the final "Segment 3C Public Funds Amount".</p>
20	Determination of Equity IRR	<p>Prior to and at Financial Close, Developer will prepare, for TxDOT's approval, further versions of the Commercial Close Base Case Financial Model Update (3C) to solve for the Equity IRR by inputting:</p> <ul style="list-style-type: none"> • The final amount of the Segment 3C Public Funds Amount or Segment 3C Developer Closing Payment, as applicable, following the adjustment to this value as described at "Segment 3C Public Funds Amount; Segment 3C Developer Closing Payment" above; and • All changes, if any, in the terms of financing between those assumed in the TxDOT-approved Commercial Close Base Case Financial Model Update (3C) and those set forth in the Funding Agreements and Security Documents for Segment 3C, the Downtown Connector and the I-30 Connector obtained as of Financial Close, including any differences between the assumed and actual PABs financial terms and the assumed and actual TIFIA financial terms. <p>The resulting model will become the Base Case Financial Model Update (3C), which will be the governing financial model for the combined Segments 3A, 3B and 3C facility.</p>
NTP1 (3C)		
21	Timing of Issuance	<p>TxDOT anticipates issuing NTP1 (3C) within ten Business Days after the later of (a) the COA Effective Date or (b) the date Developer obtains all applicable Insurance Policies for Work that will be authorized by NTP1 (3C) and delivers to TxDOT written binding verifications of coverage.</p>
22	Authorized Work	<p>NTP1 (3C) will authorize (but, except for right of way acquisitions and NEPA re-evaluation, not obligate) Developer to do the following:</p>

#	Term	Provision
		<ul style="list-style-type: none"> • Prepare component parts of the Facility Management Plan to take into account the Segment 3C Facility Segment and previously agreed provisions for satisfying FHWA's new requirements respecting quality assurance and quality management for Segment 3C; • Work required to achieve the conditions for commencing Design Work for Segment 3C, comparable to those set forth in Section 7.7.2.1 of the FA; • After achieving such conditions, commence Design Work for Segment 3C, provided that Developer will not commence final design for the Westport Parkway wishbone ramps, SH 170 direct connectors or IH 820 managed lane direct connectors until related NEPA re-evaluations or updates are completed and approved by FHWA; • Actions necessary to satisfy conditions precedent to issuance of NTP2 (3C), comparable to those set forth in Section 7.6.1 of the FA; • Enter TxDOT-owned ROW for Segment 3C to conduct surveys and site investigations, including geotechnical, Hazardous Materials and Utilities investigations, and engage in the other activities anticipated to be performed after NTP1 (3C); • Utility Adjustment Work related to Segment 3C, subject to, among other conditions, TxDOT's prior approval of a scope and budget and Developer obtaining all applicable Governmental Approvals; • Acquire ROW parcels for Segment 3C, subject to, among other conditions, TxDOT's prior approval of a scope and budget and Developer obtaining all applicable Governmental Approvals; • Pursue, under the direction and control of FHWA and TxDOT, re-evaluation and updates under NEPA for Segment 3C, including the direct connector ramps for Westport Parkway and IH 820; and • Pursue, under the direction and control of FHWA and TxDOT, any NEPA action for Segment 3C that may be required or prudent in order to mitigate NEPA risk regarding an allocation of PABs from the USDOT for Segment 3C.
Other Terms		
23	Segment 3C Deadlines	<p>The Milestone Schedule will state the following deadlines for Segment 3C:</p> <ul style="list-style-type: none"> • Commencement of Construction Work – the date TxDOT issues NTP2 (3C); • Service Commencement Deadline – the earlier of (a) 48 months after the date TxDOT issues NTP2 (3C), or (b) 60 days after Substantial Completion of Segment 3C; • Final Acceptance Deadline – 90 days after the Service Commencement Deadline; and • Long Stop Date – 18 months after the Service Commencement Deadline.
24	3C Ultimate Capacity	Developer will be obligated to design, build, acquire any necessary ROW for, and achieve Service Commencement for the 3C Ultimate

#	Term	Provision
	Improvement	<p>Capacity Improvement by January 1, 2040, and to thereafter operate and maintain the 3C Ultimate Capacity Improvement for the balance of the term of the FA, without right to any compensation from TxDOT for the cost and revenue impacts thereof.</p> <p>The Benchmark Base Case Financial Model Update will incorporate Developer's estimated cost and revenue impacts of such design, construction, ROW acquisition, operation and maintenance, which shall remain constant in the Commercial Close Base Case Financial Model Update (3C) and the Base Case Financial Model Update (3C).</p> <p>For an assumed January 1, 2040 Service Commencement, the public funding for the 3C Ultimate Capacity Improvement (the "3C UCI Public Funds Amount") shall equal zero.</p> <p>TxDOT will have the right to require earlier or later Substantial Completion and Service Commencement for the 3C Ultimate Capacity Improvement, provided that in no case shall TxDOT have the right to require final design or construction thereof to commence prior to the Service Commencement Deadline for Segment 3C.</p> <p><u>Earlier Service Commencement:</u></p> <p>If TxDOT requests the opening of the 3C Ultimate Capacity Improvement prior to January 1, 2040, Exhibit 7 to the FA will include the procedure for determining the amount of payments by TxDOT to the Developer for the impact of such earlier opening, as follows:</p> <ol style="list-style-type: none"> a) For the period from Service Commencement of the 3C Ultimate Capacity Improvement until December 31, 2039, TxDOT will make semi-annual payments to Developer, in arrears, 60 days following Developer's submittal to TxDOT of (i) an unaudited statement, certified as true and correct by Developer's chief financial officer, setting forth the amount of Segment 3C toll revenue through June 30 of the applicable year (or partial year following such Service Commencement), and (ii) audited financial reports after the end of each applicable year indicating the amount of Segment 3C toll revenue during the immediately preceding year (or partial year following such Service Commencement). b) The amount of the payment based on the unaudited statement will equal 20.3% of the Segment 3C toll revenue through June 30 of the applicable year (or partial year following such Service Commencement), less the annualized Construction Cost Escalation Credit. The amount of the payment based on the audited financial report will equal 20.3% of the Segment 3C toll revenue for the applicable year (or partial year following such Service Commencement), less the amount of the first payment for such year (or partial year following such Service Commencement) and less the annualized Construction Cost Escalation Credit. c) The Construction Cost Escalation Credit represents the construction cost escalation that Developer will not incur due

#	Term	Provision
		<p>to the earlier construction of the 3C Ultimate Capacity Improvement. The credit amount will be presented in a table attached to Exhibit 7 and be based on the 3C Ultimate Capacity Improvement capital cost and escalation presented in Developer's September 2017 Financial Model. The annualized Construction Cost Escalation Credit will be the Construction Cost Escalation Credit in the attachment to Exhibit 7 divided by the number of semi-annual payments to be made to Developer.</p> <p>d) The amount of the TxDOT payments prior to applying the Construction Cost Escalation credit shall be included in the calculation of cumulative toll revenues in Part A of Exhibit 7.</p> <p><u>Later Service Commencement</u></p> <p>TxDOT will have the right to postpone beyond January 1, 2040 Substantial Completion and Service Commencement for the 3C Ultimate Capacity Improvement by Directive Letter or Change Order. If TxDOT elects to postpone, the Parties will determine the compensation to be paid to TxDOT due to the increase in Segment 3C toll revenues net of increased costs as a result of the postponement.</p> <p>TxDOT is applying for an INFRA grant in order to obtain funding to advance construction of certain elements of the 3C Ultimate Capacity Improvement. The terms for issuing a Directive Letter or Change Order to advance such construction, including adjustment to the Segment 3C Public Funds Amount or Segment 3C Developer Closing Payment, will be set forth in the Change Order Agreement and form of amended and restated FA.</p> <p>Exhibit 16 to the FA and related provisions of the FA concerning procurement of a Design-Build Contract for GP Capacity Improvements shall not apply to the 3C Ultimate Capacity Improvement.</p>
25	Hazardous Materials Risk Allocation	<p>The risk sharing for costs to remediate Pre-Existing Hazardous Materials, as set forth in Section 2, Exhibit 11 of the FA, will be amended to provide that the Developer will take 100% of the cost risk up to \$2.25 million for Segment 3C, and TxDOT will take 100% of such cost risk in excess of \$2.25 million. For the avoidance of doubt, the risk sharing allocation in respect of Segment 3A will be maintained as currently contemplated in the FA.</p>
26	Payment and Performance Bonds	<p>Developer will provide Payment and Performance Bonds for the Segment 3C construction equal to 100% of the amount of the contract price, excluding the contract price for design; provided that TxDOT will reasonably approve an amount that is lower than 100% (but in no event less than \$250 million) if Developer provides letter(s) by rated sureties setting forth the amount available and attested by the rated sureties that any higher amount is impracticable. Such Payment and Performance Bonds will be separate from the Payment and Performance Bonds for the original Secured Work.</p>
27	Lane Rental Charges	<p>Developer will promptly propose, for TxDOT approval, Lane Rental Charges and the excused amount of Lane Rental Charges for</p>

#	Term	Provision
		<p>Segment 3C. See FA Exhibit 18, Table 3.4-1, sections 3.4(e)(ii) and (iii), and Table 3.4-2.</p> <p>The agreed amounts will be included in the form of the amended and restated FA that will be an exhibit to the Change Order Agreement.</p>
Termination of Change Order Agreement		
28	Grounds for Termination	<p>The Change Order Agreement may be terminated prior to Financial Close for any of the following reasons:</p> <ul style="list-style-type: none"> • Any condition precedent to Commercial Close or Financial Close, as applicable, is not satisfied and not waived in writing by the applicable deadline – either party may terminate, provided that such failure is not due to any fault or less than diligent efforts of such party to timely satisfy such condition precedent. If the unsatisfied condition precedent is that the Segment 3C Public Funds Amount exceeds \$35 million, TxDOT may terminate by written notice to Developer, unless within three Business Days after the delivery of such notice, Developer elects to waive the portion of the Segment 3C Public Funds Amount in excess of \$35 million. If the unsatisfied condition precedent is that the TIFIA Financing Terms Theoretical Adjustment exceeds \$20 million, Developer may terminate by written notice to TxDOT, unless within three Business Days after the delivery of such notice, TxDOT elects in its sole discretion to increase the Public Funds Amount (3C) or decrease the Developer Closing Payment (3C), as applicable, by the portion of the TIFIA Financing Terms Theoretical Adjustment in excess of \$20 million; • Developer failure to proceed with Commercial Close or Financial Close, as applicable, despite satisfaction or waiver of all the conditions precedent – TxDOT may terminate; • TxDOT failure to proceed with Commercial Close despite satisfaction or waiver of all the conditions precedent – Developer may terminate; • The FA is terminated for any reason – termination of Change Order Agreement will be automatic concurrently therewith.
29	Rescission	<p>TxDOT will have the unilateral right to rescind and cancel the transaction consummated at Commercial Close if for any reason Developer fails to achieve Financial Close within five Business Days after Commercial Close or fails to pay to TxDOT concurrently with Financial Close the Segment 3C Developer Closing Payment (if any).</p> <p>If TxDOT rescinds, then all documents and the pre-existing Base Case Financial Model Update will be reinstated in full as if never amended or restated; the Segment 3C Change Order will be null and void; and no Segment 3C debt will attach to or encumber the Developer Interest or any portion thereof or be treated as Facility Debt.</p>
30	Closing Security and Liquidated Damages	<p>Developer will deliver to TxDOT by the COA Effective Date security for Developer's obligation to achieve Financial Close and pay the Developer Closing Payment (if any), in the amount of \$10 million (the</p>

#	Term	Provision
		<p>“Closing Security”). The Closing Security will be in the same form as provided for Segments 3A/3B or in a form otherwise acceptable to TxDOT, and from a surety or financial institution acceptable to TxDOT.</p> <p>Developer will be liable for liquidated damages in the amount of the Closing Security, and TxDOT will have the right to draw upon the Closing Security to recover such liquidated damages, upon termination of the Change Order Agreement without Financial Close due to any of the following:</p> <ul style="list-style-type: none"> • Developer’s failure or inability to achieve Financial Close by the Financial Close Deadline is attributable to Developer’s failure to exercise diligent efforts to timely satisfy any condition precedent the satisfaction of which requires efforts by Developer; • Developer’s failure or inability to achieve Financial Close by the Financial Close Deadline is attributable to availability from TxDOT’s legal counsel of only a qualified opinion; • Existence of a Developer Default under the FA that is the subject of a Warning Notice issued by TxDOT to Developer and that either has no applicable cure period or is not completely cured within the applicable cure period and prior to Commercial Close; • Termination of the FA as a result of a Developer Default thereunder; or • Developer fails to proceed with the Commercial Close or Financial Close despite satisfaction or waiver of all the conditions precedent to Commercial Close or Segment 3C Financial Close. <p>In addition, TxDOT will have the right to draw upon the Closing Security in an amount not exceeding the Segment 3C Developer Closing Payment (if any), if Financial Close occurs but Developer fails to pay to TxDOT concurrently with Financial Close the Segment 3C Developer Closing Payment (if any).</p>
31	Cost Recovery Upon Termination or Rescission	<p>If the Change Order Agreement is terminated or the transaction is rescinded as set forth under “Rescission” above for any reason that does not entitle TxDOT to liquidated damages as set forth at “Closing Security and Liquidated Damages” above, then:</p> <ul style="list-style-type: none"> • TxDOT will reimburse Developer for (a) ROW acquisition prices, severance damages and relocation costs incurred by Developer prior to the date of such termination or rescission and previously approved by TxDOT with respect to parcels for the Segment 3C Facility Segment (over and above the first \$18 million of such prices, damages and costs), and (b) amounts Developer has paid or owes to Utility Owners with respect to Utility Adjustment Work previously approved by TxDOT for the Segment 3C Facility Segment and performed prior to the date of such termination or rescission, except with respect to any Utility Enhancements;

#	Term	Provision
		<ul style="list-style-type: none"> • Developer will solely bear all other costs and expenses it incurs in connection with Segment 3C, including costs to perform technical and financial analysis and due diligence, to negotiate the Change Order Agreement, to seek to obtain and close the financing for Segment 3C, to carry out ROW acquisition services and Utility Adjustment Work for Segment 3C, to perform Design Work, to perform all other Work undertaken pursuant to NTP1 (3C), and to otherwise carry out the Change Order Agreement; and • TxDOT will solely bear all costs and expenses it incurs in connection with Segment 3C, including costs to perform technical and financial analysis and due diligence, to negotiate the Change Order Agreement, and to otherwise carry out the Change Order Agreement.

Exhibit A

Description of Segment 3C Design and Construction Scope

Segment 3C Mandatory Scope

As set forth in the attached Mandatory Scope schematic drawings. The Segment 3C Mandatory Scope includes:

1. The Basic Configuration, as defined in the FA, for Segment 3C;
2. Westport Parkway wishbone ramps (as shown in the attached schematic);
3. IH 820 direct connectors to provide connectivity from IH820EB GP to IH35WNB ML and from IH35WSB ML to IH 820WB GP;
4. SH 170 direct connectors, to provide IH35WNB ML and GP connectivity to SH170EB and SH 170WB to IH35WSB ML and GP (as shown in the attached schematic);
5. The construction, installation, and maintenance for the duration of the Term of a 72 strand fiber optic and related civil infrastructure from the northern terminus of Segment 3B to the northern terminus of Segment 3C at a nearby SAT building using a 1.50" conduit. The fiber and such related civil infrastructure shall be maintained in accordance with the applicable requirements set forth in the FA; and
6. The maintenance of all continuous lighting for Segment 3C within the City of Fort Worth. The lighting shall be maintained in accordance with the applicable requirements set forth in the FA.

Mandatory Scope Limits

The limits of the work for Segment 3C Mandatory Scope are as shown in the attached Mandatory Scope Schematic drawings and further described below:

General Purpose Lanes:

- New SB General Purpose Lanes (2 lanes per direction) from station 1045+45.15 until station 1401+00
- Overlay SB General Purpose Lanes (2 lanes per direction) from station 1028+00 to 1045+45.15
- New NB General Purpose Lanes (2 lanes per direction) from station 1067+86.19 until station 1401+00
- Overlay NB General Purpose Lanes (2 lanes per direction) from station 1028+00 to 1067+86.19

Managed Lanes:

- New SB Managed Lanes (2 lanes per direction) from station 1058+50 until station 1401+00
- New NB Managed Lanes (2 lanes per direction) from station 1084+00 until station 1401+00

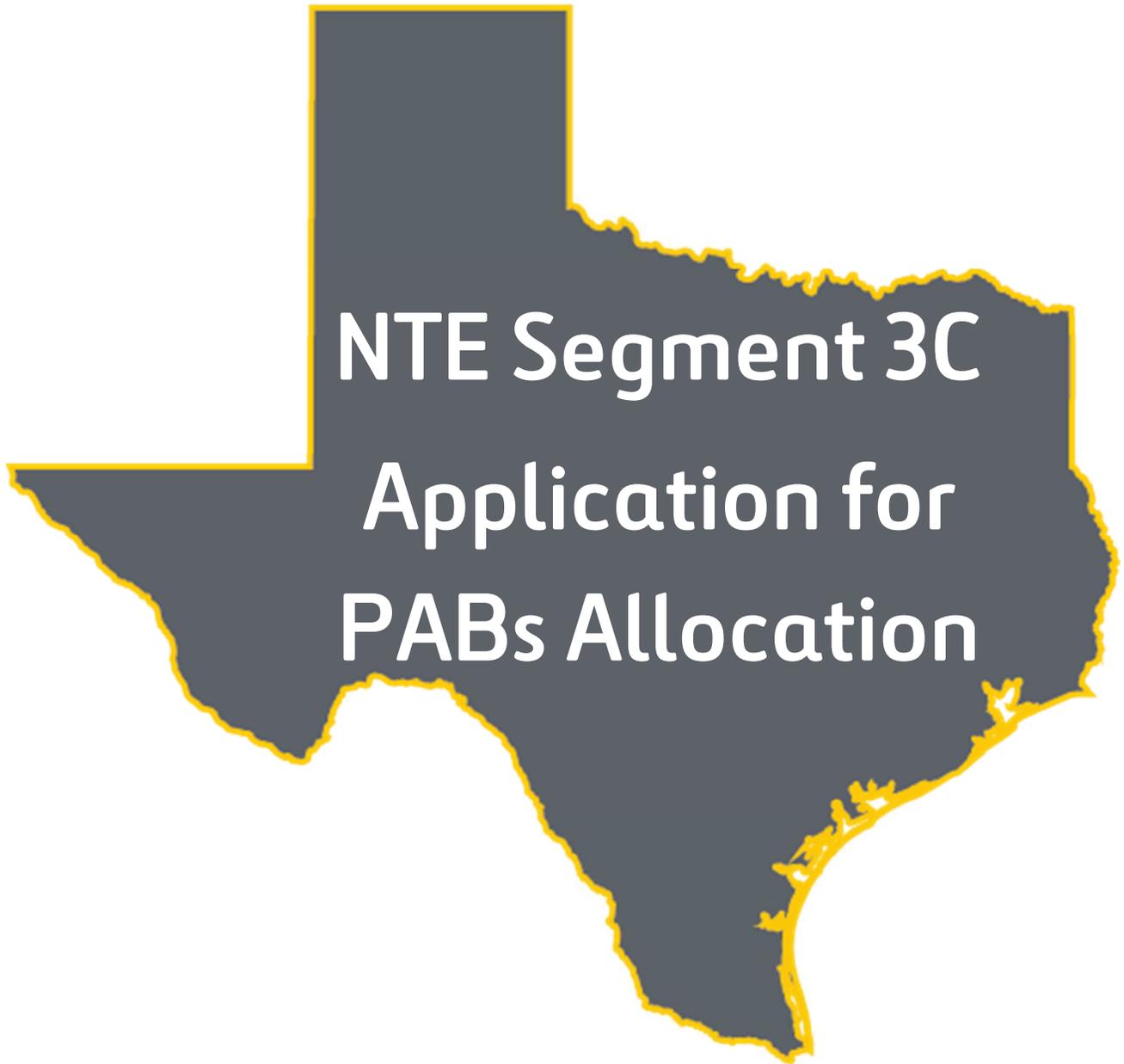
Segment 3C Ultimate Configuration

The Segment 3C Ultimate Configuration consists of the following improvements in addition to the Segment 3C Mandatory Scope, which will be mandatory and will be undertaken by Developer in accordance with applicable provisions of Exhibit 16 of the Amended and Restated Facility Agreement:

1. Golden Triangle Braided Ramps (GTBR) Capacity Improvement – This includes additional ramps from the northbound Managed Lanes to the General Purpose Lanes and from the southbound General Purpose Lanes to the Managed Lanes from Station 1250+00 to Station 1285+00 near the Gold Triangle Boulevard. This also includes the demolition and removal by Developer of the southbound slip ramp (approx. STA 1260+75) and Northbound slip ramp (STA 1262+75) promptly upon completion of the construction of the Golden Triangle Braided Ramps;
2. 3C Ultimate Capacity Improvement – This includes the addition of a third General Purpose Lane and associated lanes along northbound and southbound IH-35W from Station 1028+00 to Station 1401+00 and all other improvements shown on the Approved NEPA Schematics for Segment 3C which are not included in the Segment 3C Mandatory Scope described above. Temporary roadways built as part of the Segment 3C Mandatory Scope may require removal to allow construction of the Ultimate Configuration.

Developer will not be required to provide the following elements:

- General Purpose Lanes and Frontage roads compatible with the Approved NEPA Schematic between stations 1140+00 and 1190+00. This is to accommodate two SH 170 direct connectors: IH35WNB ML and GP to SH 170EB and SH 170WB to IH35WSB ML and GP.
- SH 170 General Purpose Lanes crossing over IH35W
- EB SH 170 to NB IH35W GP and ML direct connector
- SB IH35W GP and ML to WB SH 170 direct connector
- New EB and WB SH 170 Frontage roads



JULY 2017

Applications for Allocations

U.S. DOT is accepting applications from sponsors interested in receiving authority to use a portion of the \$15 billion in exempt facility. While US DOT has not specified a fixed format for bond applications, it has identified a number of pieces of information that would be helpful in facilitating its consideration of applications. These include:

1. **Amount of Allocation Requested**

USD 300m

2. **Proposed Date of Bond Issuance:** *the approximate date when it is anticipated that the tax-exempt bonds would be issued should authority to do so be allocated by the Department.*

December 5, 2017

3. **Date of Inducement by the Bond Issuer:** *A copy of a resolution adopted in accordance with state or local law authorizing the issuance of a specific issue of obligations. The resolution may state that issuance of obligations is contingent upon receipt of an allocation from the Secretary of Transportation of a portion of the \$15,000,000,000 national limitation.*

November 5, 2017

4. **Draft Bond Counsel Opinion Letter:** *Form of Bond Counsel Opinion or date by which a draft letter will be submitted.*

The bond counsel for this transaction is likely to be McCall, Parkhurst & Horton. As per other projects, we expect the Bond Counsel Opinion letter to be released few weeks before Financial Close.

5. **Financing/Development Team Information:** *The names of the issuer of the bonds, the borrower, and any other key participants in the financing, with complete contact information, including Federal taxpayer identification numbers.*



ISSUER OF THE BONDS

Texas Private Activity Bond Surface Transportation Corporation
125 East 11th Street
Austin, Texas 78701

Contact person:
Benjamin Asher
TxDOT, Director of the Project Finance, Debt and Strategic Contracts Division
Telephone: (512) 463-8611 / Facsimile: (512) 416-2089
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BORROWER:

NTE Mobility Partners Segments 3 LLC
Federal taxpayer identification number: 46-1803646

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LEAD UNDERWRITER:

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Bank of America Merrill Lynch
One Bryant Park, 12th Floor
New York, New York 10036

Contact information:
Mitchell Gold
Tel: (646) 743-1338
Email: mitchell.gold@baml.com

6. Borrower Information

North Tarrant Express Mobility Partners Segments 3 LLC (Federal Taxpayer ID: 46-1803646), a Delaware Limited Liability Company, (the “Borrower” or “NTEMP3”) was incorporated on March 2013 when a Facility Agreement was executed between the Texas Department of Transportation (“TxDOT”) and the Borrower for the Development of the North Tarrant Express Segment 3A and Segment 3B (“NTE3A3B”).

NTEMP3 represents a consortium of companies to invest in the design, construction, finance, operations and maintenance of the NTE project along IH 35W in the Tarrant and Denton counties, Texas, including Segments 3A, 3B and 3C, being Segment 3C the focus of this application. The consortium is made up of three equity members, Cintra Global Ltd. (“Cintra”), Meridiam Infrastructure North America Fund II (“Meridiam”), and APG Group (“APG”), which will provide the private equity to be invested in conjunction with the debt.

Cintra is one of the world’s largest transportation infrastructure developers with a record of raising \$3.3 billion of debt financing and committing \$800 million in equity for Texas demand risk P3 projects in the past seven years, brings 49 years of O&M experience and best practices from 27 current concessions contracts. With over \$22 billion total global investment in roadway improvements, Cintra is a leading operator whose investment track record will benefit the project. Cintra is the highways concession division of Ferrovial, S.A.

(“Ferrovial”), the world's leading private investor in transportation infrastructure, with a workforce of approximately 94,000 and operations in more than 15 countries. Ferrovia is listed on the Madrid Stock Exchange and is included on the Dow Jones Sustainability, FTSE4Good and Ethibel indices. Ferrovia has two BBB (stable outlook) ratings from S&P and Fitch. In North America, Cintra has committed more than \$1.8 billion of equity and manages \$10.6 billion of direct private investment. Cintra has participated in most of the transportation P3 procurements in North America since the introduction of the concept in the early 2000s and Cintra’s operations currently include some of North America’s larger P3 projects.

Meridiam is a leading equity investor, developer, manager and long-term partner in design, build, finance, operate and maintain projects in North America and Europe. The interests of Meridiam’s investor base align with the long-term interests of TxDOT because Meridiam is committed to long-term performance of the project to deliver long term returns for its investor base of mainly pension and life insurance companies. Meridiam is one of the first investment groups to go to market with a 25-year investment horizon. Globally, Meridiam has approximately \$5.7 billion assets under management through six funds, which mobilizes in excess of \$50 billion in capital expenditures in P3 social and transportation projects. Since 2005 Meridiam and its affiliates have successfully financed 56 projects globally including three U.S. revenue risk projects (NTE 1 and 2, NTE 35W, and LBJ Express) and two other European projects in partnership with Cintra. Meridiam has developed and reached financial close on seven transportation infrastructure projects in North America and an additional 15 transportation projects across Europe. Meridiam is currently leading high profile projects such as the financing of the LaGuardia Terminal Redevelopment project in New York, NY, and the Purple Line LRT project in Maryland.

APG is a financial services provider in the collective pensions market that provides pension fund administration, asset management, management support and communication services to pension funds. For these pension funds and their 4.5 million active and retired participants in the public and private sectors, APG manages pension assets totaling about \$50 billion as of March 2017. APG administers over 30% of all collective pension schemes in the Netherlands. To date, APG has invested over \$9 billion in infrastructure investments globally, including its equity investment in LBJ and NTE Segments 3A and 3B for a total of \$2.6 billion invested in the U.S.

Cintra, Meridiam and APG partnered on the \$1.4 billion NTE Segments 3A and 3B project in Texas, reaching financial close in September 2013. All of these partners are willing to contribute additional equity for the development of Segment 3C as a Facility Extension of this contract.

By the NTE3A3B Facility Agreement, NTEMP3 is responsible for the design, development, construction, maintenance and repair of among other things, (i) on IH-35W, construction of Segment 3A, reconstruction of existing general purpose lanes and construction of access ramps and frontage roads, (ii) the design, development and installation of the ITS on Segment 3A and on Segment 3B and tolling systems, and (iii) implementation of certain utility adjustments. According to terms of the Facility Agreement, Segments 3A and 3B may open for service on different dates: Nov 2017 for the Segment 3B and September 2018 for segment 3A. The current expectation is that both segments will be delivered on time and on budget.

The same entities previously formed the equity members for LBJ Express (IH 635 Managed Lanes, while Cintra and Meridiam also partnered for NTE Segments 1 and 2W, all of them in the Dallas-Fort Worth region (Texas). The \$2 billion NTE Segments 1 and 2W project achieved financial close in December 2009 and was the only revenue-risk toll road financed in the U.S. during 2009. The \$2.6 billion LBJ Express project reached financial close in June 2010 and was the only revenue-risk toll road project financed in the U.S. during 2010. The team's experience, position, ingenuity and structure allowed them to complete these transactions during one of the most challenging periods in the financial markets in recent memory. More recently, a Cintra/Meridiam team reached commercial close and is currently working on the financial close for the \$3.5 billion I-66 Express Lanes project in Virginia.

7. **Project Description:** *Description of the project as a whole and the proposed organizational and legal structure of the project (ownership, franchise or lease arrangements, etc.). Describe the portion of the project and all capital assets to be funded with the proceeds of the exempt facility bonds.*

7.1. *Description of the Project*

The NTE project is dedicated to improving mobility and connectivity along IH 35W and other critical corridors in the Tarrant and Denton Counties in Texas, through reconstruction and expansion of existing freeway segments and addition of a regionally supported managed lane system. Part of the improvements to the IH 35W includes the IH35W Managed Lanes Project, which is divided into three NTE project segments: Segment 3A and Segment 3B have been approved and are under construction and Segment 3C, which is the focus of this application. All three segments total approximately 18 miles of the IH35W corridor in Tarrant County and a portion of the southern limit of Denton County, Texas. In March 2013, an agreement was executed between TxDOT and NTEMP3 for the Development of NTE3A3B. Such agreement gives NTEMP3 the exclusive right to design, construct, finance, operate and maintain Segment 3A while Segment 3B, on the other hand, is being delivered by TxDOT as a design-bid-build. Upon TxDOT substantial completion of Segment 3B, NTEMP3 will be responsible for the operation and maintenance as well as for the design, development and installation of the ITS and tolling systems on Segments 3A and 3B until the end of the term on June 2061 with an exclusive right to the toll revenues.

The portion of the IH 35W managed lanes project that is the subject of this application is Segment 3C and the Downtown Concurrent Flow and I-30 Direct Connector in Segment 3A (together the “Segment 3A Additional Improvements”). The project consists of the reconstruction of existing freeway, frontage roads and the addition of managed lanes

along a portion of the IH 35W in Tarrant and Denton Counties, in the northern half of the city of Fort Worth. The project is proposed to complement the IH35W Managed Lanes project and provide the needed capacity to accommodate future growth, upgrade the existing facilities to current standards and provide alternative transportation modes by implementing a managed lane system along the corridor. The Project will be designed, constructed, financed, operated and maintained under the NTE3A3B concession with an approximately 44 year remaining concession term from commercial close until the end of the term in June 2061. The Developer retains the obligation to design, build and finance the asset and provide fence-to-fence operation and maintenance of the managed lanes, general purpose lanes (GPLs) and associated facilities. In addition, the Developer has the exclusive right to impose tolls using dynamic/variable pricing, with a free-flow 100 percent electronic tolling system to allow drivers to enter and exit the managed lanes without passing through toll booths. Segment 3C is being negotiated as a change order under the NTE3A3B Facility Agreement dated as of March 1, 2013. Additionally, separate change orders are being negotiated with the Developer for each of the Downtown Concurrent Flow and the I-30 Direct Connector in Segment 3A.



Figure 1 - NTE Segment 3 Project Map

Segment 3C extends through Tarrant County and a portion of Denton County, Texas, and spans 7.1 miles on IH35W. The project is oriented in a north-south direction from the northern terminus of Segment 3B located north of the US81/287 intersection to Eagle Parkway and will accommodate new construction of two managed lanes per direction as well as reconstruction of existing GPLs and frontage roads. Segment 3C will also include improvements to some interchanges to provide connectivity from the new IH35W managed lanes to SH170, Westport Parkway and IH820.

The proposed base scope of improvements for Segment 3C consists of the following:

- The design, construction, financing, operation, and maintenance of 6.7 miles of four Managed Lanes (2+2) within the median of the IH 35W;
- The reconstruction of two general purpose lanes in each direction and construction of continuous frontage roads for the entire 7.1 mile length;



- The operations and maintenance of the general purpose lanes and associated facilities along the project;
- The design, procurement, installation and testing of the ITS and tolling infrastructure equipment;
- The construction of Westport Parkway wishbone ramps, to provide a direct access from the new managed lanes to the Alliance Texas Development area;
- The construction of SH 170 direct connectors, to provide IH35WNB ML and GP connectivity to SH170EB and SH 170WB to IH35WSB ML and GP, and
- The construction of new direct connectors at IH 820/IH35W interchange north of segment 3A, to provide connectivity from IH820EB GP to IH35WNB ML and from IH35WSB ML to IH 820WB GP.

The proposed improvements also include construction of the Segment 3A Additional Improvements, to improve connectivity in the southern part of Segment 3A.

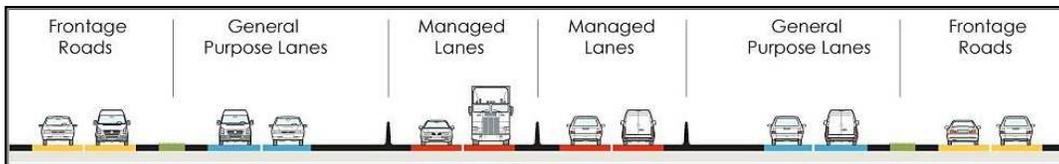


Figure 2 - Proposed Base Scope Typical Section

Additionally, NTEMP3 will be responsible for the future construction, upon agreed triggers, of certain elements that are part of the Segment 3C ultimate configuration:

- Golden Triangle Braided Ramps (GTBR) Capacity Improvement: this includes additional ramps from the northbound Managed Lanes to the General Purpose Lanes and from the southbound General Purpose Lanes to the Managed Lanes near the Golden Triangle Boulevard. Construction of these improvements is to occur no earlier than 2025 and no later than 2035.
- 3C Ultimate Capacity Improvement: this includes the addition of a third General Purpose Lane per direction and associated lanes to occur on 2040.

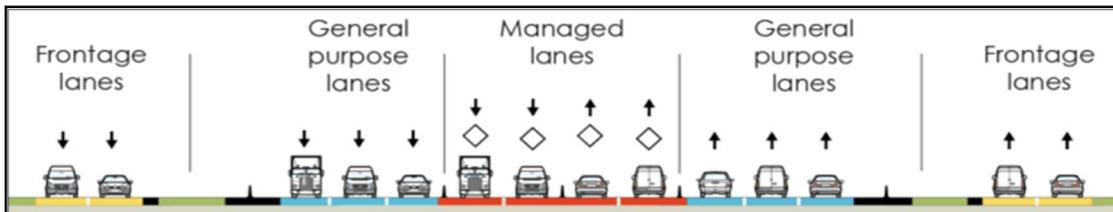


Figure 3 - Ultimate Configuration Typical Section

7.2. Proposed Organizational and Legal Structure of the Project

A Change Order to the Facility Agreement executed in March 2013 will be used to define the rights and responsibilities, allocate risks between the parties and set up TxDOT's overall requirements with respect to Segment 3C.

NTEMP3 will be responsible for designing, building, financing, operating, and maintaining the Segment 3C over the concession term. TxDOT will retain ownership and oversight of the asset. The equity members, Cintra, Meridiam, and APG, will provide the private equity to be invested in conjunction with the debt (TIFIA loan and Private Activity Bonds).

The design and construction will be conducted by North Tarrant Infrastructure LLC, a limited liability corporation comprised by Ferrovial Agroman US Corp and its subsidiary Webber LLC, to serve as the Design-Build Contractor.

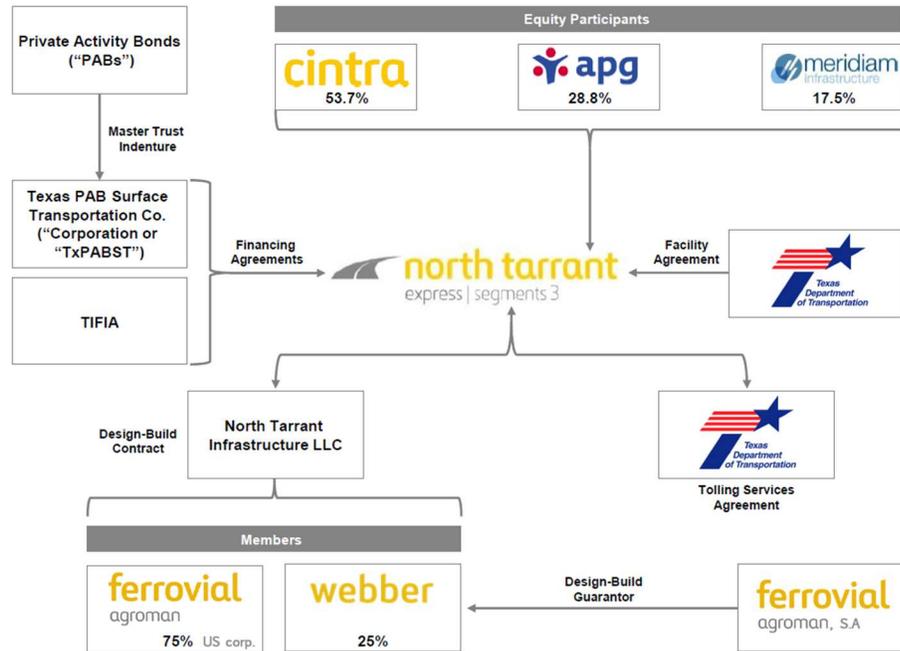


Figure 4 - Project Organizational Structure

7.3. Portion of the Project and all capital assets to be funded with the proceeds of the exempt facility bonds:

Find below a table showing the Sources and Uses of Funds on a semiannual basis along the project construction period:

Sources of Funds										
Year	Semester	Equity	PABs				Government		Interest Income	Total
			PABs Facility 1	PABs Facility 2	Premium / (Discount)	TIFIA Facility 1	TIFIA Facility 2	Subsidy and RoW Reimbursement		
2012	Jun-12	-	-	-	-	-	-	-	-	-
2012	Dec-12	-	-	-	-	-	-	-	-	-
2013	Jun-13	1,500	-	-	-	-	-	-	-	1,500
2013	Dec-13	32,299	60,784	-	(27)	-	-	34,400	52	127,508
2014	Jun-14	19,560	34,817	-	-	-	-	1,137	81	55,595
2014	Dec-14	26,750	45,331	-	-	-	-	1,162	66	73,308
2015	Jun-15	43,358	72,500	-	-	-	-	1,328	44	117,229
2015	Dec-15	70,523	51,211	-	-	69,794	-	10,375	11	201,914
2016	Jun-16	50,183	-	-	-	110,704	-	7,856	4	168,747
2016	Dec-16	47,844	-	-	-	93,840	-	3,252	4	144,939
2017	Jun-17	47,562	-	-	-	84,301	-	13,990	4	145,857
2017	Dec-17	68,587	-	115,350	8,846	39,289	-	8,141	51	240,264
2018	Jun-18	61,884	-	107,747	-	50,789	-	10,712	38	231,169
2018	Dec-18	33,801	9,387	-	-	77,205	-	24,933	8	145,333
2019	Jun-19	15,875	-	-	-	5,077	35,591	4,283	5	60,831
2019	Dec-19	21,542	-	-	-	-	55,187	3,290	5	80,025
2020	Jun-20	21,217	-	-	-	-	54,355	3,208	5	78,785
2020	Dec-20	20,692	-	-	-	-	53,010	3,126	5	76,833
2021	Jun-21	21,483	-	-	-	-	55,036	3,126	5	79,649
2021	Dec-21	17,407	-	6,604	-	-	37,990	2,084	5	64,089
2022	Jun-22	-	-	-	-	-	-	-	-	-
2022	Dec-22	-	-	-	-	-	-	-	-	-
Total		622,067	274,030	229,700	8,819	531,000	291,170	136,400	391	2,093,576

Uses of Funds												
Year	Semester	Civil Work	Right of Way	Tolling and ITS	Overhead			Financing Fees	Transaction Costs	Reserves	Other Cash Account	Total
					PABs and Advisors	PABs Interest	PABs Interest					
2012	Jun-12	-	-	-	-	-	-	-	-	-	-	-
2012	Dec-12	-	-	-	-	-	-	-	-	-	-	-
2013	Jun-13	-	243	-	742	-	-	-	-	516	-	1,500
2013	Dec-13	91,612	2,183	-	1,778	5,332	1,631	19,988	-	4,983	-	127,508
2014	Jun-14	36,351	3,957	3,072	3,701	9,409	1,419	-	-	(2,314)	-	55,595
2014	Dec-14	45,387	9,002	17	3,575	9,409	1,348	-	-	4,570	-	73,308
2015	Jun-15	89,675	4,776	3,087	3,493	9,409	1,856	-	-	4,934	-	117,229
2015	Dec-15	175,456	4,090	1,834	4,110	9,409	3,727	-	-	3,288	-	201,914
2016	Jun-16	156,196	4,384	452	4,430	9,409	2,224	-	-	(8,346)	-	168,747
2016	Dec-16	129,606	369	(6)	3,551	9,409	2,260	-	-	(249)	-	144,939
2017	Jun-17	116,455	5,519	8,538	5,587	9,409	1,805	-	-	(1,457)	-	145,857
2017	Dec-17	201,726	1,835	120	6,956	10,546	4,705	20,300	-	(5,924)	-	240,263
2018	Jun-18	168,251	7,834	28,012	8,839	16,013	2,220	-	-	-	-	231,169
2018	Dec-18	69,587	10,361	247	5,345	6,604	1,709	-	51,480	-	-	145,333
2019	Jun-19	48,762	1,980	-	2,070	6,604	1,415	-	-	-	-	60,831
2019	Dec-19	69,660	-	95	2,450	6,604	1,217	-	-	-	-	80,025
2020	Jun-20	67,919	-	582	2,768	6,604	913	-	-	-	-	78,785
2020	Dec-20	66,177	-	582	2,794	6,604	676	-	-	-	-	76,833
2021	Jun-21	66,177	-	4,121	2,351	6,604	396	-	-	0	-	79,649
2021	Dec-21	44,118	-	8,907	1,394	-	98	-	9,573	0	-	64,089
2022	Jun-22	-	-	-	-	-	-	-	-	-	-	-
2022	Dec-22	-	-	-	-	-	-	-	-	-	-	-
Total		1,643,114	56,532	59,661	65,932	137,376	29,620	40,288	61,053	0		2,093,576

8. **Project Schedule:** A timeline showing the estimated start and completion dates for each major phase or milestone of project development. Indicate the current status of milestones on this timeline, including all necessary permits and environmental approvals.

8.1. Estimated major Project milestones are outlined in the table below:

Milestone	Date
<i>Change Order Agreement</i>	<i>Jul-2017</i>
<i>Commercial Close / Financial Close</i>	<i>Dec-2017</i>
<i>Construction Commencement Date</i>	<i>Dec-2017</i>
<i>Substantial Completion Date</i>	<i>Oct-2021</i>
<i>Service Commencement Date</i>	<i>Dec-2021</i>

8.2. *Description of the process with TxDOT – Current Status*

The commercial discussions with TxDOT to include the Segment 3C as a Change Order to the NTE3A3B Facility Agreement started at the end of the year 2015, and are currently near to its end:

- February 2016: TxDOT sent to the Developer a Request for Change Proposal;
- September 2016: TxDOT received a preliminary approval from FHWA to continue with the Segment 3C project as a change order. FHWA needs to issue a final approval prior to the Commercial / Financial Close;
- July 2017: estimated date for signing of the Change Order Agreement between TxDOT and the Developer. At this date, the parties will have agreed on all the required amendments to the NTE3A3B Facility Agreement and the update on the financial model / financial plan to develop the Segment 3C as a Facility Extension under the current Facility Agreement.

In order to isolate the current NTE3A3B Facility Agreement from any potential risk related to the financial close of Segment 3C, all the changes agreed at the Change Order Agreement will not become effective until the additional financing for the Segment 3C (TIFIA and PABs) is secured.

Once the additional financing is ready for closing, the parties will enter simultaneously into Commercial and Financial Close. (at this time all the previous agreed amendments to the Facility Agreement, updated financial model/financial plan will become effective).

8.3. *Description of the financing process – Current Status*

The proposed additional financing again envisions using a PABs and TIFIA structure that will need to interact with already-outstanding PABs and TIFIA debt facilities.

The Developer has already started the discussions with TIFIA about the new Segment 3C. On April 2017 TxDOT sent to TIFIA, on behalf of the Developer, a draft of the letter of interest for the project. TIFIA has already set up a working team for this project and is

currently working with TxDOT and the Developer to get this letter of interest approved and move on to the creditworthiness stage.

Also, as one of the requirements to get the letter of interest approved, the Developer is in the process of obtaining a preliminary investment grade credit rating from one of the nationally recognized credit agency. The Developer has extensive toll road financing experience globally and specifically in the US, and is prepared to move expeditiously to Financial Close after the Change Order Agreement is signed. The Developer will follow an efficient, disciplined schedule with the aim to price and close the PABs and the TIFIA loan at the beginning of December 2017.

8.4. Description of the Environmental Approval process – Current Status

- Preliminary engineering and environmental studies conducted in 1992 determined that Environmental Assessments (EA) were required for the development of the project under the provisions of the National Environmental Policy Act (NEPA);
- EAs were published for the portion of IH 35W containing Segment 3A in August 2012 and for the portions containing Segments 3B and 3C on March 12, 2012. Both EAs considered a single build option and no-build alternative and designated the build option as the preferred alternative;
- Such preferred build option applicable to Segment 3C included reconstructing and widening the roadway to a 10-lane facility consisting of three GPLs in each direction and a barrier-separated four-lane concurrent managed lane facility (two lanes in each direction) from US 81/287 to Eagle Parkway. The concurrent managed lane facility would be centered between the GPLs. Auxiliary lanes would be located between entrance and exit ramps along the roadway and two/three-lane frontage roads in each direction with bicycle accommodation would be built. Direct connectors from IH 35W to SH 170 would also be constructed;
- The findings from the EA conducted to evaluate the social, economic, and environmental impacts resulting from the proposed improvements to IH 35W indicated that the proposed project would have no significant impact on the quality of the environment. On March 19, 2012, the FHWA issued a Finding of No Significant Impact (FONSI) for Segment 3B and Segment 3C.

Some NEPA re-evaluation and update might be required to reflect the connectivity improvements included at Westport Parkway, which were not included in the ultimate configuration of the current NEPA approval. In addition, the proposed design for the IH820 direct connector ramps differs from the conceptual design that was the subject of the current NEPA approval, and therefore some NEPA re-evaluation or update may be required to reflect these differences. The Developer does not anticipate any difficulty in obtaining this NEPA approval update as there are no environmental issues known at this time for these new additions on the ultimate configuration.

9. **Financial Structure:** *A statement of anticipated sources and uses of funds for the project, including separate line items, as applicable, for proceeds of exempt facility bonds or other borrowing, federal grants, state and local grants, other credit assistance, and private investment. Provide a projected drawdown schedule for the use of funds, project revenue and expenses, and sources of security and repayment for the bonds.*

See Annex**10. Description of Title 23/49 funding received by the project:** *The date (or anticipated date) of receipt and types and amount of financial assistance.*

The project will request a TIFIA loan for an amount slightly lower than USD 300m. The expectation will be to have it in place few days before the anticipated date for Financial Close (December 2017).

11. Project Readiness: *Description of the financing/development team's capacity to undertake this project. Discuss readiness to begin the project. List all major permits and approvals necessary for construction of the project and the date, or projected date, of the receipt of such permits or approvals. Include information on engineering work, and procurement of construction.***11.1. Description of the financing/development team's capacity to undertake this project**

The financing/development team has significant, recent and relevant experience bringing new managed lanes P3 financing to successful and timely Financial Close. Several of these financings have included TIFIA financing in addition to capital market PABs, and as such, the Developer understands the logistical and legal requirements of these financings.

As discussed in question #6, NTEMP3's equity members have successful prior experience working experience together as Cintra, Meridiam and APG Cintra, Meridiam and APG already partnered on the \$1.4 billion NTE Segments 3A and 3B project in Texas, reaching financial close in September 2013. All of these partners are willing to contribute additional equity for the development of the Segment 3C as a Facility Extension of this contract.

The same entities previously formed the equity members for LBJ Express (IH 635 Managed Lanes), while Cintra and Meridiam also partnered for NTE Segments 1 and 2W, all of them in the Dallas-Fort Worth region (Texas). The \$2 billion NTE Segments 1 and 2W project achieved financial close in December 2009 and was the only revenue-risk toll road financed in the U.S. during 2009. The \$2.6 billion LBJ Express project reached financial close in June 2010 and was the only revenue-risk toll road project financed in the U.S. during 2010. The team's experience, position, ingenuity and structure allowed them to complete these transactions during one of the most challenging periods in the financial markets in recent memory. More recently, a Cintra/Meridiam team reached commercial close and is currently working on the financial close for the \$3.5 billion I-66 Express Lanes project in Virginia.

The following chart illustrates Cintra's innovative project finance track-record in the US and development in North America since 2005:

Project	Financial Close Date	Bank Debt Financing	TIFIA (US DOT Loan)	Private Activity Bonds
Chicago Skyway	2005	\$1.0 B	--	--
Indiana Toll Road	2006	\$3.2 B	--	--
SH 130	2008	\$686 M	\$430 M	--
NTE 1&2	2009	--	\$650 M	\$400 M
LBJ	2010	--	\$850 M	\$615 M
NTE 3A&3B	2013	--	\$531 M	\$274 M
I-77	2015	--	\$189 M	\$100 M

11.2. Discuss readiness to begin the project. List all major permits and approvals necessary for construction of the project and the date, or projected date, of the receipt of such permits or approvals.

TxDOT anticipates issuing NTP1 for Segment 3C within ten business days the Change Order Agreement. NTP1 will authorize Developer to do a limited scope of works. Among other things:

- Prepare the Facility Management Plan to take into account Segment 3C;
- Work required to achieve the conditions for commencing Design Work for Segment 3C;
- Enter TxDOT-owned right of way for Segment 3C to conduct surveys and site investigations;
- Utility Adjustment Work related to Segment 3C;
- Acquire ROW parcels for Segment 3C, subject to, among other conditions, TxDOT's prior approval of a scope and budget;
- Pursue re-evaluation and updates under NEPA for Segment 3C.

Also, the NTP2 will be issued by TxDOT right after Financial Close. This milestone will drive the following deadlines for Segment 3C:

- Commencement of Construction Work – the date TxDOT issues NTP2;
- Service Commencement Deadline – 48 months after the date TxDOT issues NTP2;
- Final Acceptance Deadline – 90 days after the Service Commencement Deadline.

11.3. Include information on engineering work, and procurement of construction.

The design and construction will be conducted by North Tarrant Infrastructure LLC, a limited liability corporation comprised by Ferrovial Agroman US Corp. and its subsidiary Webber, to serve as the Design-Build Contractor (the "DBJV"). The DBJV is currently working on NTE Segment 3A.

Ferrovial Agroman is a world-leading construction company with a presence in more than 20 countries, 12,500 employees and a design-build value in the US greater than \$10 billion. Ferrovial has 87 years and approximately 2,300 miles of experience in design-build highway construction, often teamed with its affiliate company, Cintra.

Webber is a leading Texas construction company with over 52 years of experience that includes some of TxDOT's largest projects. The firm employs 2,000 Texans and has constructed over 35 miles of toll roads and 750 miles of new highways. Over the years, Webber has participated in the construction of more than 1,600 state's roadway projects.

Demonstrated results - Ferrovial Agroman and Webber completed the NTE Segments 1&2 nine months ahead of schedule and LBJ Express three months ahead of the schedule.

The Design-Build Contract for the NTE3A3B executed on March 1, 2013 between NTEMP3 and the DBJV will be amended to include Segment 3C. Such Design-Build Contract is based on a back-to-back, fixed price contract under which certain risks, obligations and liabilities under the amended Facility Agreement for design and construction work will flow through to, and are to be borne or performed by the DBJV.

The Design-Build Contract includes the usual protections for the Developer. Below is a detail of the security package obtained from the DBJV (compared to the one that is currently in place for 3A):

ITEM	SEGMENT 3A	SEGMENT 3C
Design-Build Price	• \$1,008 million	• \$635 million
P&P Bond	• \$250 million Payment and Performance Bond	• \$250 million Payment and Performance Bond
Parent Company Guarantee	• Ferrovial Agroman SA	• Ferrovial Agroman US
Max Aggregate Liability	• Capped at 50% of the contract price, subject to certain exceptions	• Capped at 50% of the contract price, subject to certain exceptions
Liquidated Damages	• Limited to a max amount of 15% of the aggregate contract price	• Limited to a max amount of 15% of the aggregate contract price
Milestone Schedule	<ul style="list-style-type: none"> • Service Commencement Date: 60 months after Financial Close • Long Stop Date: 18 months after Service Commencement 	<ul style="list-style-type: none"> • Service Commencement Date: 48 months after Financial Close of Segment 3C • Long Stop Date: 18 months after Service Commencement

12. **Signatures:** Applications should be signed by a duly authorized representative of the proposed issuer and a duly authorized representative of each proposed borrower. Applications may be submitted by the proposed issuer or the proposed borrower.



ISSUER: Texas Private Activity Bond Surface Transportation Corporation

125 East 11th Street; Austin, Texas 78701

Attention: Benjamin Asher

Telephone: (512) 463-8611 / Facsimile: (512) 416-2089

E-mail: benjamin.asher@txdot.gov

BORROWER: NTE Mobility Partners Segments 3 LLC

Alberto Gonzalez; CEO

9001 Airport Freeway, Suite 600, North Richland Hills, Texas 76180,

Telephone: 972 239 5000 ext. 32325,

E-mail: aglalueza@lbjexpress.com

13. **Declarations:** *Each application, including any supporting reports or other document, should include the following declaration signed by an individual who has personal knowledge of the relevant facts and circumstances: "Under penalties of perjury, I declare that I have examined this document and, to the best of my knowledge and belief, the document contains all the relevant facts relating to the document, and such facts are true, correct, and complete."*

Under penalties of perjury, I declare that I have examined this document and, to the best of my knowledge and belief, the document contains all the relevant facts relating to the document, and such facts are true, correct, and complete.

Signed by:

Benjamin Asher
TxDOT. Director of the Project Finance, Debt and Strategic Contracts Division



Alberto Gonzalez
CEO. NTE Mobility Partners Segments 3 LLC



ANNEX:

Table 1: Sources and Uses of Funds (dollars in thousands)

Sources of Funds		Uses of Funds	
Equity	622,067	Civil Work	1,643,114
PABs Facility 1	274,030	Right of Way	56,532
PABs Facility 2	229,700	Tolling and ITS	59,661
PABs Premium / (Discount)	8,819	Overhead and Advisors	65,932
TIFIA Facility 1	531,000	PABs Interest	137,376
TIFIA Facility 2	291,170	Financing Fees	29,620
Government Subsidy and RoW Reimbursement	136,400	Transaction Costs	40,288
Interest Income	391	Reserves	61,053
		Other Cash Account	0
Total Sources	2,093,576	Total Uses	2,093,576



Table 2: Projected drawdown schedule for the Sources and Uses of funds (dollars in thousands)

Sources of Funds										Total
Year	Semester	Equity	PABs Facility 1	PABs Facility 2	PABs Premium / (Discount)	TIFIA Facility 1	TIFIA Facility 2	Government Subsidy and RoW Reimbursement	Interest Income	
2012	Jun-12	-	-	-	-	-	-	-	-	-
2012	Dec-12	-	-	-	-	-	-	-	-	-
2013	Jun-13	1,500	-	-	-	-	-	-	-	1,500
2013	Dec-13	32,299	60,784	-	(27)	-	-	34,400	52	127,508
2014	Jun-14	19,560	34,817	-	-	-	-	1,137	81	55,595
2014	Dec-14	26,750	45,331	-	-	-	-	1,162	66	73,308
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2021	Jun-21	21,483	-	-	-	-	55,036	3,126	5	79,649
2021	Dec-21	17,407	-	6,604	-	-	37,990	2,084	5	64,089
2022	Jun-22	-	-	-	-	-	-	-	-	-
2022	Dec-22	-	-	-	-	-	-	-	-	-
Total		622,067	274,030	229,700	8,819	531,000	291,170	136,400	391	2,093,576

Uses of Funds											Total
Year	Semester	Civil Work	Right of Way	Tolling and ITS	Overhead and Advisors	PABs Interest	Financing Fees	Transaction Costs	Reserves	Other Cash Account	
2012	Jun-12	-	-	-	-	-	-	-	-	-	-
2012	Dec-12	-	-	-	-	-	-	-	-	-	-
2013	Jun-13	-	243	-	742	-	-	-	-	516	1,500
2013	Dec-13	91,612	2,183	-	1,778	5,332	1,631	19,988	-	4,983	127,508
2014	Jun-14	36,351	3,957	3,072	3,701	9,409	1,419	-	-	(2,314)	55,595
2014	Dec-14	45,387	9,002	17	3,575	9,409	1,348	-	-	4,570	73,308
2015	Jun-15	89,675	4,776	3,087	3,493	9,409	1,856	-	-	4,934	117,229
2015	Dec-15	175,456	4,090	1,834	4,110	9,409	3,727	-	-	3,288	201,914
2016	Jun-16	156,196	4,384	452	4,430	9,409	2,224	-	-	(8,346)	168,747
2016	Dec-16	129,606	369	(6)	3,551	9,409	2,260	-	-	(249)	144,939
2017	Jun-17	116,455	5,519	8,538	5,587	9,409	1,805	-	-	(1,457)	145,857
2017	Dec-17	201,726	1,835	120	6,956	10,546	4,705	20,300	-	(5,924)	240,263
2018	Jun-18	168,251	7,834	28,012	8,839	16,013	2,220	-	-	-	231,169
2018	Dec-18	69,587	10,361	247	5,345	6,604	1,709	-	51,480	-	145,333
2019	Jun-19	48,762	1,980	-	2,070	6,604	1,415	-	-	-	60,831
2019	Dec-19	69,660	-	95	2,450	6,604	1,217	-	-	-	80,025
2020	Jun-20	67,919	-	582	2,768	6,604	913	-	-	-	78,785
2020	Dec-20	66,177	-	582	2,794	6,604	676	-	-	-	76,833
2021	Jun-21	66,177	-	4,121	2,351	6,604	396	-	-	0	79,649
2021	Dec-21	44,118	-	8,907	1,394	-	98	-	9,573	0	64,089
2022	Jun-22	-	-	-	-	-	-	-	-	-	-
2022	Dec-22	-	-	-	-	-	-	-	-	-	-
Total		1,643,114	56,532	59,661	65,932	137,376	29,620	40,288	61,053	0	2,093,576



Sources of Funds

Year	Semester	Equity	PABs					Government Subsidy and RoW Reimbursement	Interest Income	Total
			PABs Facility 1	PABs Facility 2	Premium/ (Discount)	TIFIA Facility 1	TIFIA Facility 2			
2012	Jun-12	-	-	-	-	-	-	-	-	-
2012	Dec-12	-	-	-	-	-	-	-	-	-
2013	Jun-13	1,500	-	-	-	-	-	-	-	1,500
2013	Dec-13	32,299	60,784	-	(27)	-	-	34,400	52	127,508
2014	Jun-14	19,560	34,817	-	-	-	-	1,137	81	55,595
2014	Dec-14	26,750	45,331	-	-	-	-	1,162	66	73,308
2015	Jun-15	43,358	72,500	-	-	-	-	1,328	44	117,229
2015	Dec-15	70,523	51,211	-	-	69,794	-	10,375	11	201,914
2016	Jun-16	50,183	-	-	-	110,704	-	7,856	4	168,747
2016	Dec-16	47,844	-	-	-	93,840	-	3,252	4	144,939
2017	Jun-17	47,562	-	-	-	84,301	-	13,990	4	145,857
2017	Dec-17	68,587	-	115,350	8,846	39,289	-	8,141	51	240,264
2018	Jun-18	61,884	-	107,747	-	50,789	-	10,712	38	231,169
2018	Dec-18	33,801	9,387	-	-	77,205	-	24,933	8	145,333
2019	Jun-19	15,875	-	-	-	5,077	35,591	4,283	5	60,831
2019	Dec-19	21,542	-	-	-	-	55,187	3,290	5	80,025
2020	Jun-20	21,217	-	-	-	-	54,355	3,208	5	78,785
2020	Dec-20	20,692	-	-	-	-	53,010	3,126	5	76,833
2021	Jun-21	21,483	-	-	-	-	55,036	3,126	5	79,649
2021	Dec-21	17,407	-	6,604	-	-	37,990	2,084	5	64,089
2022	Jun-22	-	-	-	-	-	-	-	-	-
2022	Dec-22	-	-	-	-	-	-	-	-	-
Total		622,067	274,030	229,700	8,819	531,000	291,170	136,400	391	2,093,576



Uses of Funds

Year	Semester	Civil Work	Right of Way	Tolling and ITS	Overhead and Advisors	PABs Interest	Financing Fees	Transaction Costs	Reserves	Other Cash Account	Total
2012	Jun-12	-	-	-	-	-	-	-	-	-	-
2012	Dec-12	-	-	-	-	-	-	-	-	-	-
2013	Jun-13	-	243	-	742	-	-	-	-	516	1,500
2013	Dec-13	91,612	2,183	-	1,778	5,332	1,631	19,988	-	4,983	127,508
2014	Jun-14	36,351	3,957	3,072	3,701	9,409	1,419	-	-	(2,314)	55,595
2014	Dec-14	45,387	9,002	17	3,575	9,409	1,348	-	-	4,570	73,308
2015	Jun-15	89,675	4,776	3,087	3,493	9,409	1,856	-	-	4,934	117,229
2015	Dec-15	175,456	4,090	1,834	4,110	9,409	3,727	-	-	3,288	201,914
2016	Jun-16	156,196	4,384	452	4,430	9,409	2,224	-	-	(8,346)	168,747
2016	Dec-16	129,606	369	(6)	3,551	9,409	2,260	-	-	(249)	144,939
2017	Jun-17	116,455	5,519	8,538	5,587	9,409	1,805	-	-	(1,457)	145,857
2017	Dec-17	201,726	1,835	120	6,956	10,546	4,705	20,300	-	(5,924)	240,263
2018	Jun-18	168,251	7,834	28,012	8,839	16,013	2,220	-	-	-	231,169
2018	Dec-18	69,587	10,361	247	5,345	6,604	1,709	-	51,480	-	145,333
2019	Jun-19	48,762	1,980	-	2,070	6,604	1,415	-	-	-	60,831
2019	Dec-19	69,660	-	95	2,450	6,604	1,217	-	-	-	80,025
2020	Jun-20	67,919	-	582	2,768	6,604	913	-	-	-	78,785
2020	Dec-20	66,177	-	582	2,794	6,604	676	-	-	-	76,833
2021	Jun-21	66,177	-	4,121	2,351	6,604	396	-	-	0	79,649
2021	Dec-21	44,118	-	8,907	1,394	-	98	-	9,573	0	64,089
2022	Jun-22	-	-	-	-	-	-	-	-	-	-
2022	Dec-22	-	-	-	-	-	-	-	-	-	-
Total		1,643,114	56,532	59,661	65,932	137,376	29,620	40,288	61,053	0	2,093,576



Table 3: Projected Cash Flow and Debt Service Coverage for the Bonds and the TIFIA Loan During Operations (Thousand USD)

Year	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]
	Project Revenue	O&M Expenses	Ongoing Capex	MMRA Funding/ (Releases)	Cash Flow Available for Debt Service	PABs Debt Service			Senior Debt Service Coverage	TIFIA Loan Debt Service			Total Debt Service Coverage
						PABs Facility 1	PABs Facility 2	Net Senior Debt Service		TIFIA Facility 1	TIFIA Facility 2	TIFIA Debt Service	
					[A - B - C - D]			[F + G]	[E / H]			[J + K]	E / [H + L]
2021	118,340	14,649	441	(441)	103,691	18,818	13,208	32,026	3.24x	-	-	-	3.24x
2022	155,310	19,546	86	(86)	135,764	18,818	13,208	32,026	4.24x	-	5,516	5,516	3.62x
2023	172,587	21,871	1,000	(14,352)	164,068	18,818	13,208	32,026	5.12x	35,824	10,941	46,765	2.08x
2024	189,553	21,874	746	7,252	159,681	18,818	13,208	32,026	4.99x	45,119	10,941	56,061	1.81x
2025	203,996	22,451	962	11,057	169,526	18,818	13,208	32,026	5.29x	44,698	10,941	55,640	1.93x
2026	221,937	23,203	13,321	(774)	186,187	18,818	13,208	32,026	5.81x	44,344	10,941	55,285	2.13x
2027	241,476	24,143	12,726	(954)	205,560	18,818	13,208	32,026	6.42x	44,099	10,941	55,041	2.36x
2028	262,753	27,255	13,055	(3,201)	225,644	18,818	13,208	32,026	7.05x	43,987	10,941	54,929	2.59x
2029	285,928	27,549	11,368	(4,133)	251,145	18,818	13,208	32,026	7.84x	44,034	10,941	54,975	2.89x
2030	311,167	29,505	10,280	(5,258)	276,641	18,818	13,208	32,026	8.64x	44,264	10,941	55,206	3.17x
2031	335,331	30,596	6,194	1,421	297,120	18,818	13,208	32,026	9.28x	44,196	10,941	55,138	3.41x
2032	361,378	32,576	3,160	15,519	310,124	18,818	13,208	32,026	9.68x	44,366	10,941	55,307	3.55x
2033	389,444	35,799	4,169	19,203	330,273	29,018	13,208	42,226	7.82x	44,797	10,941	55,738	3.37x
2034	419,703	36,160	18,655	2,155	362,734	38,230	13,208	51,438	7.05x	45,525	10,941	56,466	3.36x
2035	452,322	37,682	43,334	(27,857)	399,163	38,231	13,208	51,439	7.76x	46,579	10,941	57,521	3.66x
2036	487,487	39,093	9,445	7,931	431,018	38,232	13,208	51,440	8.38x	48,717	10,941	59,659	3.88x
2037	525,385	40,827	6,653	47,463	430,442	38,232	13,208	51,440	8.37x	50,933	10,941	61,874	3.80x
2038	566,233	45,412	25,933	69,890	424,998	38,228	13,208	51,436	8.26x	70,528	18,941	89,469	3.02x
2039	610,261	46,614	22,937	80,745	459,966	38,229	13,208	51,437	8.94x	89,393	26,520	115,913	2.75x
2040	657,730	49,760	149,133	(80,147)	538,984	38,231	13,208	51,439	10.48x	76,799	25,961	102,759	3.50x
2041	707,007	51,448	145,120	(123,331)	633,769	38,232	13,208	51,440	12.32x	-	25,400	25,400	8.25x
2042	727,199	54,202	14,808	(7,886)	666,076	38,233	13,208	51,440	12.95x	-	24,840	24,840	8.73x
2043	778,617	58,849	13,066	(7,063)	713,764	18,349	13,208	31,557	22.62x	-	26,080	26,080	12.38x
2044	832,388	59,789	1,479	7,754	763,366	-	13,208	13,208	57.80x	-	27,770	27,770	18.63x
2045	888,460	62,250	3,330	11,631	811,250	-	13,208	13,208	61.42x	-	27,769	27,769	19.80x
2046	947,210	64,748	13,236	2,201	867,024	-	13,208	13,208	65.65x	-	27,769	27,769	21.16x
2047	1,007,740	67,586	14,383	8,219	917,552	-	28,466	28,466	32.23x	-	27,769	27,769	16.32x
2048	1,054,726	73,683	21,947	7,367	951,730	-	28,466	28,466	33.43x	-	27,770	27,770	16.92x
2049	1,109,221	75,615	8,882	20,954	1,003,771	-	28,466	28,466	35.26x	-	27,769	27,769	17.85x
2050	1,169,773	79,619	44,603	(23,355)	1,068,906	-	28,466	28,466	37.55x	-	27,769	27,769	19.01x
2051	1,232,541	82,538	38,660	(27,260)	1,138,603	-	28,466	28,466	40.00x	-	27,769	27,769	20.25x
2052	1,298,440	86,898	5,378	4,081	1,202,083	-	28,466	28,466	42.23x	-	27,770	27,770	21.38x
2053	1,366,861	93,154	11,333	(18,187)	1,280,561	-	28,466	28,466	44.99x	-	13,884	13,884	30.24x
2054	1,438,724	94,877	10,327	-	1,333,520	-	28,466	28,466	46.85x	-	-	-	46.85x
2055	1,513,399	98,481	7,177	-	1,407,741	-	28,466	28,466	49.45x	-	-	-	49.45x
2056	1,591,515	101,584	25,869	-	1,464,062	-	28,466	28,466	51.43x	-	-	-	51.43x
2057	1,672,903	105,369	16,420	-	1,551,114	-	28,466	28,466	54.49x	-	-	-	54.49x
2058	1,756,484	113,843	92,910	-	1,549,731	-	0	0	-	-	-	-	-
2059	1,842,286	116,682	64,178	-	1,661,426	-	0	0	-	-	-	-	-
Total	28,061,527	2,051,097	842,524	(19,445)	25,187,351	-	617,260	656,532	1,273,791	908,203	581,187	1,489,390	

Repayment Profile (dollars in thousands)

Year	3A3B PABs			3C PABs			3A3B & 3C PABs		
	Principal	Interest	Total Debt Service on the Bonds	Principal	Interest	Total Debt Service on the Bonds	Principal	Interest	Total Debt Service on the Bonds
2017	-	18,818	18,818	-	1,137	1,137	-	19,955	19,955
2018	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2019	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2020	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2021	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2022	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2023	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2024	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2025	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2026	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2027	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2028	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2029	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2030	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2031	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2032	-	18,818	18,818	-	13,208	13,208	-	32,026	32,026
2033	10,200	18,818	29,018	-	13,208	13,208	10,200	32,026	42,226
2034	20,485	17,745	38,230	-	13,208	13,208	20,485	30,953	51,438
2035	21,945	16,286	38,231	-	13,208	13,208	21,945	29,494	51,439
2036	23,510	14,722	38,232	-	13,208	13,208	23,510	27,930	51,440
2037	25,185	13,047	38,232	-	13,208	13,208	25,185	26,255	51,440
2038	26,975	11,253	38,228	-	13,208	13,208	26,975	24,461	51,436
2039	28,880	9,349	38,229	-	13,208	13,208	28,880	22,557	51,437
2040	30,865	7,366	38,231	-	13,208	13,208	30,865	20,574	51,439
2041	32,985	5,247	38,232	-	13,208	13,208	32,985	18,455	51,440
2042	35,250	2,983	38,233	-	13,208	13,208	35,250	16,190	51,440
2043	17,750	599	18,349	-	13,208	13,208	17,750	13,807	31,557
2044	-	-	-	-	13,208	13,208	-	13,208	13,208
2045	-	-	-	-	13,208	13,208	-	13,208	13,208
2046	-	-	-	-	13,208	13,208	-	13,208	13,208
2047	-	-	-	15,478	12,988	28,466	15,478	12,988	28,466
2048	-	-	-	16,381	12,086	28,466	16,381	12,086	28,466
2049	-	-	-	17,336	11,130	28,466	17,336	11,130	28,466
2050	-	-	-	18,347	10,119	28,466	18,347	10,119	28,466
2051	-	-	-	19,417	9,049	28,466	19,417	9,049	28,466
2052	-	-	-	20,550	7,916	28,466	20,550	7,916	28,466
2053	-	-	-	21,749	6,718	28,466	21,749	6,718	28,466
2054	-	-	-	23,017	5,449	28,466	23,017	5,449	28,466
2055	-	-	-	24,360	4,107	28,466	24,360	4,107	28,466
2056	-	-	-	25,781	2,686	28,466	25,781	2,686	28,466
2057	-	-	-	27,284	1,182	28,466	27,284	1,182	28,466
Total	274,030	418,501	692,531	229,700	467,592	697,292	503,730	886,093	1,389,823



Fiscal Year 2016 Letter of Interest Form

All projects wishing to apply for Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance must first submit a Letter of Interest using this revised form. Pursuant to the recently enacted Fixing America's Surface Transportation (FAST) Act, the application process, which includes the submission of Letters of Interest, will be conducted on a rolling basis by the Department of Transportation (DOT). Applicants for Federal credit assistance must complete an acceptable Letter of Interest and meet all eligibility criteria to be permitted to submit a formal application. In the context of a public-private partnership, where multiple bidders may be competing for a concession such that the obligor has not yet been identified, the procuring agency must submit the project's Letter of Interest on behalf of the eventual obligor. DOT will not consider Letters of Interest from entities that have not obtained the legal rights to develop the project.

This revised Letter of Interest form reflects initial changes made to the TIFIA program by the FAST Act. Additional changes may be forthcoming as DOT considers public comments it may receive while continuing to implement the program. To be considered for TIFIA assistance, projects must submit a Letter of Interest that: (i) describes the project and the location, purpose, and cost of the project, (ii) outlines the proposed financial plan, including the requested credit assistance and the proposed obligor, (iii) provides a status of environmental review, and (iv) provides information regarding satisfaction of other eligibility requirements of the TIFIA credit program. Please reference the Notice of Funding Availability posted on March 11, 2016 in the Federal Register. At this time, the TIFIA Program Guide is being updated. Please check the TIFIA website regularly to identify updated program guidance, Letter of Interest, and application materials. Applicants should refer to the TIFIA website often to ensure that the most up-to-date Letter of Interest form is used (file date is included in the footer).

DOT will review each Letter of Interest and may contact project sponsors for clarification of specific information included in the Letter of Interest. DOT will notify project sponsors if DOT determines that their projects are not eligible, or if DOT will not be able to continue reviewing their Letter of Interest until eligibility requirements are addressed. If DOT does not determine a project to be ineligible based on its initial review, DOT will request additional information to supplement the Letter of Interest and complete its eligibility determination. This information may include, among other things, more detailed descriptions of the project, applicant and its organizational structure, the project's readiness to proceed, the project's financial plan (including a financial model), revenue feasibility studies, and financial commitments to the project from sources other than TIFIA. DOT will also request that the applicant provide a preliminary rating opinion letter at this time and the project sponsor will be required to submit a fee to continue the evaluation process. Once the fees have been received, DOT will engage an independent financial advisor to prepare a report and recommendation acceptable in form and substance to DOT. DOT may also engage an independent legal advisor to help complete its evaluation of a project's eligibility.

Except under limited circumstances as described further, the increased demand on TIFIA's resources has led to the discontinuation of the practice of advancing the entire cost of financial and legal advisors engaged to assist DOT in determining a project's creditworthiness and overall eligibility and having those costs reimbursed to DOT after execution of a credit agreement. As such, upon request, project sponsors must pay fees in the amount of \$250,000 before DOT hires financial and/or legal advisors as part of the Letter of Interest review process. These fees are due upon request. Additional fees will be charged after the credit instrument is executed, including additional amounts required to fully cover TIFIA's financial and legal advisory services costs in connection with the evaluation and negotiation of the terms of TIFIA credit assistance for the project. By submitting this Letter of Interest, the applicant certifies that it will pay all required fees. However, for projects having eligible project costs that are reasonably anticipated to be \$75 million or less, the FAST Act provides for the reservation of not less than \$2 million of the TIFIA program's annual funding authority to be used in lieu of the third-party costs charged by DOT. Project sponsors wishing to be considered for this available funding should indicate such in their Letters of Interest.

After concluding its review of each Letter of Interest and related information submitted by the project, along with the independent financial analysis report from DOT's independent financial advisor, DOT will permit sponsors of eligible projects to submit complete applications. DOT will conduct a rolling application process where project sponsors may submit Letters of Interest at any time and DOT will permit project sponsors to apply once a favorable eligibility determination is made.

The boxes below expand as needed to facilitate provision of a sufficient amount of detail to demonstrate to DOT the project's satisfaction of all eligibility criteria. If you have questions regarding completing this form, please contact the TIFIA program office at (202)366-1059. Please complete all applicable information using this Letter of Interest form and attach this request via email to TIFIAcredit@dot.gov.



A) Describe the Project, Location, Purpose, and Cost of the Project.

1. Describe the project:

The Interstate 35W (IH 35W) has been a major transportation corridor for over 40 years and is one of the busiest north-south highways in the Dallas-Fort Worth (DFW) Metropolitan Area. Currently, IH 35W serves both local access (limited) traffic to businesses along the highway and pass-through traffic, particularly during commute hours. In 1967, IH 35W opened from SH 114 to IH 820. In the last 10 years traffic has doubled. To address this growth, five new interchanges and 16 miles of frontage roads have been added since its initial construction. The frontage roads are in connection with the new interchanges at Eagle Parkway, Alliance Boulevard, SH 170, Heritage Trace Parkway, North Tarrant Parkway, Basswood Boulevard, and Western Center Boulevard. Much of the original IH 35W facility remains in operation today and predates many of the requirements of current design standards.

The North Tarrant Express (NTE) project is dedicated to improving mobility and connectivity along IH 35W and other critical corridors in northern Tarrant County, Texas, through reconstruction and expansion of existing freeway segments and addition of a regionally supported managed lane system. Part of the improvements to the IH 35W includes the IH35W Managed Lanes Project, which is divided into three NTE project segments: Segment 3A and Segment 3B have been approved and are under construction and Segment 3C, which is the focus of this Letter of Interest (LOI). All three segments total approximately 18 miles of the IH35W corridor in Tarrant County and a portion of the southern limit of Denton County, Texas. In March 2013, an agreement was executed between the Texas Department of Transportation (TxDOT) and North Tarrant Mobility Partners Segment 3 (NTEMP3) for the Development of Segment 3A and Segment 3B (NTE3A3B). Such agreement gives NTEMP3 (the “Developer”) the exclusive right to design, construct, finance, operate and maintain Segment 3A while Segment 3B, on the other hand, is being delivered by TxDOT as a design-bid-build. Upon TxDOT substantial completion of Segment 3B, NTEMP3 will be responsible for the operation and maintenance as well as for the design, development and installation of the ITS and tolling systems on Segments 3A and 3B until the end of the term on June 2061 with an exclusive right to the toll revenues.

The portion of the IH 35W Managed Lanes Project that is the subject of this LOI is Segment 3C (the “Extension” or the “Facility Extension”) and the Downtown Concurrent Flow and I-30 Direct Connector in Segment 3A (together the “Segment 3A Additional Improvements”) (hereinafter, the “Project” refers to all of the Facility Extension and the Segment 3A Additional Improvements). The Project consists of the reconstruction of existing freeway, frontage roads and the addition of managed lanes along a portion of the IH 35W in Tarrant and Denton Counties, in the northern half of the city of Fort Worth. The Project is proposed to complement the IH35W Managed Lanes Project and provide the needed capacity to accommodate future growth, upgrade the existing facilities to current standards and provide alternative transportation modes by implementing a managed lane system along the corridor. The Project will be designed, constructed, financed, operated and maintained under the NTE3A3B concession with an approximately 44 year remaining concession term from commercial close until the end of the term in June 2061. The Developer retains the obligation to design, build and finance the asset and provide fence-to-fence operation and maintenance of the managed lanes, general purpose lanes (GPLs) and associated facilities. In addition, the Developer has the exclusive right to impose tolls using dynamic/variable pricing, with a free-flow 100 percent electronic tolling system to allow drivers to enter and exit the managed lanes without passing through toll booths. The Facility Extension is being negotiated as a change order under the North Tarrant Express, Segments 3A & 3B Facility Agreement dated as of March 1, 2013. Additionally, separate change orders are being negotiated with the Developer for each of the Downtown Concurrent Flow and the I-30 Direct Connector in Segment 3A.

Figure 1 - NTE Segment 3 Project Map





2. Describe the project location:

The Facility Extension extends through Tarrant County and a portion of Denton County, Texas, and spans 7.1 miles on IH35W. The Facility Extension is oriented in a north-south direction from the northern terminus of Segment 3B located north of the US81/287 intersection to Eagle Parkway and will accommodate new construction of two managed lanes per direction as well as reconstruction of existing GPLs and frontage roads. The Facility Extension will also include improvements to some interchanges to provide connectivity from the new IH35W managed lanes to SH170, Westport Parkway and IH820.

3. Describe the project's purpose, including quantitative and qualitative details on public benefits the project will achieve:

The City of Fort Worth has seen tremendous growth in economic activity over the past years and is part of the Dallas Fort Worth Metroplex, which is home to over 7.1 million people and the fourth largest metropolitan area in the country. Growth is expected to be strong in Texas and the Project region. Population and employment in the state and counties is expected to grow faster than the national average. Fort Worth's central location, diverse economy and skilled workforce continues to draw interest from all industry sectors. A major indicator of a region's economic competitiveness is the presence of Fortune 500 companies and the Fort Worth region is home to several Fortune 500 companies and largest employers including GE Manufacturing, AMR/American Airlines, Amazon, Walmart, Facebook, UPS, among others. This is a testament to the economic growth experienced by the region. The Alliance Texas Development, located north of SH 170 in the IH 35W corridor, is home to several remarkable industrial projects including Fort Worth Alliance Airport, BNSF Alliance Intermodal Facility, Amazon.com fulfillment center, Facebook data center, Walmart.com distribution center, FedEx hub, new spec-building projects and the GE Transportation locomotive-manufacturing plant. Such development is located along one of the oldest, most highly congested, demand-critical and mobility-constrained corridors in the region. The presence of heavy vehicles, for example, is demonstrated by a proportion of 13 percent of total traffic and is an important factor contributing to noticeable traffic congestion on the existing and deteriorated corridor within the Facility Extension.

The Project will significantly contribute to: **1) meeting future traffic demands, 2) improving mobility efficiency, 3) addressing operational and capacity deficiencies and updating the facility to current design standards, 4) providing funding relief, and 5) facilitating economic development.**

Project Purpose	Public Benefits of the Project
<p>1) Meet future demands from Population and Traffic Growth</p>	<p>Between 1990 and 2000 the Metroplex had the third fastest growing population in the country, adding over one million people to the region. By 2040, the Dallas/Fort Worth area will be home to 10.7 million people and will most likely see a doubling in vehicle miles traveled. Extrapolating from the 2000 Census and NCTCOG's 2030 forecast, the seven-mile radius from the center of the project area includes approximately 373,000 people in 135,000 households. Population is expected to boom, growing to over 480,000 people in nearly 174,000 households in this area by 2030. Just the Alliance Texas Development, one of the nation's largest private developments, is expected to grow by 200,000 people within the next decade, adding approximately 47,500 new jobs.</p> <p>The Project will provide additional capacity in the form of managed lanes relieving the region's expected growth in traffic and population. Therefore, drivers will not only benefit from the renovation and improvement of the Project's GPLs and frontage roads, but from the reduction of congestion on such GPLs due to a portion of drivers electing to use the managed lanes.</p>
<p>2) Improve Mobility Efficiency</p>	<p>The Project will improve livability in the area by linking housing in the region with job opportunities. Quality of life will be improved by reducing commute times for the thousands of commuters, including transit users, who use the Project. The Project will improve mobility and connectivity between the Fort Worth Central Business District (at the southern end of Segment 3A) and major highways, job centers, transit centers and airports. The Project is an integral component of the transportation network shown in Mobility 2030, the North Central Texas Council of Governments' Metropolitan Transportation Plan for the Dallas-Fort Worth Area. Currently, the Project experiences considerable delays in the mornings with average speeds around 40 mph in the northbound direction while southbound the degradation of traffic speeds and travel times on the corridor is noticeable with average speeds of 35 mph in the morning and 20 mph in the evenings. Addition of managed lanes will provide for needed capacity and free flow conditions that will</p>



	<p>reduce travel times, increase trip reliability, decrease accident rates resulting from congestion and improve safety oversight through modern technology. Managed lanes allow motorists a choice and are intended to keep traffic moving at a faster, more reliable speed (minimum average of 50 mph). Motorists can choose to drive on the new and improved GPLs or they can choose to pay for a higher level of service on managed lanes.</p>
<p>3) Address operational and capacity deficiencies and update facility to current standards</p>	<p>The Project is needed to address capacity deficiencies along IH 35W. A level of service (LOS) analysis was conducted for the existing GPLs and the results indicated that in 2030, IH 35W would have a LOS F, which is characterized by stop-and-go waves, poor travel times, low comfort and convenience, and increased accident exposure as the amount of traffic exceeds the amount that can be served. Further, the Project addresses operational deficiencies on IH 35W including:</p> <ul style="list-style-type: none"> • As constructed today, the distance from exit ramps to cross street intersections on IH 35W is relatively short in relation to the volume of weaving traffic, resulting in excessive traffic queues at the cross street intersections and congestion on IH 35W. The Project will include rebuilding the exit and entrance ramps to current standards, and will provide increased weaving length to improve traffic flow, reduce congestion and improve safety. • The existing inside shoulders of IH 35W are substandard in some locations. The Project will include shoulders built to current standards to provide refuge for stranded vehicles and emergency response. • The current configurations of the interchanges at US 81/287 and SH 170 include at-grade intersections for several of the movements. The Project will provide direct connections for I35W/SH 170 movements and I35W/US 287 movements, eliminating congestion at the at-grade crossings and improving safety with the elimination of turning conflicts and crashes associated with in-grade intersections. <p>Much of the original IH 35W remains in operation today, including many of the cross street bridges and original ramping, and predates many of the requirements of current design standards. Construction of the Facility Extension will address operational deficiencies on the northern portion of IH 35W and update the freeway to current design standards. Construction of the Segment 3A Additional Improvements will provide direct managed lane connectivity to IH 30 and downtown Fort Worth. Drivers will also benefit from the renovation and improvement of the Project's GPLs and frontage roads. Additionally, the existing configuration is not projected to accommodate future demand. The design of the Project will address these deficiencies and provide capacity to better meet future traffic demand.</p>
<p>4) Provide Funding Relief</p>	<p>The purpose of implementing managed lanes is to provide congestion relief primarily within the peak hour travel times, and provide a revenue source to pay for the design, construction, operational and maintenance costs and future rehabilitation of the facility. Historically, TxDOT has financed highway projects on a "pay-as you- go" basis, using motor fuel taxes and other revenue deposited in the State Highway Fund. However, population increases and traffic demand have outpaced the efficiency of this traditional finance mechanism. The combination of federal and private funding will allow the proposed Project to be completed earlier than previously programmed, thus adding GPL and frontage road capacity to IH 35W earlier and, in this case, providing 100 percent (outside of ROW assistance and potential payments due to TxDOT's share of the risk of changes in interest rates and credit spreads) of the total financing from non-state sources. The funding relief provided through TIFIA and private sources will allow TxDOT to pursue other planned projects that otherwise would not be possible.</p>
<p>5) Facilitate Economic Development</p>	<p>Improved mobility and connectivity in the corridor will provide economic benefits by connecting residents in these areas to job centers immediately adjacent to the Project, as well as to the north and south. There are numerous major employers in the area, as well as a major job center located north of SH 170. A prime example, the Alliance Texas Development, located at the north of the Project, is a 18,000-acre master-planned, mixed-use community that houses more than 425 companies, of which more than 60 rank among the Fortune 500. The development represented a \$60 billion economic impact between 1990 and 2015 with a total of \$4.32 billion just in 2015. The Alliance has industrial, Class A office, aviation, retail, residential, medical and multifamily real estate projects. Comprising the world's first industrial airport, Fort Worth Alliance Airport, and including the Alliance Global Logistics Hub, Alliance Texas hosts the nation's largest inland port (9,600 acres) which conducts 600,000 lifts per year (in 2013) and is projected to increase to 1 million lifts in the next decade. Approximately 44,000 people work within in the Alliance Texas</p>



Development.

In addition, a positive indirect impact to the local economy of the Project can reasonably be expected to occur because of the circulation of money related to construction spending and an increase in workforce related to construction. Increased commercial property values in the proposed project area could reasonably be expected to occur due to improved accessibility and mobility. For example, NTE Segments 1 and 2W have helped create about 2,000 jobs in Texas. Further, a significant number of the region's small businesses, contractors, suppliers and vendors were involved in the Project.

Increased property values, in turn, will increase city and county tax revenues. IH 35W is part of a NAFTA corridor extending from Mexico to Canada. Historically, the IH 35W corridor has functioned as a principal route for national and international commerce due to its centralized location both nationally and statewide. Therefore, this corridor accommodates important interests to both the local and national economy.

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4. Provide the estimated capital cost of the project:

The Project Cost Estimate: The total capital costs for the project are:

Cost (YOE, \$ millions)	Total
Estimated Capital Cost	\$778.2 million

TIFIA Credit Instrument and Amount Requested: Through submission of this LOI, TxDOT, on behalf of the Developer, is requesting a secured direct TIFIA loan (the TIFIA Facility) in an amount currently estimated to equal \$291.1 million or 33% of Eligible Project Costs. This amount is an optimal mix between federal, state and private funds that supports a competitive financing structure and reflects anticipated risk (a detailed description is provided in Section B, Question 5).

5. Provide the design features, development schedule, and other relevant descriptions of the project:

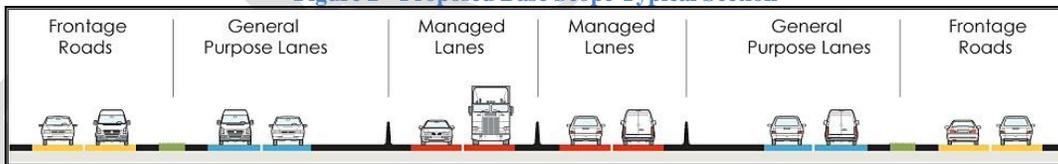
Design Features

The proposed base scope of improvements for the Facility Extension consists of the following:

- The design, construction, financing, operation, and maintenance of 6.7 miles of four Managed Lanes (2+2) within the median of the IH 35W;
- The reconstruction of two general purpose lanes in each direction and construction of continuous frontage roads for the entire 7.1 mile length;
- The operations and maintenance of the general purpose lanes and associated facilities along the Project;
-
- The design, procurement, installation and testing of the ITS and tolling infrastructure equipment;
- The construction of Westport Parkway wishbone ramps, to provide a direct access from the new managed lanes to the Alliance Texas Development area;
- The construction of SH 170 direct connectors, to provide IH35WNB ML and GP connectivity to SH170EB and SH 170WB to IH35WSB ML and GP
- The construction of new direct connectors at IH 820/IH35W interchange north of segment 3A, to provide connectivity from IH820EB GP to IH35WNB ML and from IH35WSB ML to IH 820WB GP;

The proposed improvements also include construction of the Segment 3A Additional Improvements, to improve connectivity in the southern part of Segment 3A.

Figure 2 - Proposed Base Scope Typical Section

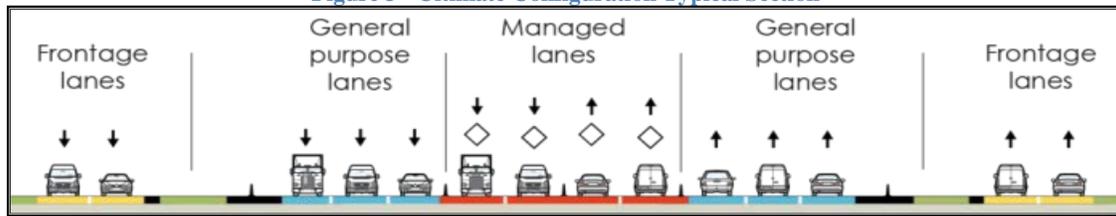


The base scope of the Facility Extension must be compatible with the Segment 3C ultimate configuration, for which NTEMP3 will be responsible and will include the following:

- Golden Triangle Braided Ramps (GTBR) Capacity Improvement: this includes additional ramps from the northbound Managed Lanes to the General Purpose Lanes and from the southbound General Purpose Lanes to the Managed Lanes near the Golden Triangle Boulevard. Construction of these improvements is to occur no earlier than 2025 and no later than 2035.
- 3C Ultimate Capacity Improvement: this includes the addition of a third General Purpose Lane and associated lanes along northbound and southbound IH-35W from Station 1028+00 to Station 1401+00 and all other improvements shown on the Approved NEPA Schematics for Segment 3C which are not included in the base scope for Segment 3C as described above. Construction of these improvements is to occur on a fixed date in the year 2040.



Figure 3 - Ultimate Configuration Typical Section



Development Schedule

Estimated major milestones are outlined in the table below:

Milestone	Date
Changer Order Approval	July 2017
Commercial Close / Financial Close	November 2017
Notice to Proceed / Construction Commencement Date	November 2017
Substantial Completion Date	October 2021
Final Acceptance	December 2021

B) Outline the Proposed Financial Plan, including the Requested Credit Assistance.

1. Detail the plan of finance in sufficient detail to assist the DOT in its creditworthiness assessment:

The plan of finance presented in this request is based on the best information available at this time regarding estimated toll traffic and revenues, operating and maintenance costs, capital costs, sources and uses of funds, and funding terms. As a consequence, at this stage the plan of finance and the facility sizes indicated herein should be considered preliminary and subject to further revision. However, the private sector’s equity, which is part of the financing structure for the Project, is presently available and prepared to be committed to the Project.

The plan of finance for the Project is structured as a typical project financing through a special purpose vehicle (SPV), whereby the cash flows generated from the project itself (together with any other asset and rights of the Developer) will secure the senior and subordinated lien obligations and provide a return for the private sector equity investment. Additionally, the Facility Agreement’s existing provisions for the protection for lenders, including compensation provisions and step-in rights, will apply.

In formulating the plan of finance, the Developer has assessed financial solutions available in the current market. Our plan incorporates a combination of funding sources that optimize the cost of capital for the Extension and therefore maximize value to all stakeholders. The plan of finance includes the use of available long-term instruments—a TIFIA loan and Private Activity Bonds (“PABs”)—that provide a balanced and robust financing solution. The plan of finance also includes a significant equity contribution aimed at minimizing the usage of any public contribution.

The PABs comprise 100 percent of the proposed senior debt financing package, taking advantage of the tax-exempt bond markets. The Developer will select the maturities and issuances that result in the optimal pricing of the PABs. The Developer’s experience in achieving Investment Grade Ratings for the PABs provides us with comfort to determine the optimal financing structure.

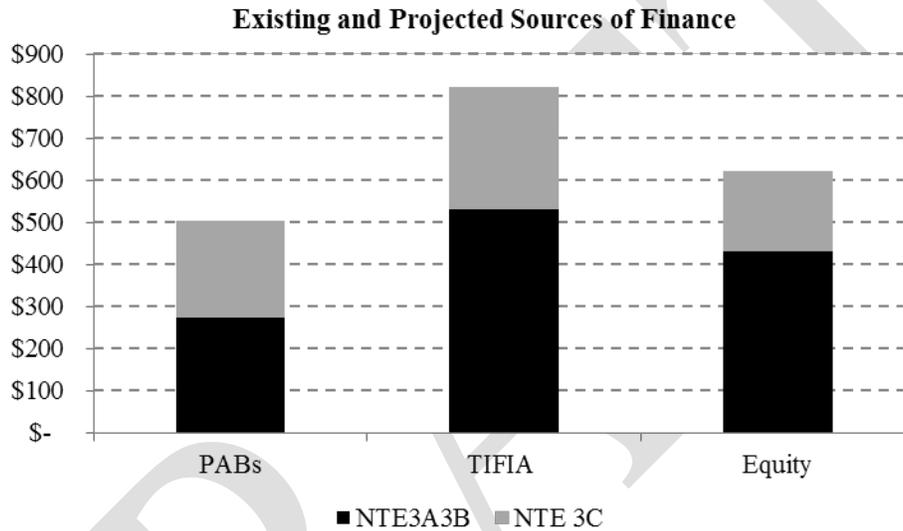
The Developer views TIFIA financing as being the keystone to an effective financial structure. The plan of finance therefore maximizes the amount of the TIFIA loan (33 percent of Eligible Project Costs). The requested TIFIA loan represents the most important source of capital available to the Project, both because of its low, fixed interest rate and the flexibility it provides throughout the life of the loan. Combined, these elements substantially reduce the overall cost of capital to the Project, and provide protection in the event that cash flows take longer than expected to materialize. The Developer has realized significant success in utilizing TIFIA in previous managed lane projects, and our experience with TIFIA provides greater assurance that Financial Close will be achieved.



In addition to the equity already committed for Segments 3A/3B, the Developer would commit the required additional equity to complete the funding needs for the Extension. Any new equity would be backed by an acceptable letter of credit that the Developer will obtain.

Interaction with Existing Sources of Finance

The plan of finance for the Extension offers an exciting and unique opportunity to raise additional debt facilities to extend the current Segment 3A/3B project; however, these new debt facilities will need to interact with already-outstanding PABs and TIFIA debt facilities. Under the 3A/3B PABs financing documents already executed, Additional Senior Obligations are contemplated as long as they achieve certain conditions, such as maintaining minimum ratios and obtaining an Investment Grade Rating. The Developer plans to fulfill all of the requirements under the existing financing documents related to Additional Senior Obligations. Additionally, given that a TIFIA loan carries a subordinated lien relative to the PABs and would not have a material effect on the seniority of the existing or new PABs, the Developer does not anticipate any major issues in structuring a TIFIA loan with the new and existing debt facilities. The figure below shows the existing and projected sources of finance.



2. *Detail the sources and uses of funds:*

The table below shows the anticipated sources and uses of funds during the construction period.



Sources and Uses - Construction Period	
Sources of Funds	\$ million
Private Activity Bonds (PABs)	229.7
PABs Premium	8.8
TIFIA Loan	291.1
Public Funds (incl. public funds for RoW)	56.5
Equity	191.7
Interest Income	0.3
TOTAL SOURCES	778.2
Uses of Funds	\$ million
DB Price	635.2
Right of Way	18.0
Tolling and ITS	14.8
Overhead and Advisors	20.0
PABs Interest	47.4
Financing Fees	13.29
Transaction Costs	20.0
Reserves and other cash accounts	9.6
TOTAL USES	778.2

3. *Type of credit assistance:*

A secured (direct) loan is requested from TIFIA for the Extension.

4. *Amount of credit assistance sought from DOT:*

A TIFIA loan in the amount of \$291.1 million is requested, being 33 percent of Eligible Project Costs.

5. *Provide a rationale for the amount of TIFIA credit assistance requested, as a percentage of reasonably anticipated eligible project costs (e.g., a project sponsor can demonstrate that traditional sources of financing are not available at feasible rates without the TIFIA assistance, or that the costs of traditional financing options would constrain the sponsor's ability to deliver the project, or that delivery of the project through traditional financing approaches would constrain the sponsor's ability to deliver a group of related projects, or a full capital program):*

The table below shows a breakdown of project costs for the Project.

Project Costs	\$ million
Eligible Costs	882.1
Ineligible Costs	12.8
Total Project Costs	894.9
33% Total Eligible Costs	291.1

**Ineligible costs include TIFIA capitalized interest, TIFIA fees, and Rating Agency costs*

TxDOT's capacity to provide public funds for the Project is severely constrained. Therefore the Developer is arranging 100 percent of the debt and equity funding in order to finance the Extension; as part of the plan of finance the Developer is applying for credit assistance from TIFIA in an amount of \$291.1 million, or 33 percent of Eligible Project Costs. As such, a TIFIA loan is pivotal in leveraging private equity in order to finance the Extension.

The structural flexibility of a subordinated direct loan is key in order to maximize the amount of total debt that achieves the required Investment Grade Rating from rating agencies and to make the project feasible. No other financial instrument in the market offers the combination of:

- a fixed rate which eliminates the need for hedging and refinancing risks



- full capitalization of interest during construction and up to the fifth anniversary of Substantial Completion; this feature being especially valuable to projects during the ramp-up period
- flexible debt service payment during operations by splitting it into Scheduled and Mandatory tranches.

The uniqueness of a TIFIA loan makes it invaluable and irreplaceable in the plan of finance for the Extension.

With the assistance of a TIFIA loan, the value that will be delivered by the Developer is significant. The Extension will be delivered in its final 2+2 managed lanes configuration from the beginning, as opposed to being phased-in following an initial 1+1 configuration. With the 2+2 configuration being delivered now, this accelerates the timetable for achieving the extra capacity by many years, as well as eliminating additional construction work later in time that would have been required to increase from the 1+1 to the 2+2 configuration. A TIFIA loan accelerates both the scope and timing of the Extension, delivering congestion relief to a heavily congested and rapidly growing metropolitan area. Without TIFIA, the Extension could not be achieved under such an expedited schedule.

6. Explain the flexibility in the financial plan to finance the project with a reduced percentage of TIFIA credit assistance:

There exists little, if any, flexibility in the plan of finance to contemplate a reduced or unavailable TIFIA loan. The uniqueness of a TIFIA loan makes it irreplaceable in the plan of finance for the Extension. There is no other subordinated debt instrument in the market that can provide the same combination of low cost, long tenor and debt service flexibility, this last feature being the most relevant in a Managed Lanes project. The power of TIFIA is its ability to leverage private equity and reduce public monies. Reducing the amount of the TIFIA credit assistance would increase the public funds needed on almost a one to one ratio. Developer has estimated that 270M\$ of public funds would be needed in case of TIFIA not being available for the Extension.

A reduced percentage of TIFIA credit assistance likewise would undermine the financial viability of the Project. TxDOT's public funds available for the Project are very reduced. As it has been mentioned in this document, a reduced percentage of TIFIA credit assistance will require reductions in the project scope which will significantly impact the network benefits of the Extension, thus jeopardizing its potential to improve mobility and economic development in the corridor.

7. Description of revenue source(s) pledged to repayment:

The primary revenue source for the Developer, aside from interest earnings on cash reserves, is toll revenue associated not only with the Extension, but also Segments 3A and 3B, as all Project Revenues are pledged to all debt facilities; no revenue from individual segments will be pledged to specific debt service. The plan of finance for the Extension has been developed using annual traffic and toll revenue estimates that are based on interpolations and extrapolations of the forecasts from the SDG's "North Tarrant Express Segment 3 Traffic & Revenue Study" dated May 2016. Further information on the status of the traffic and revenue study can be found below in section 8.

Toll Revenue

Tolls will be collected electronically at toll gantries located at every entry point to the managed lanes. Tolls will be charged for the use of the segment irrespective of the point of entry and will be calculated by segment, direction and period, to comply with the toll regulation provisions of the Facility Agreement, which set out the dynamic tolling mechanism. The Developer retains the right to charge differential tolls in different tolling points at any time during the concession, subject to the Toll Rate Cap defined in the Facility Agreement.

As per the Facility Agreement, rates may change during the day on five-minute intervals depending on demand patterns and are expected to have variations depending on the day of the week and month of the year. Annual variations will be driven by changes in congestion in the network further to regional growth. Tolls will be charged which are necessary to maintain the volume and speed thresholds defined in the Facility Agreement.

8. Address the status of any revenue feasibility studies:

The Developer engaged Steer Davies Gleave ("SDG") to serve as the project's traffic and revenue advisor. The advisor conducted an analysis of the corridor existing conditions, reviewed land use activity and projected growth analysis, and applied an industry-approved transportation modeling methodology to produce the project's traffic and revenue forecasts. The study, "North Tarrant Express Segment 3 Traffic & Revenue Study" found that travel time savings and the overall



increase of traffic volumes are the key contributors for the increase in managed lanes volumes toll rates throughout the years. When compared with similar facilities, the forecasts produced by the advisor seem reasonable. The projections and related report were completed in May 2016.

C) Status of Environmental Review.

1. Summarize the status of the project's environmental review:

Preliminary engineering and environmental studies conducted in 1992 determined that Environmental Assessments (EA) were required for the development of the Project under the provisions of the National Environmental Policy Act (NEPA). EAs were published for the portion of IH 35W containing Segment 3A in August 2012 and for the portions containing Segments 3B and 3C on March 12, 2012. Both EAs considered a single build option and no-build alternative and designated the build option as the preferred alternative. Such preferred build option applicable to Segment 3C included reconstructing and widening the roadway to a 10-lane facility consisting of three GPLs in each direction and a barrier-separated four-lane concurrent managed lane facility (two lanes in each direction) from US 81/287 to Eagle Parkway. The concurrent managed lane facility would be centered between the GPLs. Auxiliary lanes would be located between entrance and exit ramps along the roadway and two/three-lane frontage roads in each direction with bicycle accommodation would be built. Direct connectors from IH 35W to SH 170 would also be constructed. The findings from the EA conducted to evaluate the social, economic, and environmental impacts resulting from the proposed improvements to IH 35W indicated that the proposed project would have no significant impact on the quality of the environment.

2. Discuss whether the project has received a Categorical Exclusion, Finding of No Significant Impact, or Record of Decision or whether a draft Environmental Impact Statement has been circulated:

On March 19, 2012, the FHWA issued a Finding of No Significant Impact (FONSI) for Segment 3B and Segment 3C of the IH 35W based on the analysis and evaluation contained in the EA and after further consideration of all social, economic and environmental factors, including input from the public involvement process. Some NEPA re-evaluation and update might be required to reflect the connectivity improvements included at Westport Parkway, which were not included in the ultimate configuration of the current NEPA approval. In addition, the proposed design for the IH820 direct connector ramps differs from the conceptual design that was the subject of the current NEPA approval, and therefore some NEPA re-evaluation or update may be required to reflect these differences. The Developer does not anticipate any difficulty in obtaining this NEPA approval update as there are no environmental issues known at this time for these new additions on the ultimate configuration.

D) Information Regarding Satisfaction of TIFIA Eligibility Requirements.

Please demonstrate the following:

1. Creditworthiness:

a. Ability to satisfy applicable creditworthiness standards:

The key credit features that support investment grade ratings include the following:

- The Metroplex has experienced strong historical population and employment growth. Between 1990 and 2000 it had the third fastest growing population. By 2040, the Dallas/Fort Worth area will be home to 10.7 million people and will most likely see a doubling in vehicle miles traveled. Population is expected to boom, growing to over 480,000 people in nearly 174,000 households in this area by 2030.
- The concession length of approximately 44 years makes the Project financially feasible.
- The investment grade quality revenue forecast study demonstrates that over a 44-year concession there is sufficient revenue to repay debt and provide equity with an adequate return. The provision of TIFIA funding significantly enhances the credit structure of the Project.
- Given that the Facility Extension is an extension to the NTE3A3B project in an existing urban corridor with significant commuter traffic already present, there is already strong revenue potential for the Project.
- The existing Facility Agreement includes protections for debt providers that are typical in projects of this kind.



- NTE customer willingness to pay is high. Drivers are willing to pay not only for travel time savings but for other factors, such as reliability and comfort.

Based on these credit strengths, it is believed that the Project will receive two investment grade ratings. Just in the Dallas/Fort Worth area, the Developer has successfully completed financing of the NTE Segments 1 and 2W and LBJ Express in 2009 and 2010, respectively, which received investment grade ratings and are under operation while NTE Segments 3A and 3B, currently under construction, reached financial close in 2013. Additionally, one member of the Developer received investment grade ratings and reached financial close on I-77 Express in North Carolina in May 2015.

b. Rate covenant, if applicable:

A Rate Coverage Test shall be incorporated in the TIFIA Loan Agreement so that the Developer will be obliged to establish a remedial plan to improve the Net Cash Flow if the Total Debt Service Coverage Ratio falls below a given figure. Failure to comply with this requirement shall be a Covenant Default.

c. Adequate coverage requirements to ensure repayment:

A number of covenants and other provisions will be incorporated to ensure the repayment of the TIFIA credit assistance including: 1) no distributions permitted until TIFIA debt service (mandatory and scheduled) is current; 2) no distributions permitted in periods where TIFIA interest is capitalized; and 3) a TIFIA Debt Service Reserve Account funded twelve months ahead of the first TIFIA debt service.

d. Ability to obtain two investment grade ratings on senior debt: two ratings on the TIFIA debt (investment grade if senior); if project costs are less than \$75 million only one rating on the senior debt and the TIFIA debt are needed):

In addition to the credit features listed above, the amount of anticipated total debt of the Project is based on a more conservative view of the Equity Traffic and Revenue forecast (i.e. 30% reduction to projected revenues). We believe this perspective to be in line with investment grade requirements, and as such we believe the Project debt will obtain the required investment grade ratings.

2. Foster partnerships that attract public and private investment for the project:

In June 2009, TxDOT entered into a Comprehensive Development Agreement (CDA) with the private entity, NTE Mobility Partners (NTEMP), to develop, design, construct, finance, operate and maintain Segments 1 and 2W of the overarching North Tarrant Express project over a 52-year concession term. At the same time, TxDOT and affiliates of NTEMP (formally known as "NTEMP Segments 2-4") entered into a separate 10-year Master Development Plan (MDP) agreement under which NTEMP segments 2-4 provided financial and development plans for the balance of the NTE project, including Segments 3A, 3B, and 3C. The CDA authorized TxDOT to enter into a "Facility Agreement" with NTEMP affiliates when both parties agree that a distinct project is "ready for development" - meaning, the preliminary design and financial analysis establish a corridor as feasible for construction and operation. In March 2013, a new entity was created to form NTEMP Segments 3 (NTEMP3 or the "Developer") and a Facility Agreement was executed with TxDOT for the development of Segments 3A and 3B, with TxDOT being responsible for the design and construction of Segment 3B. Negotiations between TxDOT and Developer are now well underway to deliver the Facility Extension under the Facility Agreement already in effect for Segments 3A and 3B (adjusted for the Facility Extension) that will not only provide the critical financial and technical support to construct the Project but also relieve the region of having to fund its operation and maintenance for nearly 40 years until the end of the Facility Agreement term in 2061.

3. Enable the project to proceed at an earlier date or reduced lifecycle costs (including debt service costs):

At this time, the entirety of funding required to construct, operate and maintain the Project is not available from traditional state, local and federal sources. Without TIFIA assistance, the Project could not be realized within the foreseeable future through traditional funding sources, and the State will need to identify traditionally available Federal funds for construction



as such funds become available. As a result, the Project would not proceed at this time or in the near future, become severely delayed, or require a significant reduction in scope. Additionally, based on a “pay as you go basis” a longer construction period would mean higher cost, which in turn would adversely impact Project scope and delivery.

4. Reduce the Contribution of Federal Grant Assistance for the Project:

As described in the response to B)6, it is expected that the use of TIFIA will decrease the overall cost of financing, and as a result, will reduce the need for other sources of federal funds. Additionally, the Project will fund the maintenance and long term capital improvements to the facility through user fees, further reducing the need for future federal aid. TxDOT does not expect to receive any Federal grants for the Project.

5. Construction contracting process can commence no more than 90 days from execution of a TIFIA credit instrument:

The amendments to the Facility Agreement to incorporate the Project and its construction will be entered into immediately prior to closing of the financing for the Project. Accordingly, there will be no lag between construction contracting and execution of the TIFIA loan agreement and closing of the TIFIA financing.

The Facility Agreement already considers several potential risks that may occur prior to construction commencement and their respective risk mitigation. These include:

- Construction Risk – Construction will be performed under a fixed-price, date-certain contract which will incentivize the contractor to complete construction early and avoid liquidated damages for late completion. Construction risk and completion uncertainty will be mitigated through a robust private sector construction management approach which includes the use of skilled management, consistent verification and quality management practices, and the utilization of top-tier contractors. An independent engineer will be retained to certify all draws during construction and to monitor construction progress.
- Cost Escalation Risk – Cost escalation during construction is mitigated through the use of a fixed price, date-certain Design-Build (DB) contract to be entered into between the Developer and the Design Build Joint Venture (DBJV). Under this structure, the DBJV will enter into the back-to-back contract with the Developer to assume all design and construction responsibilities. Construction price risk increases will be assumed by the DBJV. The DB contract will contain provisions to guarantee the achievement of substantial completion.
- Interest Rate Risk – The Developer is exposed to certain financial risks relating in particular to financing costs and inflation. These risks are mitigated by the following factors:
 - Fixed-rate Private Activity Bonds and TIFIA funds mitigate interest rate risk

E) Project Participants.

1. Name of Applicant/Borrower:

This letter of interest is being submitted by the Texas Department of Transportation on behalf of the borrowing entity. The borrowing entity will be the North Tarrant Express Mobility Partners Segment 3 (NTEMP3), which is the Developer under the Facility Agreement. TxDOT will not act as borrower or guarantor of the Developer’s obligations.

Except for statements about TxDOT itself, the information and facts contained in this letter of interest were assembled and prepared solely by the Developer, and TxDOT is relying on the Developer for the completeness and truth of such information and facts without independent investigation. Figures concerning eligible project costs, ineligible costs, capital costs, and sources and uses of funds are estimates only, which will be refined by the Developer. The financing structure proposed, and opinions and views stated on credit strength, are those of the Developer and not TxDOT. The foregoing supersedes anything to the contrary in this letter of interest.

2. Overall Organizational Structure:

The Project will be developed through a public-private partnership memorialized by a Facility Agreement between TxDOT and the Developer, as detailed below. TxDOT and the Developer will enter into a Change Order that will authorize the Developer to deliver, operate and maintain the Facility Extension, on complete terms that will be set forth in an amendment



and restatement of the Facility Agreement already in effect for Segments 3A and 3B. TxDOT and the Developer also will enter into separate Change Orders to deliver, operate and maintain the Downtown Concurrent Flow and I-30 Direct Connector, the construction of which has already been authorized by directive letters between TxDOT and the Developer. Due to the fact that the Change Order for the Facility Extension has not been signed, TxDOT is taking responsibility for applying for the TIFIA loan and supports the Developer’s pursuit of such TIFIA loan.

TxDOT is a state agency created in 1917 as the “Texas Highway Department” by act of the Texas Legislature to administer federal funds for highway construction and maintenance. In 1991, the Legislature combined the State Department of Highways and Public Transportation, the Department of Aviation, and the Texas Motor Vehicle Commission to create TxDOT. TxDOT is headquartered in Austin, Texas, with 25 district offices and 27 divisions/offices located throughout Texas. Each district is responsible for the planning, design, construction, maintenance, and operation of its area’s transportation systems. TxDOT is managed by an Executive Director, who is subject to and under the direction of the Commission, which is the governing body of TxDOT and is composed of five commissioners appointed by the Governor of the State of Texas with the advice and consent of the State Senate. TxDOT will oversee the Developer’s work through a diverse and capable project team that includes advisors with high-level expertise with tolling, innovative finance, procurement, and project management.

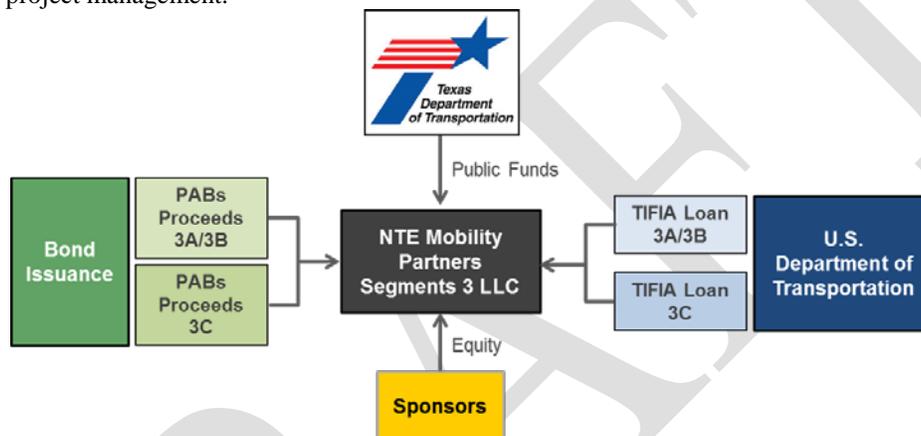


Figure 4 - Overall Project Delivery Org. Structure

As mentioned above, the Project delivery structure will be in the form of a public-private partnership agreement between the Developer and TxDOT. The Developer will be responsible for designing, building, financing, operating, and maintaining the Project over the concession term. TxDOT will retain ownership and oversight of the asset. The equity members, Cintra, Meridiam, and APG, will provide the private equity to be invested in conjunction with the debt.

Cintra is one of the world’s largest transportation infrastructure developers with a record of raising \$3.3 billion of debt financing and committing \$800 million in equity for Texas demand risk P3 projects in the past seven years, brings 49 years of O&M experience and best practices from 27 current concessions contracts. With over \$22 billion total global investment in roadway improvements, Cintra is a leading operator whose investment track record will benefit the Project. Cintra is the highways concession division of Ferrovial, S.A. (“Ferrovial”), the world’s leading private investor in transportation infrastructure, with a workforce of approximately 94,000 and operations in more than 15 countries. Ferrovial is listed on the Madrid Stock Exchange and is included on the Dow Jones Sustainability, FTSE4Good and Ethibel indices. Ferrovial has two BBB (stable outlook) ratings from S&P and Fitch. In North America, Cintra has committed more than \$1.8 billion of equity and manages \$10.6 billion of direct private investment. Cintra has participated in most of the transportation P3 procurements in North America since the introduction of the concept in the early 2000s and Cintra’s operations currently include some of North America’s larger P3 projects.

Meridiam is a leading equity investor, developer, manager and long-term partner in design, build, finance, operate and maintain projects in North America and Europe. The interests of Meridiam’s investor base align with the long-term interests of TxDOT because Meridiam is committed to long-term performance of the project to deliver long term returns for its investor base of mainly pension and life insurance companies. Meridiam is one of the first investment groups to go to market with a 25-year investment horizon. Globally, Meridiam has approximately \$5.7 billion assets under management, which mobilizes in excess of \$50 billion in capital expenditures in P3 social and transportation projects. Since 2005 Meridiam and its affiliates have successfully financed 56 projects globally including three U.S. revenue risk projects (NTE



1 and 2, NTE 35W, and LBJ Express) and two other European projects in partnership with Cintra. Meridiam has developed and reached financial close on seven transportation infrastructure projects in North America and an additional 15 transportation projects across Europe. Meridiam is currently leading high profile projects such as the financing of the LaGuardia Terminal Redevelopment project in New York, NY, and the Purple Line LRT project in Maryland.

APG is a financial services provider in the collective pensions market that provides pension fund administration, asset management, management support and communication services to pension funds. For these pension funds and their 4.5 million active and retired participants in the public and private sectors, APG manages pension assets totaling about \$450 billion as of March 2017. APG administers over 30% of all collective pension schemes in the Netherlands. To date, APG has invested over \$9 billion in infrastructure investments globally, including its equity investment in LBJ Express (IH 635 Managed Lanes) and NTE Segments 3A and 3B for a total of \$2.6 billion invested in the U.S.

Cintra, Meridiam and APG have recently partnered on the \$1.4 billion NTE Segments 3A and 3B project in Texas, reaching financial close in September 2013. All of these partners are willing to contribute additional equity for the development of Segment 3C as a Facility Extension of this contract.

The same entity previously formed the Developer equity members for LBJ Express, while Cintra and Meridiam also partnered for NTE Segments 1 and 2W, all of them in the Dallas-region (Texas). The \$2 billion NTE Segments 1 and 2W project achieved financial close in December 2009 and was the only revenue-risk toll road financed in the U.S. during 2009. The \$2.6 billion LBJ Express project reached financial close in June 2010 and was the only revenue-risk toll road project financed in the U.S. during 2010. The team's experience, position, ingenuity and structure allowed them to complete these transactions during one of the most challenging periods in the financial markets in recent memory. More recently, a Cintra/Meridiam team reached commercial close and is currently working on the financial close for the \$3.5 billion I-66 Express Lanes project in Virginia,

The Developer will subcontract design and construction work to an existing entity composed of Ferrovia Agromán, S.A. (Ferrovia Agromán), and W.W. Webber, LLC (Webber) (hereinafter referred to as the DBJV). The DBJV is currently constructing Segment 3A. Louis Berger, DCE, LLC (Louis Berger) will serve as lead design engineer for the DBJV while Austin Bridge & Road will act as the pavement subcontractor and supplier for the Project.

Ferrovia Agromán is a world-leading construction company with a presence in more than 20 countries, 12,500 employees and a design-build value greater than \$10 billion. Ferrovia has 87 years and approximately 2,800 miles of experience in design-build highway construction, often teamed with its affiliate company, Cintra.

Webber is a leading Texas construction company with over 50 years of experience that includes some of TxDOT's largest projects. The firm employs 2,000 Texans and has constructed over 35 miles of toll roads and 750 miles of new highways. Over the years, Webber has participated in the construction of more than 1,600 state's roadway projects.

3. If applicable, detail how the project meets the FAST Act's definition of a rural infrastructure project (a surface transportation infrastructure project with eligible project costs greater than \$10,000,000, but not to exceed \$100,000,000, and located in an area that is outside of an urbanized area with a population greater than 150,000 individuals, as determined by the Bureau of the Census.):

Not applicable.

4. What entity (i.e., public-sector agency/authority or private-sector company) will serve as the applicant?

Texas Department of Transportation.

5. Will the applicant and the borrower be the same entity? Who are the members of the project team?

The applicant will be TxDOT and the borrower will be NTEMP3. For members of the project team, please see Section E.2 above.



6. Project Website or Applicant/Borrower Website:

- TxDOT website:
<http://www.txdot.org/>
- TxDOT General Information on NTE Project:
<http://www.txdot.gov/inside-txdot/projects/studies/fort-worth/north-tarrant-express.html>
- Project Website (currently covers NTE Segments 1, 2W 3A and 3B):
<http://www.northtarrantexpress.com/>

F) Other Information.

Briefly discuss any other issues that may affect the development and financing of the project, such as community support, pending legislation or litigation:

TxDOT does not anticipate any issues affecting the development and financing of the project. In addition to local stakeholder support of the project, I-35W North Tarrant Express (including Segments 3A, 3B and 3C) was also listed as a top priority in the MY 35 Plan, a grass-roots planning effort for the I-35 corridor in Texas led by citizens' committees. As part of the MY 35 planning effort, public planning workshops were held in September 2010 to gather input from the public on projects and solutions proposed by the regional citizen-led committee to address current and future traffic demand in the I-35 corridor. Based on this input, the regional committee recommended the I-35W North Tarrant Express project to the Corridor Advisory Committee for consideration in the MY 35 Plan. The project was then recommended by the I-35 Corridor Advisory Committee in the MY 35 Plan as one of the top two roadway projects for implementation within the next 5 to 10 years in this region. A preliminary draft of the MY 35 Plan has been posted at www.MY35.org.

The joint efforts of the stakeholder groups, as well as participation by the general public during the public involvement process and the MY 35 planning process ensure that the Project has the full support of the local and regional stakeholders and the community.

G) Inclusion in Transportation Plans and Programs.

Is the project consistent with the State Transportation Plan and, if applicable, the metropolitan plan?

No Yes Not applicable

Please briefly elaborate: The Facility Extension is an integral component of the transportation network shown in Mobility 2030, the NCTCOG/RTC's Metropolitan Transportation Plan for the Dallas-Fort Worth Area.

H) Readiness to Apply.

Is the project prepared to submit an application within a short timeframe after receiving an invitation from DOT?

No Yes Unsure

Yes, TxDOT is prepared to submit an application for TIFIA assistance immediately upon request. The Project will follow a strict, accelerated schedule which plans on commencing construction by November 2017.

What factors could impact this timetable or the applicant's ability to provide all required information?

TxDOT does not anticipate any potential factors that could impact its ability to provide any information to TIFIA. TxDOT is informed that the Developer has the necessary information readily available to enable TxDOT to complete a full TIFIA application.



TxDOT and the Developer are currently in negotiations to enter into a binding Change Order Agreement that will establish all the terms and conditions for entering into the Change Order and amended and restated Facility Agreement for the Facility Extension. The Change Order Agreement will set forth all conditions precedent to commercial and financial close, as well as the commercial terms pertaining to incorporation of the Facility Extension into the Facility Agreement. Execution and delivery of the amended and restated Facility Agreement and Change Order (i.e. commercial close) will occur shortly before the scheduled date for financial close, assuming the conditions precedent are satisfied.

I) Additional Information.

Please provide any other additional information necessary:

Not applicable

J) Key Contact Person.

Identify a key contact person with whom all communication should flow:

Name: To be Determined

Title: To be Determined

Street Address: To be Determined

City/State: To be Determined *Phone:* To be Determined

Fax: To be Determined

E-mail: To be Determined

K) Additional information requested.

DUNS:

Project Location:

State: Texas

County: Tarrant and Denton

City: Fort Worth

Congressional Districts Impacted by the Project: Districts 12th & 26th U.S. Congressional Districts

Type of Jurisdiction (e.g., rural, urban): Urban



Fiscal Year 2016 Letter of Interest Form

Fees. The increased demand on TIFIA's resources has led to the discontinuation of the practice of advancing the entire cost of financial and legal advisors engaged to assist DOT in determining a projects creditworthiness and overall eligibility and having those costs reimbursed to DOT after execution of a credit agreement. As such, upon request, project sponsors must pay fees in the amount of \$100,000 before DOT hires financial and/or legal advisors as part of the Letter of Interest review process. These fees are due upon request. Additional fees will be charged after the credit instrument is executed, including additional amounts required to fully cover TIFIA's financial and legal advisory services costs in connection with the evaluation and negotiation of the terms of TIFIA credit assistance for the project. For projects that enter credit negotiations, the undersigned further certifies a transaction fee will be paid at closing or, in the event no final credit agreement is reached, upon invoicing by the DOT, in the amount equal to the actual costs incurred by the DOT in procuring the assistance of outside financial advisors and legal counsel. This fee is due whether or not the loan closes.

Debarment. The undersigned certifies that it is not currently, nor has it been in the preceding three years: 1) debarred, suspended or declared ineligible from participating in any Federal program; 2) formally proposed for debarment, with a final determination still pending; 3) voluntarily excluded from participation in a Federal transaction; or 4) indicted, convicted, or had a civil judgment rendered against it for any of the offenses listed in the Regulations Governing Debarment and Suspension (Governmentwide Nonprocurement Debarment & Suspension Regulations: 49 C.F.R. Part 29).

Default/Delinquency. The undersigned further certifies that neither it nor any of its subsidiaries or affiliates are currently in default or delinquent on any debt or loans provided or guaranteed by the Federal Government.

DRAFT

Appendix B. Benefit Cost Analysis



I-35 North Tarrant Express “Ultimate” Benefit Cost Analysis

November 2017

Executive Summary

The Benefit-Cost Analysis conducted for this grant application compares the costs associated with the proposed investment to the benefits of the project. To the extent possible, benefits have been monetized. Where it was not possible to assign a dollar value to a benefit, efforts have been made to quantify it. A qualitative discussion is also provided when a benefit is anticipated to be generated but is not easily monetized or quantified.

Running on a south-north axis through the heart of Fort Worth, Texas and the Alliance, Texas, Global Logistics Hub, is Interstate Highway 35W (I-35W). This highway is heavily worn and is characterized by significant traffic volumes. As a major commerce corridor, I-35W plays a significant role in connecting supply chains for many industries to support regional, national and global freight movements. Of particularly importance, I-35W is a direct route from Mexico to Canada and has excellent connections to Interstate Highways 20, 30 and 40.



Figure 1: North Tarrant Express Highway Construction Project

I-35W serves as the lifeline for the entire Dallas-Fort Worth-Arlington Census-designated Urbanized Area, connecting one of the world's largest inland ports with major employers, communities and other transportation systems, including rail and air.

In 2015, the Dallas-Fort Worth-Arlington region was considered the eighth largest export market in the United States with approximately \$27.4 billion in total merchandise exports, much of which utilizes I-35W. Further, the Houston, El Paso and San Antonio Metropolitan areas rank 1st, 11th and 21st, respectively, and rely on the fluidity and efficiency of freight movement in the DFW area to support the integrity of regional supply chains. Operational aspects of I-35W in the DFW Metroplex directly affect the competitive posture of businesses in the DFW market area and other Texas metropolitan areas which require efficient, reliable and safe highways.

The aim of the I-35 North Tarrant Express “Ultimate” project is to improve access to employment and other opportunities for the Fort Worth community. The Texas Department of Transportation (TxDOT) seeks \$83 million in INFRA grant funding to advance unfunded construction elements of particular importance to stakeholders along the I-35W corridor.

A table summarizing the changes expected from the project, and the associated benefits, is provided below in **Table ES-1** with both monetized and non-monetized benefits.

In addition to benefits that can be monetized and quantified, a number of qualitative benefits are also likely to be generated by this improvement. The Mark IV Parkway interchange bridge is currently at the end of its lifespan and reconstructing the bridge will bring it to a state of good repair.

The period of analysis used in the monetization of benefits and costs corresponds to 35 years, including 4 years of construction and 30 years of operation. The total project capital costs are \$795.4 million dollars and are expected to be financed by Federal, State, and regional funds according to the distribution shown in **Table ES-2**. Incremental operations and maintenance costs are expected to be negligible since the infrastructure will be brought to a state of good repair. Operations and maintenance costs shown are for the project in the build case, and excluded from the BCA.

A summary of the relevant data and calculations used to derive the monetized benefits and costs of the project are shown in **Tables ES-3, ES-4**, (in dollars of 2016) and **ES-5**. Based on the analysis presented in the rest of this document, the project is expected to generate \$678.7 million in discounted benefits and \$559.0 million in discounted costs, using a 7 percent real discount rate. Therefore, the project is expected to generate a Net Present Value of \$119.8 million and a Benefit/Cost Ratio of 1.21.

Table ES-1: Merit Criteria and Cost-Effectiveness - Summary of Infrastructure Improvements and Associated Benefits, 2016 Dollars Discounted at 7%

Current Status or Baseline & Problems to be Addressed	Changes to Baseline / Alternatives	Type of Impacts	Economic Benefit	Summary of Results (7%)	Page Reference
Currently, the I-35W NTE has highway infrastructure with several design and operational deficiencies, which result in unsafe driving conditions. In addition, projected traffic growth will result in an additional 26,000 hours of traffic delays annually by 2040.	Increased connectivity to businesses and jobs through installation of U-turn bridges and frontage roads. In addition, the reconstruction of Mark IV interchange bridge to extent lifespan to a state of good repair and plan for a future park & ride site.	Reduced Travel Time Costs from increases in average traffic speed	Reduced Travel Time Costs	\$560,712,456	Pg. 11
		Avoided Emission Costs from increases in average traffic speed	Avoided Emission Costs	\$1,273,454	Pg. 16
		Reduced Non-Fuel Vehicle Operating Costs from reduced vehicle miles travelled	Reduced Vehicle Operating Costs	\$0	Pg. 13
		Reduced Fuel Vehicle Operating Costs from increases in average traffic speed		\$11,828,146	Pg. 13
		Avoided Accident Costs from improving traffic connectivity through the installation of U-turn bridges	Avoided Accident Cost Savings	\$104,930,004	Pg. 20
		Bring Mark IV Parkway interchange bridge to a state of good repair	Reliability	N/A	Pg. 23
		Encourage development of vacant quadrant at I-35/I-820 interchange through ease of access from highway infrastructure	Improved Connectivity	N/A	Pg. 23

Table ES-2: Summary of Project Costs and Anticipated Funding Sources, in Undiscounted 2016 Dollars

Funding Source	Capital Costs	Operation & Maintenance Costs*	Total Project Cost	Percent of Total Cost Financed by Source
Federal	\$333,700,000		\$333,700,000	32%
State	\$238,600,000		\$238,600,000	23%
Local			\$0	0%
Private	\$223,100,000	\$254,149,718	\$477,249,718	45%
TOTAL	\$795,400,000	\$254,149,718	\$1,049,549,718	100%

*Note: Operations and Maintenance Costs to be funded by design build concessionaire. O&M shown is for the build case.

Table ES-3: Summary of Pertinent Data, Quantifiable Benefits and Costs

Calendar Year	Project Year	Total Benefits	Total Costs	Undiscounted Net Benefits	Discounted Total Benefits (7%)	Discounted Total Costs (7%)	Discounted Net Benefits (7%)
2017	1	-	\$5,222,541	-\$5,222,541	-	\$4,880,879	-\$4,880,879
2018	2	-	\$171,863,823	-\$171,863,823	-	\$150,112,519	-\$150,112,519
2019	3	-	\$162,870,703	-\$162,870,703	-	\$132,951,009	-\$132,951,009
2020	4	-	\$163,003,492	-\$163,003,492	-	\$124,354,584	-\$124,354,584
2021	5	-	\$169,238,057	-\$169,238,057	-	\$120,664,396	-\$120,664,396
2022	6	\$31,590,745	-	\$31,590,745	\$21,050,248	-	\$21,050,248
2023	7	\$36,860,000	-	\$36,860,000	\$22,954,555	-	\$22,954,555
2024	8	\$41,920,340	-	\$41,920,340	\$24,398,020	-	\$24,398,020
2025	9	\$46,996,812	-	\$46,996,812	\$25,563,152	-	\$25,563,152
2026	10	\$52,074,125	-	\$52,074,125	\$26,471,845	-	\$26,471,845
2027	11	\$57,148,196	-	\$57,148,196	\$27,150,696	-	\$27,150,696
2028	12	\$62,225,979	-	\$62,225,979	\$27,629,079	-	\$27,629,079
2029	13	\$67,303,266	-	\$67,303,266	\$27,928,463	-	\$27,928,463
2030	14	\$72,381,439	-	\$72,381,439	\$28,070,770	-	\$28,070,770
2031	15	\$77,459,872	-	\$77,459,872	\$28,075,022	-	\$28,075,022
2032	16	\$82,548,901	-	\$82,548,901	\$27,962,169	-	\$27,962,169
2033	17	\$87,628,365	-	\$87,628,365	\$27,740,896	-	\$27,740,896
2034	18	\$92,708,091	-	\$92,708,091	\$27,428,979	-	\$27,428,979
2035	19	\$97,788,078	-	\$97,788,078	\$27,039,219	-	\$27,039,219

Calendar Year	Project Year	Total Benefits	Total Costs	Undiscounted Net Benefits	Discounted Total Benefits (7%)	Discounted Total Costs (7%)	Discounted Net Benefits (7%)
2036	20	\$102,864,394	-	\$102,864,394	\$26,582,114	-	\$26,582,114
2037	21	\$107,944,852	-	\$107,944,852	\$26,070,094	-	\$26,070,094
2038	22	\$113,025,571	\$41,066,667	\$71,958,904	\$25,511,359	\$9,269,287	\$16,242,072
2039	23	\$118,106,552	\$41,066,667	\$77,039,885	\$24,914,209	\$8,662,885	\$16,251,324
2040	24	\$123,187,794	\$41,066,667	\$82,121,127	\$24,286,057	\$8,096,155	\$16,189,903
2041	25	\$123,189,994	-	\$123,189,994	\$22,697,655	-	\$22,697,655
2042	26	\$123,189,994	-	\$123,189,994	\$21,212,762	-	\$21,212,762
2043	27	\$121,884,788	-	\$121,884,788	\$19,614,964	-	\$19,614,964
2044	28	\$123,194,394	-	\$123,194,394	\$18,528,709	-	\$18,528,709
2045	29	\$123,196,594	-	\$123,196,594	\$17,316,860	-	\$17,316,860
2046	30	\$123,198,794	-	\$123,198,794	\$16,184,270	-	\$16,184,270
2047	31	\$123,200,994	-	\$123,200,994	\$15,125,756	-	\$15,125,756
2048	32	\$123,203,194	-	\$123,203,194	\$14,136,473	-	\$14,136,473
2049	33	\$123,205,394	-	\$123,205,394	\$13,211,893	-	\$13,211,893
2050	34	\$123,207,594	-	\$123,207,594	\$12,347,784	-	\$12,347,784
2051	35	\$123,207,594	-	\$123,207,594	\$11,539,985	-	\$11,539,985
Total		\$2,825,642,705	\$795,398,617	\$2,030,244,088	\$678,744,060	\$558,991,714	\$119,752,345

Table ES-4: Summary of Project Benefits by Benefit Type, in Undiscounted 2016 Dollars

Calendar Year	Project Year	Reduced Travel Time Costs	Reduced Vehicle Operating Costs	Reduced Emission Costs	Avoided Accident Costs
2017	1	-	-	-	-
2018	2	-	-	-	-
2019	3	-	-	-	-
2020	4	-	-	-	-
2021	5	-	-	-	-
2022	6	\$21,957,588	-\$93,968	-\$9,136	\$9,736,262
2023	7	\$26,633,264	\$220,937	\$29,800	\$9,975,998
2024	8	\$31,308,941	\$354,285	\$41,380	\$10,215,734
2025	9	\$35,984,617	\$501,706	\$55,018	\$10,455,471
2026	10	\$40,660,293	\$649,844	\$68,781	\$10,695,207
2027	11	\$45,335,970	\$794,616	\$82,667	\$10,934,943
2028	12	\$50,011,646	\$942,709	\$96,944	\$11,174,680
2029	13	\$54,687,323	\$1,090,803	\$110,725	\$11,414,416
2030	14	\$59,362,999	\$1,238,896	\$125,392	\$11,654,152
2031	15	\$64,038,675	\$1,386,989	\$140,319	\$11,893,889
2032	16	\$68,714,352	\$1,544,195	\$156,730	\$12,133,625
2033	17	\$73,390,028	\$1,692,724	\$172,251	\$12,373,361
2034	18	\$78,065,705	\$1,841,254	\$188,034	\$12,613,098
2035	19	\$82,741,381	\$1,989,784	\$204,079	\$12,852,834
2036	20	\$87,417,058	\$2,134,480	\$220,286	\$13,092,570
2037	21	\$92,092,734	\$2,282,965	\$236,846	\$13,332,307
2038	22	\$96,768,410	\$2,431,449	\$253,669	\$13,572,043
2039	23	\$101,444,087	\$2,579,934	\$270,752	\$13,811,779
2040	24	\$106,119,763	\$2,728,418	\$288,097	\$14,051,516
2041	25	\$106,119,763	\$2,728,418	\$290,297	\$14,051,516
2042	26	\$106,119,763	\$2,728,418	\$290,297	\$14,051,516

Calendar Year	Project Year	Reduced Travel Time Costs	Reduced Vehicle Operating Costs	Reduced Emission Costs	Avoided Accident Costs
2043	27	\$106,119,763	\$1,426,653	\$286,857	\$14,051,516
2044	28	\$106,119,763	\$2,728,418	\$294,697	\$14,051,516
2045	29	\$106,119,763	\$2,728,418	\$296,897	\$14,051,516
2046	30	\$106,119,763	\$2,728,418	\$299,097	\$14,051,516
2047	31	\$106,119,763	\$2,728,418	\$301,297	\$14,051,516
2048	32	\$106,119,763	\$2,728,418	\$303,497	\$14,051,516
2049	33	\$106,119,763	\$2,728,418	\$305,697	\$14,051,516
2050	34	\$106,119,763	\$2,728,418	\$307,897	\$14,051,516
2051	35	\$106,119,763	\$2,728,418	\$307,897	\$14,051,516
Total		\$2,384,052,228	\$55,022,858	\$6,017,065	\$380,550,554

In addition to the monetized benefits presented in **Table ES-4**, the project would generate other benefits that are difficult to monetize. These benefits are presented below, as qualitative benefits of the project.

- **Improved Connectivity:** The I-35 North Tarrant Express “Ultimate” project will improve access to current and future jobs in the region through the installation of U-turn bridges, additional frontage roads. These features will reduce intersection congestion, encourage development of land, and provide improved access to the rapidly growing developments on either side of the I-35W.
- **Restoring Good Condition of Infrastructure:** The Mark IV interchange bridge is over 50 years old and past its useful life. Reconstruction will restore the bridge to a state of good repair. In addition, a U-turn bridge will be added to improve access to the interstate and spur development in the currently vacant northwest quadrant.

Table ES-5: Summary of Pertinent Quantifiable Data

Calendar Year	Project Year	Person Hours Saved	Gasoline Consumption Avoided	Diesel Consumption Avoided	Accidents Avoided	Fatalities Avoided	Injuries Avoided	Damaged Vehicles Avoided
2017	1	-	-	-	-	-	-	-
2018	2	-	-	-	-	-	-	-
2019	3	-	-	-	-	-	-	-
2020	4	-	-	-	-	-	-	-
2021	5	-	-	-	-	-	-	-
2022	6	1,483,481	-27,402	-19,737	64	0.6	32.5	80
2023	7	1,799,375	95,512	19,053	66	0.6	33.3	82
2024	8	2,115,270	155,009	28,925	67	0.6	34.1	84
2025	9	2,431,164	220,697	39,916	69	0.6	34.9	86
2026	10	2,747,058	287,031	50,673	70	0.7	35.7	88
2027	11	3,062,953	351,159	61,800	72	0.7	36.5	90
2028	12	3,378,847	417,463	72,562	74	0.7	37.3	92
2029	13	3,694,742	483,768	83,324	75	0.7	38.1	94
2030	14	4,010,636	550,073	94,086	77	0.7	38.9	96
2031	15	4,326,530	616,378	104,848	78	0.7	39.7	98
2032	16	4,642,425	686,852	116,193	80	0.8	40.5	100
2033	17	4,958,319	753,356	126,983	81	0.8	41.3	102
2034	18	5,274,213	819,861	137,773	83	0.8	42.1	104
2035	19	5,590,108	886,365	148,563	85	0.8	42.9	106
2036	20	5,906,002	950,402	159,735	86	0.8	43.7	108
2037	21	6,221,896	1,016,877	170,530	88	0.8	44.5	110
2038	22	6,537,791	1,083,352	181,324	89	0.8	45.3	112
2039	23	6,853,685	1,149,828	192,118	91	0.9	46.1	114
2040	24	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2041	25	7,169,579	1,216,303	202,913	93	0.9	46.9	116

Calendar Year	Project Year	Person Hours Saved	Gasoline Consumption Avoided	Diesel Consumption Avoided	Accidents Avoided	Fatalities Avoided	Injuries Avoided	Damaged Vehicles Avoided
2042	26	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2043	27	7,169,579	646,791	96,595	93	0.9	46.9	116
2044	28	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2045	29	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2046	30	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2047	31	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2048	32	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2049	33	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2050	34	7,169,579	1,216,303	202,913	93	0.9	46.9	116
2051	35	7,169,579	1,216,303	202,913	93	0.9	46.9	116
Total		161,069,446	24,522,708	4,097,304	2,506	23.6	1,269.6	3,143

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1 Introduction

This document provides detailed technical information on the economic analyses conducted in support of the Grant Application for the I-35 North Tarrant Express “Ultimate” project.

Section 3, Methodological Framework, introduces the conceptual framework used in the Benefit-Cost Analysis. To the extent possible, and as recommended in the Notice of Funding Opportunity (NOFO), monetized benefits and costs are estimated through a Benefit-Cost Analysis (BCA) framework, which is described in this section. Section 4, Project Overview, provides an overview of the project, including a brief description of existing conditions and proposed alternatives; a summary of cost estimates and schedule; and a description of the types of effects that the I-35 North Tarrant Express “Ultimate” is expected to generate. Monetized, quantified, and qualitative effects are highlighted. Section 5, General Assumptions, discusses the general assumptions used in the estimation of project costs and benefits, while estimates of travel demand and traffic growth can be found in Section 6, Demand Projections. Specific data elements and assumptions pertaining to the merit criteria are presented in Section 7, Estimation of Economic Benefits, along with associated benefit estimates. Estimates of the project’s Net Present Value (NPV), its Benefit/Cost ratio (BCR) and other project evaluation metrics are introduced in Section 8, Summary of Findings and BCA Outcomes. Additional data tables are provided in Section 9, Aggregate Annual Benefits and Costs, including annual estimates of benefits and costs to assist DOT in its review of the application.¹

2 Methodological Framework

The Benefit-Cost Analysis (BCA) conducted for this project includes the monetized benefits and costs measured using USDOT guidance on this area, as well as the quantitative and qualitative merits of the project. A BCA provides estimates of the anticipated benefits that are expected to accrue from a project over a specified period and compares them to the anticipated costs of the project. Costs include both the resources required to develop the project and the costs of maintaining the new or improved asset over time. Estimated benefits are based on the projected impacts of the project on both users and non-users of the facility, valued in monetary terms.²

¹ While the models and software themselves do not accompany this appendix, they are provided separately as part of the application.

² USDOT, Benefit-Cost Analysis Guidance for TIGER and INERA Applications
I-35 North Tarrant Express MRA BCA - Appendix B

While BCA is just one of many tools that can be used in making decisions about infrastructure investments, USDOT believes that it provides a useful benchmark from which to evaluate and compare potential transportation investments.³

The specific methodology developed for this application was developed using the BCA guidance developed by USDOT and is consistent with the INFRA program guidelines. In particular, the methodology involves:

- Establishing existing and future conditions under the build and no-build scenarios;
- Assessing benefits that align with those identified in the INFRA BCA guidance;
- Measuring benefits in dollar terms, whenever possible, and expressing benefits and costs in a common unit of measurement;
- Using DOT guidance for the valuation of travel time savings, safety benefits and reductions in air emissions, while relying on industry best practice for the valuation of other effects; and
- Discounting future benefits and costs with the real discount rates recommended by the DOT (7 percent, and 3 percent for sensitivity analysis).

3 Project Overview

The Interstate Highway 35W North Tarrant Express (NTE) Project is located within the Dallas-Fort Worth-Arlington Census Metropolitan Statistical Area commonly referred to as the Dallas/Fort Worth Metroplex. The highway is heavily worn and is characterized by significant traffic volumes, including trucks. As a major commerce corridor, I-35W plays a significant role in connecting supply chains for many industries to support regional, national and global freight movements. Of particularly importance, I-35W is a direct route from Mexico to Canada and has excellent connections to Interstate Highways 20, 30 and 40.

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 location is the Alliance Global Logistics Hub, the nation's fastest-growing industrial complex. The Alliance Global Logistics Hub is one of only two intermodal logistics facilities connecting air, road and rail in Texas. The Hub includes the Alliance Airport (the world's first industrial airport), BNSF Alliance Intermodal Facility, Union Pacific and BNSF Class-1 rail lines, and the FedEx Southwest Regional Sort Hub. Operations at the Hub contributed \$10.9 billion to the Texas economy in 2015 alone, with employment nearing 67,000.

³ Idem.

This project will enhance the NTE corridor from between the Alliance Airport and the interchange with Interstate Highway 820, providing improvements for the freight network as well as residential neighborhoods and communities in the Dallas/Fort Worth Metroplex. Upgrades will be applied to key intersections designed to improve accessibility while reducing travel times.

The Texas Department of Transportation (TxDOT) seeks \$83 million in Nationally Significant Freight and Highway Projects (INFRA) grant funding to connect the overall Fort Worth community to the massive multi-industrial economic engine in the region, advancing unfunded construction elements of particular importance to stakeholders along the I-35W corridor. These projects are “shovel-ready” and will greatly enhance the ability to revitalize, connect and provide work in the region.

Base Case and Alternatives

The base case, also referenced as the “no build” case, is defined as maintaining the status quo on the I-35. None of the proposed construction occurs in the no build scenario, and the Mark IV Interchange Bridge is repaired as needed to maintain its operational status.

In the build scenario, improvements are made along the I-35W to gain its “Ultimate” status. This involves three U-turn bridges constructed at intersections with North Tarrant Parkway, Heritage Trace Parkway and SH-170. In addition, a frontage road will be constructed in the northwest quadrant of the I-35W and I-820 interchange, improving connectivity and access to the vacant area. The I-35W and I-820 interchange will also have the Mark IV interchange bridge reconstructed to bring the bridge into a state of good repair. Incremental operations and maintenance costs are expected to be negligible due to higher expected costs in the no build case. Traffic is expected to grow at the same rate as in the no build scenario, though speeds are expected to increase as referenced in the demand projection section below.

Types of Impacts

The I-35 North Tarrant Express “Ultimate” project is expected to have significant impacts in travel time savings and accident cost savings. The construction of the “Ultimate” facilities will allow traffic to avoid congested intersections and improve connectivity on both sides of the I-35W, significantly reducing the vehicle hours spent travelling. Over the lifecycle of the analysis, the project will save an estimated 161.1 million person hours. Vehicle operating costs will diminish from the increases in average speeds reducing gasoline and diesel consumption. A total of 28.6 million gallons of gasoline and diesel will be saved as a result of the project. Avoided emissions will be realized as vehicle speeds increase throughout the duration of the project lifecycle. Accident cost savings will result from diverting traffic away

from congested intersections, where a significant number of crashes occur. Crash modification factors suggest accidents will diminish by 60% at locations where a U-turn bridge is constructed.

Project Cost and Schedule⁴

The project will cost \$795.4 million in 2016 dollars. The majority of those funds, \$681 million are allocated for construction, and another \$157.8 million is allocated for project support costs. Construction is expected to begin in 2018 and will take four years, resulting in the project opening in 2022. Additional construction of pavement and bridges will take place between 2038 and 2040. **Table ES-2** outlines the distribution of spending between involved parties. Operations and maintenance expenditures shown are costs incurred in the build case, and excluded from the BCA. Incremental operations and maintenance costs are assumed to be negligible due to higher incurred costs of repairs for infrastructure in the no build case.

Table 1: Cost Summary Table, 2016 Dollars

Calendar Year	Capital Expenditures	O&M Expenditures
2017	\$5,222,541	\$894,732
2018	\$171,863,823	\$1,807,387
2019	\$162,870,703	\$2,068,847
2020	\$163,003,492	\$2,285,762
2021	\$169,238,057	\$1,512,980
2022	-	\$3,613,509
2023	-	\$4,191,726
2024	-	\$4,418,680
2025	-	\$4,623,771
2026	-	\$4,918,546
2027	-	\$4,979,769
2028	-	\$5,043,972
2029	-	\$5,755,004
2030	-	\$6,866,782

⁴ All cost estimates in this section are in undiscounted 2016 dollars. FRA BCA - Appendix B

Calendar Year	Capital Expenditures	O&M Expenditures
2031	-	\$9,816,965
2032	-	\$9,630,246
2033	-	\$7,496,456
2034	-	\$6,409,389
2035	-	\$6,633,758
2036	-	\$6,653,743
2037	-	\$7,339,272
2038	\$41,066,667	\$6,666,755
2039	\$41,066,667	\$9,880,065
2040	\$41,066,667	\$9,192,897
2041	-	\$13,513,441
2042	-	\$13,109,632
2043	-	\$8,727,214
2044	-	\$8,879,616
2045	-	\$7,430,165
2046	-	\$8,149,268
2047	-	\$8,801,035
2048	-	\$10,904,375
2049	-	\$10,201,246
2050	-	\$7,516,271
2051	-	\$13,659,699
Total		

INFRA Merit Criteria

The main benefit categories associated with the project are identified in **Table 2** below and align with Criterion #1 (Support for National or Regional Economic Vitality) as stated in the INFRA program's NOFO.

Table 2: Expected Effects on Benefit Categories

Benefit or Impact Categories	Description	Monetized	Quantified	Qualitative
Travel Time Savings	Reduced Vehicle Hours travelled from avoiding delays at intersection	Yes	-	-
Avoided Emission Cost Savings	Avoided emissions from reduced vehicle miles travelled and increases in average traffic speed	Yes	-	-
Vehicle Operating Cost Savings	Reduced fuel consumption from decreases in vehicle miles travelled and increases in speed	Yes	-	-
Vehicle Operating Cost Savings	Reduced non-fuel operating costs due to decrease in vehicle miles travelled	Yes	-	-
Accident Cost Savings	Reduced accident costs from reducing traffic at intersections, where significant number of crashes occur	Yes	-	-
Reliability	Reconstruction of Mark IV parkway bridge to bring to a state of good repair	-	-	Yes
Improved Connectivity	Improved access to residential and business centers through construction of infrastructure	-	-	Yes

4 General Assumptions

The BCA measures benefits against costs throughout a period of analysis beginning at the start of construction and including 30 years of operations.

The monetized benefits and costs are estimated in 2016 dollars with future dollars discounted in compliance with INFRA requirements using a 7 percent real rate, and sensitivity testing at 3 percent.

The methodology makes several important assumptions and seeks to avoid overestimation of benefits and underestimation of costs. Specifically:

- Input prices are expressed in 2016 dollars;
- The period of analysis begins in 2017 and ends in 2051. It includes project development and construction years (2018 - 2021) and 30 years of operations (2022 - 2051);
- A constant 7 percent real discount rate is assumed throughout the period of analysis. A 3 percent real discount rate is used for sensitivity analysis;
- Opening year demand is an input to the BCA and is assumed to be fully realized in 2022, the first year of operations (no ramp-up); and
- Unless specified otherwise, the results shown in this document correspond to the effects of the Full Build alternative (the installation of features indicated in the build case description).

5 Demand Projections

Accurate demand projections are important to effectively estimate the benefits in a BCA. Demand projections for this project were estimated from a micro-simulation model of traffic on the I-35W, over a twenty-four hour window to evaluate the impact of installing infrastructure to create the “Ultimate” configuration. The model provided vehicle miles travelled and vehicle hours travelled, grouped into 15 different speed bins, each at a 5 mile per hour increment between 0 to 75 miles per hour.

Methodology

The micro-simulation model ran outcomes for both the no build and build case in the years 2020 and 2040. Traffic volumes were estimated for all incremental years between the base year (2020) and the forecast year (2040) by speed bin, using the results from the micro-simulation model. TxDOT also provided information on average vehicle occupancies and percentage of trucks.

Assumptions

Based on the micro-simulation data shown in **Table 3** traffic growth, measured in both vehicle miles travelled and vehicle hours travelled, was calculated and assumed to be growing annually at rates varying across different speed bins in both the build and no build case. Due to the uncertainty in years past 2040, traffic growth was assumed to be non-existent to present a conservative estimate of benefits.

Table 3: Assumptions used in the Estimation of Demand

Variable Name	Unit	Value	Source
Annual VMT Growth (2017-2040)	mi	5,075,163	Calculated based on micro-simulation model, broken out by speed bins. For breakdown see tables in section 10. VMT growth in build and no build cases identical. Assumed to be growing at a rate of 0 mi after 2040 due to uncertainty.
Annual VHT Growth - No Build (2017-2040)	hrs	318,672	Calculated based on micro-simulation model, broken out by speed bins. For breakdown see tables in section 10. Assumed to be growing at a rate of 0 hrs after 2040 due to uncertainty.
Annual VHT Growth - Build (2017-2040)	hrs	114,895	
Annual VMT Growth (2040+)	mi	0	Assumed to be constant after 2040 due to uncertainty, allowing for conservative estimate of benefits.
Annual VHT Growth (2040+)	hrs	0	
Trucks	%	8.30%	TxDOT
Passenger Vehicles	%	91.70%	

Demand Projections

Table 4 offers a brief summary of VMT and VHT throughout the project lifecycle. The project opens in 2022, at which time it is expected that nearly 1 million vehicle hours travelled can be avoided. By 2040, the project is expected to save 4.6 million vehicle hours annually. Annual demand projections by speed bin, including VMT, VHT and average speed, are shown in **Table 25** through **Table 37**.

Table 4: Demand Projections

		In Project Opening Year (2022)	2032	2042
No Build	Annual Vehicle Miles Travelled (mi)	206,114,403	256,866,028	297,467,329
	Annual Vehicle Hours Travelled (hrs)	4,200,228	7,386,946	9,936,320
	Annual Average Speed (mph)	49.07	34.77	29.94
Build	Annual Vehicle Miles Travelled (mi)	206,114,403	256,866,028	297,467,329
	Annual Vehicle Hours Travelled (hrs)	3,243,267	4,392,220	5,311,382
	Annual Average Speed (mph)	63.55	58.48	56.01

6 Estimation of Economic Benefits

Benefits Measurement, Data and Assumptions

This section describes the measurement approach used for each benefit or impact category identified in Section 4 (Types of Impacts) and provides an overview of the associated methodology, assumptions, and estimates.

List of Benefits Analyzed

The benefits assessed for the I-35 North Tarrant Express “Ultimate” project are the following:

- Travel Time Savings: captures the reduced travel time for automobiles and trucks under the build scenario as a result of improving connectivity through infrastructure which diverts traffic away from already congested intersections.

- **Vehicle Operating Cost Savings:** captures the reduced vehicle operating costs for automobiles and trucks under the build scenario as a result of reduced fuel consumption due to increases in traffic speeds.
- **Emission Cost Savings:** captures the reduced emissions from automobiles and trucks under the build scenario as a result of increases in traffic speeds.
- **Accident Cost Savings:** captures the expected reduction in accident cost savings under the build scenario as a result of allowing traffic to bypass intersections in order to reach their destination.

Methodologies Used to Estimate Benefits

Travel time savings were calculated for motorists on Interstate Highway 35. U-turn bridges will improve connectivity between the one way frontage roads on either side of the I-35, reducing travel time by allowing motorists to bypass two left hand turns to access businesses or residences on the opposite side of the highway. The decrease in vehicle hours travelled will benefit both trucks and automobiles, while increases in vehicle speeds will reduce vehicle operating costs and emissions for motorists. Accident cost savings are also realized by motorists due to improvements to the highway infrastructure.

Assumptions Used to Estimate economic benefits

The assumptions used in the estimation of economic benefits for the I-35 North Tarrant Express “Ultimate” project are summarized in the tables below.

Table 5: Assumptions used in the Estimation of Economic Benefits

Variable Name	Unit	Year	Value	Source
Discount Rate	%	2017-2051	7.00%	US DOT Guidance 2017
Days/Year	days	2017-2051	365	Known
Construction Begins	year		2018	TxDOT
Project Opens	year		2022	
Percent Trucks	%	2017-2051	8.30%	
Percent Automobiles	%	2017-2051	91.70%	

Methodologies Used to Estimate Travel Time Benefits

Travel time savings are calculated based on the vehicle hours travelled as determined by the micro-simulation model. Annual vehicle hours were broken out to truck hours and automobile hours to account for the differences in the value of time for the different types of vehicles. The vehicle hours travelled were then converted to person hours, based on the vehicle occupancy recommended in the US DOT guidance. Annual person hours were then monetized using the US DOT guidance for the value of time.

Assumptions Used to Estimate travel time benefits

In addition to the economic variables listed above, the following assumptions were used in the estimation of travel time benefits.

Table 6: Assumptions used in the Estimation of Travel Time Benefits

Variable Name	Unit	Year	Value	Source
Average Vehicle Occupancy - Auto	people/vehicle	2017-2051	1.60	TxDOT
Average Vehicle Occupancy - Truck	people/vehicle	2017-2051	1.00	Federal Highway Administration Highway Statistics 2015, Table VM1
Value of Time - Auto	\$/hr	2017-2051	14.1	Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis
Value of Time - Truck	\$/hr	2017-2051	27.2	https://www.transportation.gov/officepolicy/transportation-policy/reviseddepartmental-guidance-valuationtravel-time-economic

Travel Time Benefit Estimates

The table below shows the benefit estimates calculated over the life cycle of the project, due to a reduction in vehicle hours travelled. At a 7% discount rate, travel time benefits total \$560.7 million over the project lifecycle.

Table 7: Estimates of Travel Time Benefits, 2016 Dollars

	Over the Project Lifecycle
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	In Constant Dollars	Discounted at 7 Percent	Discounted at 3 Percent
Travel Time Benefits	\$2,384,052,228	\$560,712,456	\$1,223,312,302

Methodologies Used to Estimate Vehicle Operating Cost Benefits

Vehicle operating cost savings were broken out to fuel and non-fuel cost savings. Fuel savings were calculated based on the breakout of annual vehicle miles by truck and automobiles. Given the average speed in the build and no build cases, fuel consumption rates were applied using estimates from California. The values were then multiplied by the retail price of diesel and gasoline as provided by the EIA in the Annual Energy Outlook 2017, less taxes to determine annual fuel costs. Non-fuel costs were estimated through US DOT guidance, less fuel costs. These costs were applied to the vehicle miles travelled to capture the differences between the build and no build case.

Assumptions Used to Estimate Vehicle Operating Cost benefits

The following assumptions were used to estimate the vehicle operating cost benefits. Fuel consumption rates for speed bins are shown in **Table 38**.

Table 8: Assumptions used in the Estimation of Vehicle Operating Cost Benefits

Variable Name	Unit	Year	Value	Source
Non-Fuel Operating Cost - Auto	\$/mi	2017-2051	0.33	US DOT Guidance 2017, AAA Your Driving Costs value of \$0.40/mile less fuel costs. Fuel costs net of taxes calculated separately.
Non-Fuel Operating Cost - Truck	\$/mi	2017-2051	0.56	US DOT Guidance 2017, American Transportation Research Institute value of \$0.96/mile less fuel costs. Fuel costs net of taxes calculated separately. Value inflated from 2015 \$ to 2016 \$.
Gasoline Retail Price	2016 \$/gallon	2017	1.89	EIA Annual Energy Outlook Forecast 2017, net price of fuel less taxes. Gasoline prices are assumed constant past 2050 due to uncertainty and to allow estimates to be made conservatively.
		2018	1.85	
		2019	2.07	
		2020	2.19	
		2021	2.31	
		2022	2.42	
		2023	2.46	
		2024	2.48	

Variable Name	Unit	Year	Value	Source
		2025	2.53	
		2026	2.57	
		2027	2.58	
		2028	2.57	
		2029	2.60	
		2030	2.64	
		2031	2.69	
		2032	2.73	
		2033	2.73	
		2034	2.76	
		2035	2.78	
		2036	2.84	
		2037	2.85	
		2038	2.87	
		2039	2.91	
		2040	2.94	
		2041	2.96	
		2042	2.96	
		2043	2.98	
		2044	2.99	
2045	3.00			
2046	3.02			
2047	3.04			
2048	3.02			
2049	3.04			
2050+	3.08			
Diesel Retail Price	2016 \$/gallon	2017	2.14	EIA Annual Energy Outlook Forecast 2017, net price of fuel less taxes. Diesel prices are assumed constant past
		2018	2.41	
		2019	2.60	

Variable Name	Unit	Year	Value	Source
		2020	2.72	2050 due to uncertainty and to allow estimates to be made conservatively.
		2021	2.80	
		2022	2.91	
		2023	2.96	
		2024	3.00	
		2025	3.09	
		2026	3.14	
		2027	3.19	
		2028	3.20	
		2029	3.25	
		2030	3.31	
		2031	3.37	
		2032	3.44	
		2033	3.44	
		2034	3.49	
		2035	3.51	
		2036	3.58	
		2037	3.59	
		2038	3.61	
		2039	3.65	
		2040	3.67	
		2041	3.68	
		2042	3.68	
		2043	3.68	
		2044	3.69	
		2045	3.71	
		2046	3.73	
		2047	3.78	
		2048	3.79	

Variable Name	Unit	Year	Value	Source
		2049	3.82	
		2050+	3.86	
Gasoline Consumption	gallons/mi	2017-2051	<i>variable</i>	California Department of Transportation, determined to be comparable to project location. Gasoline consumption is dependent on speed, rounded down to the nearest mile per hour, full table for consumption as well as annual speeds are shown in section 10.
Diesel Consumption	gallons/mi	2017-2051	<i>variable</i>	

Vehicle Operating Cost Benefit Estimates

The table below shows the benefit estimates calculated over the life cycle of the project, broken out by fuel and non-fuel cost savings. Fuel cost savings were a result of increases in average speeds the project creates, while non-fuel costs remain unchanged due to no change in vehicle miles travelled. At a 7% discount rate, vehicle operating cost benefits total \$18.0 million over the project lifecycle.

Table 9: Estimates of Vehicle Operating Cost Benefits, 2016 Dollars

	Over the Project Lifecycle		
	In Constant	Discounted	Discounted
	Dollars	at 7 Percent	at 3 Percent
Fuel Cost Savings	\$85,967,803	\$17,987,457	\$42,175,842
Non Fuel Cost Savings	-	-	-
Total	\$85,967,803	\$17,987,457	\$42,175,842

Methodologies Used to Estimate Emission Benefits

Emission cost savings were calculated based on speeds in the build and no build case. These emission factors for carbon dioxide, nitrogen oxides, fine particulate matter, sulfur oxides, and volatile organic compounds were applied to the vehicle miles travelled, broken

out by automobile and truck, to determine the metric tons produced in each case. The value of each greenhouse gas was then applied based on the US DOT guidance, converted from dollars per short ton to dollars per metric ton.

Assumptions Used to Estimate Emission benefits

The following assumptions were used to estimate the emission cost benefits. Emission rates are dependent on speed. Complete assumptions regarding emission rates for automobiles by speeds are shown in **Table 39** and emission rates for trucks are shown in **Table 40**.

Table 10: Assumptions used in the Estimation of Emission Benefits

Variable Name	Unit	Year	Value	Source
Grams/Metric ton	grams/metric ton	2017-2051	1,000,000	Known
Volatile Organic Compounds (VOC)	\$/metric ton	2017-2051	2,063.53	Corporate Average Fuel Economy for MY2017-MY2025 Passenger Cars and Light Trucks (August 2012), page 922, Table VIII16, "Economic Values Used for Benefits Computations (2010 dollars)" http://www.nhtsa.gov/statisticsfiles/rulemaking/pdf/cape/FRIA_2017-2025.pdf , converted values to \$/metric ton.
Nitrogen Oxides (NOx)	\$/metric ton	2017-2051	8,131.75	
Fine Particulate Matter (PM)	\$/metric ton	2017-2051	371,984.89	
Sulfur Oxides (SOx)	\$/metric ton	2017-2051	48,060.78	
Carbon Dioxide Domestic Adjustment	%	2017-2051	24.6%	
CO2 Emission Rate - Auto	g/mi	2017-2051	<i>variable</i>	California Department of Transportation, determined to be comparable to project location. Emission rate is dependent on speed, rounded down to the nearest mile per hour. Full tables are shown in section
NOx Emission Rate - Auto	g/mi	2017-2051	<i>variable</i>	
PM Emission Rate - Auto	g/mi	2017-2051	<i>variable</i>	
SOx Emission Rate - Auto	g/mi	2017-2051	<i>variable</i>	

Variable Name	Unit	Year	Value	Source
VOC Emission Rate - Auto	g/mi	2017-2051	<i>variable</i>	10. Based on 2016 model fleet.
CO2 Emission Rate - Truck	g/mi	2017-2051	<i>variable</i>	
NOx Emission Rate - Truck	g/mi	2017-2051	<i>variable</i>	
PM Emission Rate - Truck	g/mi	2017-2051	<i>variable</i>	
SOx Emission Rate - Truck	g/mi	2017-2051	<i>variable</i>	
VOC Emission Rate - Truck	g/mi	2017-2051	<i>variable</i>	
Carbon Dioxide Price	2016 \$/ton	2017	10.98	Interagency on the Social Working Cost of Capital, 2013. Values adjusted using carbon dioxide domestic adjustment to account for domestic value only. Domestic adjustment created by taking US proportion of World GDP. Prices assumed constant past 2050 to account for benefits conservatively.
		2018	11.26	
		2019	11.54	
		2020	11.82	
		2021	11.82	
		2022	12.10	
		2023	12.38	
		2024	12.66	
		2025	12.95	
		2026	13.23	
		2027	13.51	
		2028	13.79	
		2029	13.79	
		2030	14.07	
		2031	14.35	
		2032	14.63	
2033	14.92			
2034	15.20			
2035	15.48			

Variable Name	Unit	Year	Value	Source
		2036	15.76	
		2037	16.04	
		2038	16.32	
		2039	16.60	
		2040	16.88	
		2041	17.17	
		2042	17.17	
		2043	17.45	
		2044	17.73	
		2045	18.01	
		2046	18.29	
		2047	18.57	
		2048	18.85	
		2049	19.14	
2050+	19.42			

Emission Cost Benefit Estimates

The table below shows the benefit estimates calculated over the life cycle of the project, broken out by emission type. Emission cost savings were a result of increases in average speeds. At a 7% discount rate, emission cost benefits total \$1.3 million over the project lifecycle.

Table 11: Estimates of Emission Benefits, 2016 Dollars

	Over the Project Lifecycle		
	In Constant	Discounted	Discounted
	Dollars	at 7 Percent	at 3 Percent
Carbon Dioxide (CO2)	\$2,631,451	\$507,623	\$1,252,032
Nitrogen Oxides (NOx)	\$857,780	\$182,710	\$424,539
Fine Particulate Matter (PM)	\$2,270,696	\$527,550	\$1,159,754

	Over the Project Lifecycle		
	In Constant	Discounted	Discounted
	Dollars	at 7 Percent	at 3 Percent
Sulfur Dioxide (SO2)	\$73,837	\$15,012	\$35,901
Volatile Organic Compounds (VOC)	\$183,299	\$40,559	\$91,914
Total	\$6,017,065	\$1,273,454	\$2,964,140

Methodologies Used to Estimate Accident Cost Benefits

Accident costs were estimated to be reduced in the build case as the “Ultimate” infrastructure allows traffic to avoid multiple intersections. Crash data for the I-35W at intersections with proposed improvements between 2014 and 2016 was gathered from TxDOT’s Crash Records Information System (C.R.I.S.) to calculate the crash rates per million vehicle miles in the no build case. For the build case, accident rates were calculated to have decreased through the use of crash reduction factors from the Texas Highway Safety Improvement Program Manual. The number of accidents was estimated for each case. Using the crash data, the number of fatalities and injuries were estimated based on the type of crash. These were applied to the number of accidents to create the estimated number of injuries and fatalities. These were then monetized through values provided by U.S. DOT.

Assumptions Used to Estimate Accident Cost Benefits

The following assumptions were used to estimate the accident cost benefits.

Table 12: Assumptions used in the Estimation of Accident Cost Benefits

Variable Name	Unit	Year	Value	Source
Average Fatalities per Fatal Accident	events/accident	2017-2051	1.25	Calculated based on weighted average of accidents occurring at project intersections
Average Injuries per Injury Accident	events/accident	2017-2051	1.35	
Average Injuries per Fatal Accident	events/accident	2017-2051	4.75	
Average Vehicles Damaged per PDO	events/accident	2017-2051	1.95	California Department of Transportation, TASAS Unit, 2007-2009, determined to be comparable region to project location.

Variable Name	Unit	Year	Value	Source
Cost of a Fatality	\$/ accident	2017- 2051	9,600, 000	Guidance on Treatment of the Economic Value of a Statistical Life in U.S. Department of Transportation Analyses (2016) https://www.transportation.gov/officepolicy/transportation-policy/reviseddepartmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis
Cost of an Injury	\$/ accident	2017- 2051	110,6 63	Calculated weighted average of injuries based on US DOT Guidance 2017 values for injuries. Distribution of injuries gathered from 2014 Traffic Safety Facts, FARS/GES Annual Report, Publication #812139, Table 54 on page 106.
Cost of a PDO	\$/ accident	2017- 2051	4,252	The Economic and Societal Impact of Motor Vehicle Crashes, 2010
Crash Reduction Factor - U-turns	%	2017- 2051	40%	Texas Highway Safety Improvement Program Manual 2015, Crash Reduction Factor identification HSIP 510: Construct Turn Arounds. Applied to installations where U-turn bridges are installed.
Fatal Accident Rate - No Build	accidents /Million VMT	2017- 2051	0.01	Calculated from a summation of crashes at each project intersection between 2014-2016, collected by TxDOT, divided by estimated VMT for those years
Injury Accident Rate - No Build	accidents /Million VMT	2017- 2051	0.47	
Property Damage Only Accident Rate - No Build	accidents /Million VMT	2017- 2051	1.13	
Fatal Accident Rate - No Build	accidents /Million VMT	2017- 2051	0.01	

Variable Name	Unit	Year	Value	Source
Injury Accident Rate - No Build	accidents /Million VMT	2017-2051	0.36	
Property Damage Only Accident Rate - No Build	accidents /Million VMT	2017-2051	0.93	

Accident Cost Benefit Estimates

The table below shows the benefit estimates calculated over the life cycle of the project, broken out by accident type. Accident cost savings were a result of removing traffic from signalized intersection; instead allowing traffic to take U-turn bridges and frontage roads. At a 7% discount rate, accident cost benefits total \$104.9 million over the project lifecycle.

Table 13: Estimates of Accident Cost Benefits, 2016 Dollars

	Over the Project Lifecycle		
	In Constant	Discounted	Discounted
	Dollars	at 7 Percent	at 3 Percent
Fatality Savings	\$226,683,833	\$62,504,010	\$124,081,099
Injury Savings	\$140,501,200	\$38,740,691	\$76,906,867
PDO Savings	\$13,365,521	\$3,685,303	\$7,315,954
Total	\$380,550,554	\$104,930,004	\$208,303,920

Aggregation of Benefit Estimates

The table below identifies the values of monetized benefits, based on the assumptions presented above. The project is estimated to produce benefits valued at \$678.7 million at a 7% discount factor over the project lifecycle. Travel time savings are by far the largest and most significant benefit, accounting for over three-quarters of the total benefits. Accident cost savings and vehicle operating cost savings provide the majority of the remaining benefits. Throughout the analysis period, a total of 28.6 million gallons of fuel are saved compared to the no build scenario, and an estimated 2,506 accidents are avoided.

Table 14: Estimates of Economic Benefits, 2016 Dollars

	Over the Project Lifecycle	
	In Constant Dollars	Discounted at 7 Percent
Travel Time Savings	\$2,384,052,228	\$560,712,456
Emission Cost Savings	\$6,017,065	\$1,273,454
Vehicle Operating Cost Savings	\$55,022,858	\$11,828,146
Accident Cost Savings	\$380,550,554	\$104,930,004
Total	\$2,825,642,705	\$678,744,060

Comparison of Benefits and Costs

The monetized benefits of the project are significantly greater than the costs. It is estimated that every dollar spent on this project will generate \$1.21 in benefits from monetized

impacts. The additional monetized benefits are primarily driven by accident cost savings. Additionally, there will be spending on reconstructing the Mark IV interchange bridge to bring the old structure into a state of good repair. While the costs for these are captured in the BCA, the benefits resulting from the improved structure are not readily captured in the model. In addition, the land surrounding the interstate will become more accessible with the construction of frontage roads and U-turn bridges, which would increase the development of businesses and residential neighborhoods in the area.

7 Summary of Findings and BCA Outcomes

The tables below summarize the BCA findings. Annual costs and benefits are computed over the lifecycle of the project (35 years). As stated earlier, construction is expected to be completed by 2022. Benefits begin to accrue during the full operation of the project.

Table 15: Overall Results of the Benefit Cost Analysis, Millions of 2016 Dollars*

Project Evaluation Metric	7% Discount Rate	3% Discount Rate
Total Discounted Benefits	\$678.7	\$1,461.9
Total Discounted Costs	\$559.0	\$669.4
Net Present Value	\$119.8	\$792.5
Benefit / Cost Ratio	1.21	2.18
Internal Rate of Return (%)	8.5%	
Payback Period (years)	11.50	
<i>* Unless Specified Otherwise</i>		

Considering all monetized benefits and costs, the estimated internal rate of return of the project is 7.8% percent. With a 7 percent real discount rate, the \$559.0 million investment would create \$678.7 million in total benefits and the project would have a Benefit/Cost ratio of approximately 1.21.

With a 3 percent real discount rate, the Net Present Value of the project would increase to \$792.5 million, for a Benefit/Cost ratio of 2.18.

Table 16: Benefit Estimates for the Full Build Alternative

Benefit Categories	7% Discount Rate	3% Discount Rate
Travel Time Savings and Reliability Benefits	\$560,712,456	\$1,223,312,302
Vehicle Operating Cost Savings	\$11,828,146	\$27,298,973
Accident Cost Benefits	\$104,930,004	\$208,303,920
Emissions Reduction Benefits	\$1,273,454	\$2,964,140
Total Benefit Estimates	\$678,744,060	\$1,461,879,334

8 Aggregate Annual Benefits and Costs

This section reports annual, aggregate benefits and costs associated with the I-35 North Tarrant Express “Ultimate” project and an annual breakdown of benefits by category. Detailed information and calculations by benefit category are provided in the spreadsheet used to conduct this BCA.

Table 17: Annual Monetized Estimates of Total Project Benefits and Costs

Calendar Year	Project Year	Total Benefits (\$2016)	Capital Costs (\$2016)	Undiscounted Net Benefits (\$2016)	Discounted Net Benefits at 7%	Discounted Net Benefits at 3%
2017	1	-	\$5,222,541	-\$5,222,541	-\$4,880,879	-\$5,070,428
2018	2	-	\$171,863,823	-\$171,863,823	-\$150,112,519	-\$161,998,136
2019	3	-	\$162,870,703	-\$162,870,703	-\$132,951,009	-\$149,049,765
2020	4	-	\$163,003,492	-\$163,003,492	-\$124,354,584	-\$144,826,491
2021	5	-	\$169,238,057	-\$169,238,057	-\$120,664,396	-\$145,986,235
2022	6	\$31,590,745	-	\$31,590,745	\$21,050,248	\$26,456,752
2023	7	\$36,860,000	-	\$36,860,000	\$22,954,555	\$29,970,553
2024	8	\$41,920,340	-	\$41,920,340	\$24,398,020	\$33,092,304
2025	9	\$46,996,812	-	\$46,996,812	\$25,563,152	\$36,019,143
2026	10	\$52,074,125	-	\$52,074,125	\$26,471,845	\$38,748,040
2027	11	\$57,148,196	-	\$57,148,196	\$27,150,696	\$41,285,073
2028	12	\$62,225,979	-	\$62,225,979	\$27,629,079	\$43,644,049
2029	13	\$67,303,266	-	\$67,303,266	\$27,928,463	\$45,830,249
2030	14	\$72,381,439	-	\$72,381,439	\$28,070,770	\$47,852,658
2031	15	\$77,459,872	-	\$77,459,872	\$28,075,022	\$49,718,544
2032	16	\$82,548,901	-	\$82,548,901	\$27,962,169	\$51,441,746

Calendar Year	Project Year	Total Benefits (\$2016)	Capital Costs (\$2016)	Undiscounted Net Benefits (\$2016)	Discounted Net Benefits at 7%	Discounted Net Benefits at 3%
2033	17	\$87,628,365	-	\$87,628,365	\$27,740,896	\$53,016,602
2034	18	\$92,708,091	-	\$92,708,091	\$27,428,979	\$54,456,233
2035	19	\$97,788,078	-	\$97,788,078	\$27,039,219	\$55,767,175
2036	20	\$102,864,394	-	\$102,864,394	\$26,582,114	\$56,953,521
2037	21	\$107,944,852	-	\$107,944,852	\$26,070,094	\$58,025,677
2038	22	\$113,025,571	\$41,066,667	\$71,958,904	\$16,242,072	\$37,554,812
2039	23	\$118,106,552	\$41,066,667	\$77,039,885	\$16,251,324	\$39,035,474
2040	24	\$123,187,794	\$41,066,667	\$82,121,127	\$16,189,903	\$40,398,153
2041	25	\$123,189,994	-	\$123,189,994	\$22,697,655	\$58,836,227
2042	26	\$123,189,994	-	\$123,189,994	\$21,212,762	\$57,122,551
2043	27	\$121,884,788	-	\$121,884,788	\$19,614,964	\$54,871,198
2044	28	\$123,194,394	-	\$123,194,394	\$18,528,709	\$53,845,406
2045	29	\$123,196,594	-	\$123,196,594	\$17,316,860	\$52,278,027
2046	30	\$123,198,794	-	\$123,198,794	\$16,184,270	\$50,756,272
2047	31	\$123,200,994	-	\$123,200,994	\$15,125,756	\$49,278,814
2048	32	\$123,203,194	-	\$123,203,194	\$14,136,473	\$47,844,363
2049	33	\$123,205,394	-	\$123,205,394	\$13,211,893	\$46,451,667

Calendar Year	Project Year	Total Benefits (\$2016)	Capital Costs (\$2016)	Undiscounted Net Benefits (\$2016)	Discounted Net Benefits at 7%	Discounted Net Benefits at 3%
2050	34	\$123,207,594	-	\$123,207,594	\$12,347,784	\$45,099,511
2051	35	\$123,207,594	-	\$123,207,594	\$11,539,985	\$43,785,933
Total		\$2,825,642,705	\$795,398,617	\$2,030,244,088	\$119,752,345	\$792,505,672

Table 18: Annual Monetized Estimates of Total Project Benefits by Category

Calendar Year	Project Year	Travel Time Savings (Undiscounted \$2016)	Vehicle Operating Costs Savings (Undiscounted \$2016)	Accident Cost Savings (Undiscounted \$2016)	Emissions Cost Savings (Undiscounted \$2016)	Total Benefits (Undiscounted \$2016)
2017	1	-	-	-	-	-
2018	2	-	-	-	-	-
2019	3	-	-	-	-	-
2020	4	-	-	-	-	-
2021	5	-	-	-	-	-
2022	6	\$21,957,588	-\$93,968	\$9,736,262	-\$9,136	\$31,590,745
2023	7	\$26,633,264	\$220,937	\$9,975,998	\$29,800	\$36,860,000
2024	8	\$31,308,941	\$354,285	\$10,215,734	\$41,380	\$41,920,340
2025	9	\$35,984,617	\$501,706	\$10,455,471	\$55,018	\$46,996,812
2026	10	\$40,660,293	\$649,844	\$10,695,207	\$68,781	\$52,074,125
2027	11	\$45,335,970	\$794,616	\$10,934,943	\$82,667	\$57,148,196
2028	12	\$50,011,646	\$942,709	\$11,174,680	\$96,944	\$62,225,979
2029	13	\$54,687,323	\$1,090,803	\$11,414,416	\$110,725	\$67,303,266
2030	14	\$59,362,999	\$1,238,896	\$11,654,152	\$125,392	\$72,381,439
2031	15	\$64,038,675	\$1,386,989	\$11,893,889	\$140,319	\$77,459,872
2032	16	\$68,714,352	\$1,544,195	\$12,133,625	\$156,730	\$82,548,901

Calendar Year	Project Year	Travel Time Savings (Undiscounted \$2016)	Vehicle Operating Costs Savings (Undiscounted \$2016)	Accident Cost Savings (Undiscounted \$2016)	Emissions Cost Savings (Undiscounted \$2016)	Total Benefits (Undiscounted \$2016)
2033	17	\$73,390,028	\$1,692,724	\$12,373,361	\$172,251	\$87,628,365
2034	18	\$78,065,705	\$1,841,254	\$12,613,098	\$188,034	\$92,708,091
2035	19	\$82,741,381	\$1,989,784	\$12,852,834	\$204,079	\$97,788,078
2036	20	\$87,417,058	\$2,134,480	\$13,092,570	\$220,286	\$102,864,394
2037	21	\$92,092,734	\$2,282,965	\$13,332,307	\$236,846	\$107,944,852
2038	22	\$96,768,410	\$2,431,449	\$13,572,043	\$253,669	\$113,025,571
2039	23	\$101,444,087	\$2,579,934	\$13,811,779	\$270,752	\$118,106,552
2040	24	\$106,119,763	\$2,728,418	\$14,051,516	\$288,097	\$123,187,794
2041	25	\$106,119,763	\$2,728,418	\$14,051,516	\$290,297	\$123,189,994
2042	26	\$106,119,763	\$2,728,418	\$14,051,516	\$290,297	\$123,189,994
2043	27	\$106,119,763	\$1,426,653	\$14,051,516	\$286,857	\$121,884,788
2044	28	\$106,119,763	\$2,728,418	\$14,051,516	\$294,697	\$123,194,394
2045	29	\$106,119,763	\$2,728,418	\$14,051,516	\$296,897	\$123,196,594
2046	30	\$106,119,763	\$2,728,418	\$14,051,516	\$299,097	\$123,198,794
2047	31	\$106,119,763	\$2,728,418	\$14,051,516	\$301,297	\$123,200,994
2048	32	\$106,119,763	\$2,728,418	\$14,051,516	\$303,497	\$123,203,194
2049	33	\$106,119,763	\$2,728,418	\$14,051,516	\$305,697	\$123,205,394

Calendar Year	Project Year	Travel Time Savings (Undiscounted \$2016)	Vehicle Operating Costs Savings (Undiscounted \$2016)	Accident Cost Savings (Undiscounted \$2016)	Emissions Cost Savings (Undiscounted \$2016)	Total Benefits (Undiscounted \$2016)
2050	34	\$106,119,763	\$2,728,418	\$14,051,516	\$307,897	\$123,207,594
2051	35	\$106,119,763	\$2,728,418	\$14,051,516	\$307,897	\$123,207,594
Total		\$2,384,052,228	\$55,022,858	\$380,550,554	\$6,017,065	\$2,825,642,705

Table 19: Pertinent Quantifiable Impacts (1 of 2)

Calendar Year	Project Year	Person Hours Saved	Gasoline Consumption Avoided	Diesel Consumption Avoided	Accidents Avoided	Fatalities Avoided	Injuries Avoided	Damaged Vehicles Avoided
2017	1	-	-	-	-	-	-	-
2018	2	-	-	-	-	-	-	-
2019	3	-	-	-	-	-	-	-
2020	4	-	-	-	-	-	-	-
2021	5	-	-	-	-	-	-	-
2022	6	1,483,481	-27,402	-19,737	64.1	0.6	32.5	80.4
2023	7	1,799,375	95,512	19,053	65.7	0.6	33.3	82.4
2024	8	2,115,270	155,009	28,925	67.3	0.6	34.1	84.4
2025	9	2,431,164	220,697	39,916	68.9	0.6	34.9	86.4

Calendar Year	Project Year	Person Hours Saved	Gasoline Consumption Avoided	Diesel Consumption Avoided	Accidents Avoided	Fatalities Avoided	Injuries Avoided	Damaged Vehicles Avoided
2026	10	2,747,058	287,031	50,673	70.4	0.7	35.7	88.3
2027	11	3,062,953	351,159	61,800	72.0	0.7	36.5	90.3
2028	12	3,378,847	417,463	72,562	73.6	0.7	37.3	92.3
2029	13	3,694,742	483,768	83,324	75.2	0.7	38.1	94.3
2030	14	4,010,636	550,073	94,086	76.7	0.7	38.9	96.3
2031	15	4,326,530	616,378	104,848	78.3	0.7	39.7	98.2
2032	16	4,642,425	686,852	116,193	79.9	0.8	40.5	100.2
2033	17	4,958,319	753,356	126,983	81.5	0.8	41.3	102.2
2034	18	5,274,213	819,861	137,773	83.1	0.8	42.1	104.2
2035	19	5,590,108	886,365	148,563	84.6	0.8	42.9	106.2
2036	20	5,906,002	950,402	159,735	86.2	0.8	43.7	108.1
2037	21	6,221,896	1,016,877	170,530	87.8	0.8	44.5	110.1
2038	22	6,537,791	1,083,352	181,324	89.4	0.8	45.3	112.1
2039	23	6,853,685	1,149,828	192,118	91.0	0.9	46.1	114.1
2040	24	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2041	25	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2042	26	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1

Calendar Year	Project Year	Person Hours Saved	Gasoline Consumption Avoided	Diesel Consumption Avoided	Accidents Avoided	Fatalities Avoided	Injuries Avoided	Damaged Vehicles Avoided
2043	27	7,169,579	646,791	96,595	92.5	0.9	46.9	116.1
2044	28	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2045	29	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2046	30	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2047	31	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2048	32	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2049	33	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2050	34	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
2051	35	7,169,579	1,216,303	202,913	92.5	0.9	46.9	116.1
Total		161,069,446	24,522,708	4,097,304	2,506.1	23.6	1,269.6	3,143.3

Table 20: Pertinent Quantifiable Impacts (2 of 2)

Calendar Year	Project Year	Annual Emissions Avoided - VOC (tonnes)	Annual Emissions Avoided - NOx (tonnes)	Annual Emissions Avoided - PM (tonnes)	Annual Emissions Avoided - SO ₂ (tonnes)	Annual Emissions Avoided - CO ₂ (tonnes)	Vehicle Hours Saved
2017	1	-	-	-	-	-	-
2018	2	-	-	-	-	-	-
2019	3	-	-	-	-	-	-
2020	4	-	-	-	-	-	-
2021	5	-	-	-	-	-	-
2022	6	-1,282	-1.2	0.0	0.0	0.2	956,961
2023	7	15	0.6	0.1	0.0	0.6	1,160,738
2024	8	395	0.8	0.1	0.0	0.8	1,364,514
2025	9	853	1.1	0.1	0.0	1.0	1,568,291
2026	10	1,316	1.3	0.1	0.0	1.2	1,772,067
2027	11	1,758	1.6	0.1	0.0	1.4	1,975,844
2028	12	2,221	1.9	0.1	0.0	1.6	2,179,620
2029	13	2,683	2.2	0.1	0.0	1.8	2,383,397
2030	14	3,146	2.4	0.1	0.0	2.1	2,587,173
2031	15	3,608	2.7	0.2	0.0	2.3	2,790,950

Calendar Year	Project Year	Annual Emissions Avoided - VOC (tonnes)	Annual Emissions Avoided - NOx (tonnes)	Annual Emissions Avoided - PM (tonnes)	Annual Emissions Avoided - SO ₂ (tonnes)	Annual Emissions Avoided - CO ₂ (tonnes)	Vehicle Hours Saved
2032	16	4,122	3.0	0.2	0.0	2.5	2,994,726
2033	17	4,587	3.2	0.2	0.0	2.7	3,198,503
2034	18	5,051	3.5	0.2	0.1	2.9	3,402,279
2035	19	5,516	3.8	0.2	0.1	3.1	3,606,056
2036	20	5,959	4.0	0.2	0.1	3.3	3,809,832
2037	21	6,423	4.3	0.2	0.1	3.6	4,013,609
2038	22	6,888	4.6	0.3	0.1	3.8	4,217,385
2039	23	7,353	4.8	0.3	0.1	4.0	4,421,162
2040	24	7,818	5.1	0.3	0.1	4.2	4,624,938
2041	25	7,818	5.1	0.3	0.1	4.2	4,624,938
2042	26	7,818	5.1	0.3	0.1	4.2	4,624,938
2043	27	7,737	4.8	0.3	0.1	3.9	4,624,938
2044	28	7,818	5.1	0.3	0.1	4.2	4,624,938
2045	29	7,818	5.1	0.3	0.1	4.2	4,624,938
2046	30	7,818	5.1	0.3	0.1	4.2	4,624,938
2047	31	7,818	5.1	0.3	0.1	4.2	4,624,938

Calendar Year	Project Year	Annual Emissions Avoided - VOC (tonnes)	Annual Emissions Avoided - NOx (tonnes)	Annual Emissions Avoided - PM (tonnes)	Annual Emissions Avoided - SO ₂ (tonnes)	Annual Emissions Avoided - CO ₂ (tonnes)	Vehicle Hours Saved
2048	32	7,818	5.1	0.3	0.1	4.2	4,624,938
2049	33	7,818	5.1	0.3	0.1	4.2	4,624,938
2050	34	7,818	5.1	0.3	0.1	4.2	4,624,938
2051	35	7,818	5.1	0.3	0.1	4.2	4,624,938
Total		154,342	105.5	6.1	1.5	88.83	103,902,365

Table 21: Travel Time Savings and Pertinent Quantifiable Impacts

Calendar Year	Project Year	Vehicle Hours Saved	Person Hours Saved	Travel Time Savings (Undiscounted)	Travel Time Savings (Discounted 7%)	Travel Time Savings (Discounted 3%)
2017	1	-	-	-	-	-
2018	2	-	-	-	-	-
2019	3	-	-	-	-	-
2020	4	-	-	-	-	-
2021	5	-	-	-	-	-
2022	6	956,961	1,483,481	\$21,957,588	\$14,631,268	\$18,389,134
2023	7	1,160,738	1,799,375	\$26,633,264	\$16,585,858	\$21,655,281
2024	8	1,364,514	2,115,270	\$31,308,941	\$18,222,088	\$24,715,567
2025	9	1,568,291	2,431,164	\$35,984,617	\$19,573,247	\$27,579,213
2026	10	1,772,067	2,747,058	\$40,660,293	\$20,669,631	\$30,255,077
2027	11	1,975,844	3,062,953	\$45,335,970	\$21,538,793	\$32,751,669
2028	12	2,179,620	3,378,847	\$50,011,646	\$22,205,769	\$35,077,162
2029	13	2,383,397	3,694,742	\$54,687,323	\$22,693,295	\$37,239,406
2030	14	2,587,173	4,010,636	\$59,362,999	\$23,021,994	\$39,245,936
2031	15	2,790,950	4,326,530	\$64,038,675	\$23,210,563	\$41,103,989
2032	16	2,994,726	4,642,425	\$68,714,352	\$23,275,928	\$42,820,512

Calendar Year	Project Year	Vehicle Hours Saved	Person Hours Saved	Travel Time Savings (Undiscounted)	Travel Time Savings (Discounted 7%)	Travel Time Savings (Discounted 3%)
2033	17	3,198,503	4,958,319	\$73,390,028	\$23,233,403	\$44,402,174
2034	18	3,402,279	5,274,213	\$78,065,705	\$23,096,825	\$45,855,374
2035	19	3,606,056	5,590,108	\$82,741,381	\$22,878,681	\$47,186,253
2036	20	3,809,832	5,906,002	\$87,417,058	\$22,590,229	\$48,400,705
2037	21	4,013,609	6,221,896	\$92,092,734	\$22,241,600	\$49,504,382
2038	22	4,217,385	6,537,791	\$96,768,410	\$21,841,904	\$50,502,708
2039	23	4,421,162	6,853,685	\$101,444,087	\$21,399,314	\$51,400,882
2040	24	4,624,938	7,169,579	\$106,119,763	\$20,921,153	\$52,203,892
2041	25	4,624,938	7,169,579	\$106,119,763	\$19,552,479	\$50,683,390
2042	26	4,624,938	7,169,579	\$106,119,763	\$18,273,345	\$49,207,175
2043	27	4,624,938	7,169,579	\$106,119,763	\$17,077,892	\$47,773,956
2044	28	4,624,938	7,169,579	\$106,119,763	\$15,960,647	\$46,382,482
2045	29	4,624,938	7,169,579	\$106,119,763	\$14,916,493	\$45,031,535
2046	30	4,624,938	7,169,579	\$106,119,763	\$13,940,647	\$43,719,937
2047	31	4,624,938	7,169,579	\$106,119,763	\$13,028,642	\$42,446,541
2048	32	4,624,938	7,169,579	\$106,119,763	\$12,176,301	\$41,210,234
2049	33	4,624,938	7,169,579	\$106,119,763	\$11,379,721	\$40,009,936

Calendar Year	Project Year	Vehicle Hours Saved	Person Hours Saved	Travel Time Savings (Undiscounted)	Travel Time Savings (Discounted 7%)	Travel Time Savings (Discounted 3%)
2050	34	4,624,938	7,169,579	\$106,119,763	\$10,635,253	\$38,844,598
2051	35	4,624,938	7,169,579	\$106,119,763	\$9,939,489	\$37,713,202
Total		103,902,365	161,069,446	\$2,384,052,228	\$560,712,456	\$1,223,312,302

Table 22: Vehicle Operating Cost Savings and Pertinent Quantifiable Impacts

Calendar Year	Project Year	Gasoline Consumption Avoided	Diesel Consumption Avoided	Fuel Cost Savings	Non-Fuel Cost Savings	Vehicle Operating Cost Savings (undiscounted)	Vehicle Operating Cost Savings (7%)	Vehicle Operating Cost Savings (3%)
2017	1	-	-	-	-	-	-	-
2018	2	-	-	-	-	-	-	-
2019	3	-	-	-	-	-	-	-
2020	4	-	-	-	-	-	-	-
2021	5	-	-	-	-	-	-	-
2022	6	-27,402	-19,737	-\$123,784	\$0	-\$123,784	-\$82,482	-\$103,667
2023	7	95,512	19,053	\$290,890	\$0	\$290,890	\$181,152	\$236,520
2024	8	155,009	28,925	\$471,563	\$0	\$471,563	\$274,454	\$372,256
2025	9	220,697	39,916	\$681,272	\$0	\$681,272	\$370,567	\$522,138
2026	10	287,031	50,673	\$895,552	\$0	\$895,552	\$455,253	\$666,374
2027	11	351,159	61,800	\$1,101,763	\$0	\$1,101,763	\$523,440	\$795,937
2028	12	417,463	72,562	\$1,305,560	\$0	\$1,305,560	\$579,684	\$915,693
2029	13	483,768	83,324	\$1,527,071	\$0	\$1,527,071	\$633,680	\$1,039,861
2030	14	550,073	94,086	\$1,765,154	\$0	\$1,765,154	\$684,557	\$1,166,975
2031	15	616,378	104,848	\$2,008,548	\$0	\$2,008,548	\$727,990	\$1,289,211
2032	16	686,852	116,193	\$2,275,118	\$0	\$2,275,118	\$770,661	\$1,417,778

Calendar Year	Project Year	Gasoline Consumption Avoided	Diesel Consumption Avoided	Fuel Cost Savings	Non-Fuel Cost Savings	Vehicle Operating Cost Savings (undiscounted)	Vehicle Operating Cost Savings (7%)	Vehicle Operating Cost Savings (3%)
2033	17	753,356	126,983	\$2,492,660	\$0	\$2,492,660	\$789,112	\$1,508,101
2034	18	819,861	137,773	\$2,744,653	\$0	\$2,744,653	\$812,044	\$1,612,195
2035	19	886,365	148,563	\$2,986,711	\$0	\$2,986,711	\$825,850	\$1,703,279
2036	20	950,402	159,735	\$3,275,338	\$0	\$3,275,338	\$846,410	\$1,813,475
2037	21	1,016,877	170,530	\$3,512,830	\$0	\$3,512,830	\$848,394	\$1,888,319
2038	22	1,083,352	181,324	\$3,761,412	\$0	\$3,761,412	\$849,000	\$1,963,053
2039	23	1,149,828	192,118	\$4,050,532	\$0	\$4,050,532	\$854,447	\$2,052,371
2040	24	1,216,303	202,913	\$4,319,066	\$0	\$4,319,066	\$851,489	\$2,124,694
2041	25	1,216,303	202,913	\$4,343,503	\$0	\$4,343,503	\$800,287	\$2,074,481
2042	26	1,216,303	202,913	\$4,350,618	\$0	\$4,350,618	\$749,157	\$2,017,359
2043	27	646,791	96,595	\$2,279,957	\$0	\$2,279,957	\$366,914	\$1,026,412
2044	28	1,216,303	202,913	\$4,383,386	\$0	\$4,383,386	\$659,271	\$1,915,876
2045	29	1,216,303	202,913	\$4,404,631	\$0	\$4,404,631	\$619,127	\$1,869,089
2046	30	1,216,303	202,913	\$4,427,017	\$0	\$4,427,017	\$581,565	\$1,823,873
2047	31	1,216,303	202,913	\$4,460,173	\$0	\$4,460,173	\$547,589	\$1,784,012
2048	32	1,216,303	202,913	\$4,446,204	\$0	\$4,446,204	\$510,162	\$1,726,626
2049	33	1,216,303	202,913	\$4,471,624	\$0	\$4,471,624	\$479,513	\$1,685,920

Calendar Year	Project Year	Gasoline Consumption Avoided	Diesel Consumption Avoided	Fuel Cost Savings	Non-Fuel Cost Savings	Vehicle Operating Cost Savings (undiscounted)	Vehicle Operating Cost Savings (7%)	Vehicle Operating Cost Savings (3%)
2050	34	1,216,303	202,913	\$4,529,390	\$0	\$4,529,390	\$453,932	\$1,657,960
2051	35	1,216,303	202,913	\$4,529,390	\$0	\$4,529,390	\$424,236	\$1,609,670
Total		24,522,708	4,097,304	\$85,967,803	\$0	\$85,967,803	\$17,987,457	\$42,175,842

Table 23: Emission Cost Savings

Calendar Year	Project Year	Emission Cost Savings - CO ₂	Emission Cost Savings - NO _x	Emission Cost Savings - PM	Emission Cost Savings - SO ₂	Emission Cost Savings - VOC	Emission Cost Savings (undiscounted)	Emission Cost Savings (7%)	Emission Cost Savings (3%)
2017	1	-	-	-	-	-	-	-	-
2018	2	-	-	-	-	-	-	-	-
2019	3	-	-	-	-	-	-	-	-
2020	4	-	-	-	-	-	-	-	-
2021	5	-	-	-	-	-	-	-	-
2022	6	-\$15,508	-\$9,541	\$15,946	-\$347	\$313	-\$9,136	-\$6,088	-\$7,651
2023	7	\$189	\$4,696	\$23,697	\$16	\$1,203	\$29,800	\$18,558	\$24,230
2024	8	\$5,002	\$6,572	\$28,026	\$180	\$1,601	\$41,380	\$24,084	\$32,666
2025	9	\$11,040	\$8,828	\$32,713	\$399	\$2,038	\$55,018	\$29,926	\$42,167
2026	10	\$17,402	\$10,960	\$37,323	\$618	\$2,479	\$68,781	\$34,965	\$51,179
2027	11	\$23,750	\$13,257	\$41,912	\$838	\$2,910	\$82,667	\$39,275	\$59,721
2028	12	\$30,623	\$15,392	\$46,522	\$1,057	\$3,350	\$96,944	\$43,044	\$67,994
2029	13	\$37,001	\$17,526	\$51,132	\$1,276	\$3,790	\$110,725	\$45,947	\$75,398
2030	14	\$44,264	\$19,660	\$55,742	\$1,496	\$4,230	\$125,392	\$48,629	\$82,899
2031	15	\$51,788	\$21,794	\$60,352	\$1,715	\$4,671	\$140,319	\$50,858	\$90,066
2032	16	\$60,313	\$24,114	\$65,192	\$1,974	\$5,137	\$156,730	\$53,090	\$97,669

Calendar Year	Project Year	Emission Cost Savings - CO ₂	Emission Cost Savings - NOx	Emission Cost Savings - PM	Emission Cost Savings - SO ₂	Emission Cost Savings - VOC	Emission Cost Savings (undiscounted)	Emission Cost Savings (7%)	Emission Cost Savings (3%)
2033	17	\$68,408	\$26,257	\$69,813	\$2,195	\$5,579	\$172,251	\$54,530	\$104,215
2034	18	\$76,765	\$28,400	\$74,434	\$2,416	\$6,020	\$188,034	\$55,633	\$110,450
2035	19	\$85,383	\$30,543	\$79,056	\$2,637	\$6,461	\$204,079	\$56,430	\$116,384
2036	20	\$93,906	\$32,874	\$83,772	\$2,842	\$6,892	\$220,286	\$56,926	\$121,967
2037	21	\$103,037	\$35,019	\$88,394	\$3,063	\$7,333	\$236,846	\$57,202	\$127,317
2038	22	\$112,429	\$37,164	\$93,016	\$3,284	\$7,775	\$253,669	\$57,256	\$132,388
2039	23	\$122,083	\$39,310	\$97,638	\$3,505	\$8,216	\$270,752	\$57,114	\$137,188
2040	24	\$131,999	\$41,455	\$102,261	\$3,726	\$8,657	\$288,097	\$56,797	\$141,725
2041	25	\$134,199	\$41,455	\$102,261	\$3,726	\$8,657	\$290,297	\$53,487	\$138,648
2042	26	\$134,199	\$41,455	\$102,261	\$3,726	\$8,657	\$290,297	\$49,988	\$134,609
2043	27	\$134,991	\$38,951	\$101,151	\$3,694	\$8,070	\$286,857	\$46,164	\$129,140
2044	28	\$138,599	\$41,455	\$102,261	\$3,726	\$8,657	\$294,697	\$44,323	\$128,805
2045	29	\$140,799	\$41,455	\$102,261	\$3,726	\$8,657	\$296,897	\$41,733	\$125,987
2046	30	\$142,999	\$41,455	\$102,261	\$3,726	\$8,657	\$299,097	\$39,292	\$123,224
2047	31	\$145,199	\$41,455	\$102,261	\$3,726	\$8,657	\$301,297	\$36,991	\$120,515
2048	32	\$147,399	\$41,455	\$102,261	\$3,726	\$8,657	\$303,497	\$34,824	\$117,859
2049	33	\$149,599	\$41,455	\$102,261	\$3,726	\$8,657	\$305,697	\$32,781	\$115,256

Calendar Year	Project Year	Emission Cost Savings - CO ₂	Emission Cost Savings - NOx	Emission Cost Savings - PM	Emission Cost Savings - SO ₂	Emission Cost Savings - VOC	Emission Cost Savings (undiscounted)	Emission Cost Savings (7%)	Emission Cost Savings (3%)
2050	34	\$151,799	\$41,455	\$102,261	\$3,726	\$8,657	\$307,897	\$30,857	\$112,704
2051	35	\$151,799	\$41,455	\$102,261	\$3,726	\$8,657	\$307,897	\$28,839	\$109,422
Total		\$2,631,451	\$857,780	\$2,270,696	\$73,837	\$183,299	\$6,017,065	\$1,273,454	\$2,964,140

Table 24: Accident Cost Savings and Pertinent Quantifiable Impacts

Calendar Year	Project Year	Accidents Avoided	Fatality Cost Savings	Injury Cost Savings	PDO Cost Savings	Accident Cost Savings (undiscounted)	Accident Cost Savings (7%)	Accident Cost Savings (3%)
2017	1	-	-	-	-	-	-	-
2018	2	-	-	-	-	-	-	-
2019	3	-	-	-	-	-	-	-
2020	4	-	-	-	-	-	-	-
2021	5	-	-	-	-	-	-	-
2022	6	64.12	\$5,799,632	\$3,594,677	\$341,952	\$9,736,262	\$6,487,682	\$8,153,966
2023	7	65.70	\$5,942,436	\$3,683,189	\$350,372	\$9,975,998	\$6,212,550	\$8,111,399
2024	8	67.28	\$6,085,241	\$3,771,701	\$358,792	\$10,215,734	\$5,945,650	\$8,064,395
2025	9	68.85	\$6,228,045	\$3,860,213	\$367,212	\$10,455,471	\$5,687,083	\$8,013,248
2026	10	70.43	\$6,370,850	\$3,948,725	\$375,632	\$10,695,207	\$5,436,901	\$7,958,238
2027	11	72.01	\$6,513,655	\$4,037,237	\$384,052	\$10,934,943	\$5,195,113	\$7,899,636
2028	12	73.59	\$6,656,459	\$4,125,749	\$392,472	\$11,174,680	\$4,961,691	\$7,837,695
2029	13	75.17	\$6,799,264	\$4,214,260	\$400,892	\$11,414,416	\$4,736,577	\$7,772,662
2030	14	76.75	\$6,942,068	\$4,302,772	\$409,312	\$11,654,152	\$4,519,681	\$7,704,768
2031	15	78.33	\$7,084,873	\$4,391,284	\$417,732	\$11,893,889	\$4,310,893	\$7,634,234
2032	16	79.91	\$7,227,677	\$4,479,796	\$426,152	\$12,133,625	\$4,110,079	\$7,561,274

Calendar Year	Project Year	Accidents Avoided	Fatality Cost Savings	Injury Cost Savings	PDO Cost Savings	Accident Cost Savings (undiscounted)	Accident Cost Savings (7%)	Accident Cost Savings (3%)
2033	17	81.48	\$7,370,482	\$4,568,308	\$434,571	\$12,373,361	\$3,917,089	\$7,486,087
2034	18	83.06	\$7,513,286	\$4,656,820	\$442,991	\$12,613,098	\$3,731,760	\$7,408,865
2035	19	84.64	\$7,656,091	\$4,745,332	\$451,411	\$12,852,834	\$3,553,916	\$7,329,792
2036	20	86.22	\$7,798,896	\$4,833,844	\$459,831	\$13,092,570	\$3,383,369	\$7,249,039
2037	21	87.80	\$7,941,700	\$4,922,355	\$468,251	\$13,332,307	\$3,219,927	\$7,166,772
2038	22	89.38	\$8,084,505	\$5,010,867	\$476,671	\$13,572,043	\$3,063,389	\$7,083,147
2039	23	90.96	\$8,227,309	\$5,099,379	\$485,091	\$13,811,779	\$2,913,552	\$6,998,315
2040	24	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$2,770,209	\$6,912,415
2041	25	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$2,588,980	\$6,711,082
2042	26	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$2,419,608	\$6,515,614
2043	27	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$2,261,316	\$6,325,839
2044	28	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$2,113,379	\$6,141,591
2045	29	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$1,975,121	\$5,962,710
2046	30	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$1,845,907	\$5,789,038
2047	31	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$1,725,147	\$5,620,426
2048	32	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$1,612,287	\$5,456,724
2049	33	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$1,506,810	\$5,297,790

Calendar Year	Project Year	Accidents Avoided	Fatality Cost Savings	Injury Cost Savings	PDO Cost Savings	Accident Cost Savings (undiscounted)	Accident Cost Savings (7%)	Accident Cost Savings (3%)
2050	34	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$1,408,234	\$5,143,486
2051	35	92.54	\$8,370,114	\$5,187,891	\$493,511	\$14,051,516	\$1,316,106	\$4,993,675
Total		2,506.1	\$226,683,833	\$140,501,200	\$13,365,521	\$380,550,554	\$104,930,004	\$208,303,920

Table 25: Annual Total Demand Projections (All Speed Bins)

Calendar Year	Project Year	VMT No Build	VHT No Build	Average Speed No Build	VMT Build	VHT Build	Average Speed Build
2017	1	185,034,680	3,120,349	59.30	185,034,680	3,120,349	59.30
2018	2	187,310,523	3,199,160	58.55	187,310,523	3,199,160	58.55
2019	3	191,550,794	3,372,522	56.80	191,550,794	3,372,522	56.80
2020	4	195,964,078	3,562,884	55.00	195,964,078	3,562,884	55.00
2021	5	201,039,241	3,881,556	51.79	201,039,241	3,881,556	51.79
2022	6	206,114,403	4,200,228	49.07	206,114,403	3,243,267	63.55
2023	7	211,189,566	4,518,900	46.73	211,189,566	3,358,162	62.89
2024	8	216,264,728	4,837,572	44.71	216,264,728	3,473,057	62.27
2025	9	221,339,891	5,156,243	42.93	221,339,891	3,587,953	61.69
2026	10	226,415,053	5,474,915	41.35	226,415,053	3,702,848	61.15
2027	11	231,490,216	5,793,587	39.96	231,490,216	3,817,743	60.64

Calendar Year	Project Year	VMT No Build	VHT No Build	Average Speed No Build	VMT Build	VHT Build	Average Speed Build
2028	12	236,565,378	6,112,259	38.70	236,565,378	3,932,639	60.15
2029	13	241,640,541	6,430,931	37.57	241,640,541	4,047,534	59.70
2030	14	246,715,703	6,749,602	36.55	246,715,703	4,162,429	59.27
2031	15	251,790,866	7,068,274	35.62	251,790,866	4,277,324	58.87
2032	16	256,866,028	7,386,946	34.77	256,866,028	4,392,220	58.48
2033	17	261,941,191	7,705,618	33.99	261,941,191	4,507,115	58.12
2034	18	267,016,354	8,024,290	33.28	267,016,354	4,622,010	57.77
2035	19	272,091,516	8,342,961	32.61	272,091,516	4,736,906	57.44
2036	20	277,166,679	8,661,633	32.00	277,166,679	4,851,801	57.13
2037	21	282,241,841	8,980,305	31.43	282,241,841	4,966,696	56.83
2038	22	287,317,004	9,298,977	30.90	287,317,004	5,081,591	56.54
2039	23	292,392,166	9,617,649	30.40	292,392,166	5,196,487	56.27
2040	24	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2041	25	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2042	26	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2043	27	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2044	28	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01

Calendar Year	Project Year	VMT No Build	VHT No Build	Average Speed No Build	VMT Build	VHT Build	Average Speed Build
2045	29	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2046	30	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2047	31	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2048	32	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2049	33	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2050	34	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
2051	35	297,467,329	9,936,320	29.94	297,467,329	5,311,382	56.01
Total		9,017,066,386	260,733,204		9,017,066,386	156,830,839	

Table 26: Annual Vehicle Miles Travelled by Speed Bin – No Build (1 of 2)

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2017	1	-	-	-	2,060,572	-	2,829,350	4,517,187	1,486,679
2018	2	-	-	-	2,416,769	-	3,293,102	4,663,464	1,818,332
2019	3	-	-	576,501	2,772,967	1,122,644	3,756,855	4,809,742	2,149,985
2020	4	-	-	1,315,349	3,129,164	2,255,953	4,220,607	4,956,019	2,481,638
2021	5	303,252	358,626	2,054,197	3,485,361	3,389,263	4,684,360	5,102,297	2,813,290
2022	6	606,505	717,252	2,793,044	3,841,559	4,522,573	5,148,112	5,248,574	3,144,943
2023	7	909,757	1,075,879	3,531,892	4,197,756	5,655,883	5,611,865	5,394,852	3,476,596

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2024	8	1,213,009	1,434,505	4,270,740	4,553,953	6,789,193	6,075,618	5,541,130	3,808,249
2025	9	1,516,261	1,793,131	5,009,588	4,910,151	7,922,503	6,539,370	5,687,407	4,139,902
2026	10	1,819,514	2,151,757	5,748,436	5,266,348	9,055,813	7,003,123	5,833,685	4,471,555
2027	11	2,122,766	2,510,383	6,487,283	5,622,546	10,189,123	7,466,875	5,979,962	4,803,208
2028	12	2,426,018	2,869,010	7,226,131	5,978,743	11,322,433	7,930,628	6,126,240	5,134,861
2029	13	2,729,271	3,227,636	7,964,979	6,334,940	12,455,743	8,394,380	6,272,517	5,466,514
2030	14	3,032,523	3,586,262	8,703,827	6,691,138	13,589,053	8,858,133	6,418,795	5,798,167
2031	15	3,335,775	3,944,888	9,442,675	7,047,335	14,722,363	9,321,885	6,565,072	6,129,819
2032	16	3,639,027	4,303,514	10,181,522	7,403,532	15,855,673	9,785,638	6,711,350	6,461,472
2033	17	3,942,280	4,662,141	10,920,370	7,759,730	16,988,983	10,249,391	6,857,628	6,793,125
2034	18	4,245,532	5,020,767	11,659,218	8,115,927	18,122,293	10,713,143	7,003,905	7,124,778
2035	19	4,548,784	5,379,393	12,398,066	8,472,124	19,255,602	11,176,896	7,150,183	7,456,431
2036	20	4,852,037	5,738,019	13,136,914	8,828,322	20,388,912	11,640,648	7,296,460	7,788,084
2037	21	5,155,289	6,096,646	13,875,761	9,184,519	21,522,222	12,104,401	7,442,738	8,119,737
2038	22	5,458,541	6,455,272	14,614,609	9,540,717	22,655,532	12,568,153	7,589,015	8,451,390
2039	23	5,761,794	6,813,898	15,353,457	9,896,914	23,788,842	13,031,906	7,735,293	8,783,043
2040	24	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2041	25	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2042	26	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2043	27	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2044	28	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2045	29	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2046	30	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2047	31	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2048	32	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2049	33	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2050	34	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
2051	35	6,065,046	7,172,524	16,092,305	10,253,111	24,922,152	13,495,659	7,881,570	9,114,696
Total		130,398,485	154,209,269	360,372,216	260,548,422	560,636,426	344,352,341	235,482,360	227,478,144

Table 27: Annual Vehicle Miles Travelled by Speed Bin – No Build (2 of 2)

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2017	1	-	7,934,987	15,261,917	12,453,480	20,586,781	95,179,881	22,723,848	185,034,680
2018	2	275,859	8,595,695	15,642,229	13,364,642	21,507,544	93,863,341	21,869,545	187,310,523

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2019	3	817,002	9,256,403	16,022,542	14,275,804	22,428,308	92,546,801	21,015,242	191,550,794
2020	4	1,358,144	9,917,111	16,402,854	15,186,966	23,349,072	91,230,262	20,160,939	195,964,078
2021	5	1,899,286	10,577,820	16,783,167	16,098,128	24,269,836	89,913,722	19,306,636	201,039,241
2022	6	2,440,429	11,238,528	17,163,480	17,009,290	25,190,599	88,597,182	18,452,332	206,114,403
2023	7	2,981,571	11,899,236	17,543,792	17,920,452	26,111,363	87,280,642	17,598,029	211,189,566
2024	8	3,522,713	12,559,944	17,924,105	18,831,614	27,032,127	85,964,102	16,743,726	216,264,728
2025	9	4,063,856	13,220,652	18,304,417	19,742,776	27,952,891	84,647,563	15,889,423	221,339,891
2026	10	4,604,998	13,881,361	18,684,730	20,653,938	28,873,655	83,331,023	15,035,120	226,415,053
2027	11	5,146,140	14,542,069	19,065,042	21,565,100	29,794,418	82,014,483	14,180,817	231,490,216
2028	12	5,687,283	15,202,777	19,445,355	22,476,262	30,715,182	80,697,943	13,326,513	236,565,378
2029	13	6,228,425	15,863,485	19,825,668	23,387,424	31,635,946	79,381,404	12,472,210	241,640,541
2030	14	6,769,567	16,524,193	20,205,980	24,298,586	32,556,710	78,064,864	11,617,907	246,715,703
2031	15	7,310,710	17,184,902	20,586,293	25,209,748	33,477,473	76,748,324	10,763,604	251,790,866
2032	16	7,851,852	17,845,610	20,966,605	26,120,910	34,398,237	75,431,784	9,909,301	256,866,028
2033	17	8,392,994	18,506,318	21,346,918	27,032,072	35,319,001	74,115,244	9,054,998	261,941,191
2034	18	8,934,137	19,167,026	21,727,231	27,943,234	36,239,765	72,798,705	8,200,694	267,016,354
2035	19	9,475,279	19,827,735	22,107,543	28,854,396	37,160,528	71,482,165	7,346,391	272,091,516

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2036	20	10,016,421	20,488,443	22,487,856	29,765,558	38,081,292	70,165,625	6,492,088	277,166,679
2037	21	10,557,564	21,149,151	22,868,168	30,676,720	39,002,056	68,849,085	5,637,785	282,241,841
2038	22	11,098,706	21,809,859	23,248,481	31,587,882	39,922,820	67,532,545	4,783,482	287,317,004
2039	23	11,639,848	22,470,567	23,628,793	32,499,044	40,843,583	66,216,006	3,929,178	292,392,166
2040	24	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2041	25	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2042	26	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2043	27	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2044	28	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2045	29	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2046	30	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2047	31	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2048	32	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2049	33	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2050	34	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
2051	35	12,180,990	23,131,276	24,009,106	33,410,206	41,764,347	64,899,466	3,074,875	297,467,329
Total		277,244,668	627,239,179	735,352,439	917,876,485	1,207,621,353	2,634,846,285	343,408,312	9,017,066,386

Table 28: Annual Vehicle Miles Travelled by Speed Bin – Build (1 of 2)

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2017	1	-	-	-	2,060,572	-	2,829,350	4,517,187	1,486,679
2018	2	-	-	-	2,416,769	-	3,293,102	4,663,464	1,818,332
2019	3	-	-	576,501	2,772,967	1,122,644	3,756,855	4,809,742	2,149,985
2020	4	-	-	1,315,349	3,129,164	2,255,953	4,220,607	4,956,019	2,481,638
2021	5	303,252	358,626	2,054,197	3,485,361	3,389,263	4,684,360	5,102,297	2,813,290
2022	6	-	-	-	489,754	417,767	2,153,340	3,210,141	3,190,025
2023	7	-	-	-	734,631	626,651	2,351,359	3,255,510	3,748,228
2024	8	-	-	-	979,508	835,534	2,549,378	3,300,879	4,306,431
2025	9	-	-	-	1,224,384	1,044,418	2,747,397	3,346,248	4,864,634
2026	10	-	-	-	1,469,261	1,253,301	2,945,415	3,391,617	5,422,837
2027	11	-	-	-	1,714,138	1,462,185	3,143,434	3,436,986	5,981,039
2028	12	-	-	-	1,959,015	1,671,068	3,341,453	3,482,355	6,539,242
2029	13	-	-	-	2,203,892	1,879,952	3,539,472	3,527,724	7,097,445
2030	14	-	-	-	2,448,769	2,088,835	3,737,491	3,573,093	7,655,648
2031	15	-	-	-	2,693,646	2,297,719	3,935,509	3,618,462	8,213,851
2032	16	-	-	-	2,938,523	2,506,602	4,133,528	3,663,831	8,772,054
2033	17	-	-	-	3,183,400	2,715,486	4,331,547	3,709,200	9,330,256

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2034	18	-	-	-	3,428,277	2,924,369	4,529,566	3,754,569	9,888,459
2035	19	-	-	-	3,673,153	3,133,253	4,727,585	3,799,938	10,446,662
2036	20	-	-	-	3,918,030	3,342,136	4,925,603	3,845,307	11,004,865
2037	21	-	-	-	4,162,907	3,551,020	5,123,622	3,890,676	11,563,068
2038	22	-	-	-	4,407,784	3,759,903	5,321,641	3,936,045	12,121,271
2039	23	-	-	-	4,652,661	3,968,787	5,519,660	3,981,414	12,679,474
2040	24	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2041	25	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2042	26	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2043	27	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2044	28	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2045	29	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2046	30	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2047	31	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2048	32	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2049	33	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2050	34	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676
2051	35	-	-	-	4,897,538	4,177,670	5,717,678	4,026,783	13,237,676

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
Total		303,252	358,626	3,946,046	118,917,022	96,378,889	156,453,415	137,094,109	312,427,528

Table 29: Annual Vehicle Miles Travelled by Speed Bin – Build (2 of 2)

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2017	1	-	7,934,987	15,261,917	12,453,480	20,586,781	95,179,881	22,723,848	185,034,680
2018	2	275,859	8,595,695	15,642,229	13,364,642	21,507,544	93,863,341	21,869,545	187,310,523
2019	3	817,002	9,256,403	16,022,542	14,275,804	22,428,308	92,546,801	21,015,242	191,550,794
2020	4	1,358,144	9,917,111	16,402,854	15,186,966	23,349,072	91,230,262	20,160,939	195,964,078
2021	5	1,899,286	10,577,820	16,783,167	16,098,128	24,269,836	89,913,722	19,306,636	201,039,241
2022	6	3,945,395	1,178,463	5,611,457	10,478,454	26,524,548	87,071,189	61,843,870	206,114,403
2023	7	4,372,718	1,767,695	6,060,639	11,293,644	27,663,116	86,205,576	63,109,799	211,189,566
2024	8	4,800,041	2,356,926	6,509,821	12,108,833	28,801,685	85,339,963	64,375,729	216,264,728
2025	9	5,227,364	2,946,158	6,959,002	12,924,023	29,940,254	84,474,350	65,641,658	221,339,891
2026	10	5,654,688	3,535,390	7,408,184	13,739,213	31,078,823	83,608,738	66,907,587	226,415,053
2027	11	6,082,011	4,124,621	7,857,366	14,554,403	32,217,391	82,743,125	68,173,516	231,490,216
2028	12	6,509,334	4,713,853	8,306,548	15,369,592	33,355,960	81,877,512	69,439,445	236,565,378
2029	13	6,936,657	5,303,084	8,755,730	16,184,782	34,494,529	81,011,899	70,705,375	241,640,541
2030	14	7,363,980	5,892,316	9,204,912	16,999,972	35,633,097	80,146,286	71,971,304	246,715,703
2031	15	7,791,303	6,481,548	9,654,094	17,815,161	36,771,666	79,280,673	73,237,233	251,790,866
2032	16	8,218,627	7,070,779	10,103,276	18,630,351	37,910,235	78,415,061	74,503,162	256,866,028

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2033	17	8,645,950	7,660,011	10,552,458	19,445,541	39,048,803	77,549,448	75,769,091	261,941,191
2034	18	9,073,273	8,249,242	11,001,640	20,260,731	40,187,372	76,683,835	77,035,021	267,016,354
2035	19	9,500,596	8,838,474	11,450,822	21,075,920	41,325,941	75,818,222	78,300,950	272,091,516
2036	20	9,927,919	9,427,706	11,900,004	21,891,110	42,464,510	74,952,609	79,566,879	277,166,679
2037	21	10,355,242	10,016,937	12,349,186	22,706,300	43,603,078	74,086,996	80,832,808	282,241,841
2038	22	10,782,565	10,606,169	12,798,368	23,521,489	44,741,647	73,221,384	82,098,737	287,317,004
2039	23	11,209,889	11,195,400	13,247,550	24,336,679	45,880,216	72,355,771	83,364,667	292,392,166
2040	24	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2041	25	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2042	26	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2043	27	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2044	28	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2045	29	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2046	30	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2047	31	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2048	32	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2049	33	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2050	34	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
2051	35	11,637,212	11,784,632	13,696,732	25,151,869	47,018,784	71,490,158	84,630,596	297,467,329
Total		280,394,386	299,062,372	414,204,546	686,537,643	1,328,009,823	2,755,458,537	2,427,520,191	9,017,066,386

Table 30: Annual Vehicle Hours Travelled by Speed Bin – No Build (1 of 2)

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2017	1	-	-	-	112,455	-	103,328	140,375	42,327
2018	2	-	-	-	132,161	3,011	119,541	144,799	50,951
2019	3	-	-	43,302	151,867	52,421	135,753	149,223	59,575
2020	4	-	-	103,604	171,573	101,832	151,966	153,647	68,199
2021	5	84,344	43,966	163,906	191,278	151,242	168,178	158,071	76,823
2022	6	168,688	87,931	224,208	210,984	200,652	184,391	162,496	85,448
2023	7	253,032	131,897	284,510	230,690	250,062	200,604	166,920	94,072
2024	8	337,376	175,862	344,811	250,396	299,472	216,816	171,344	102,696
2025	9	421,721	219,828	405,113	270,102	348,883	233,029	175,768	111,320
2026	10	506,065	263,793	465,415	289,808	398,293	249,241	180,192	119,944
2027	11	590,409	307,759	525,717	309,514	447,703	265,454	184,617	128,568
2028	12	674,753	351,725	586,019	329,220	497,113	281,666	189,041	137,192
2029	13	759,097	395,690	646,321	348,925	546,524	297,879	193,465	145,817
2030	14	843,441	439,656	706,623	368,631	595,934	314,092	197,889	154,441
2031	15	927,785	483,621	766,925	388,337	645,344	330,304	202,313	163,065
2032	16	1,012,129	527,587	827,227	408,043	694,754	346,517	206,738	171,689

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2033	17	1,096,473	571,552	887,528	427,749	744,164	362,729	211,162	180,313
2034	18	1,180,818	615,518	947,830	447,455	793,575	378,942	215,586	188,937
2035	19	1,265,162	659,483	1,008,132	467,161	842,985	395,155	220,010	197,561
2036	20	1,349,506	703,449	1,068,434	486,866	892,395	411,367	224,434	206,185
2037	21	1,433,850	747,415	1,128,736	506,572	941,805	427,580	228,858	214,810
2038	22	1,518,194	791,380	1,189,038	526,278	991,216	443,792	233,283	223,434
2039	23	1,602,538	835,346	1,249,340	545,984	1,040,626	460,005	237,707	232,058
2040	24	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2041	25	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2042	26	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2043	27	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2044	28	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2045	29	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2046	30	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2047	31	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2048	32	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2049	33	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2050	34	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
2051	35	1,686,882	879,311	1,309,642	565,690	1,090,036	476,218	242,131	240,682
Total		36,267,968	18,905,192	29,288,440	14,360,329	24,560,438	12,192,940	7,253,509	6,043,608

Table 31: Annual Vehicle Hours Travelled by Speed Bin – No Build (2 of 2)

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2017	1	-	171,601	289,959	213,514	330,634	1,391,533	324,625	3,120,349
2018	2	7,553	185,171	297,279	229,109	345,203	1,371,961	312,420	3,199,160
2019	3	19,956	198,741	304,600	244,705	359,773	1,352,389	300,216	3,372,522
2020	4	32,359	212,312	311,920	260,301	374,343	1,332,817	288,012	3,562,884
2021	5	44,762	225,882	319,241	275,897	388,913	1,313,245	275,808	3,881,556
2022	6	57,165	239,452	326,562	291,493	403,483	1,293,673	263,603	4,200,228
2023	7	69,569	253,022	333,882	307,088	418,053	1,274,101	251,399	4,518,900
2024	8	81,972	266,592	341,203	322,684	432,623	1,254,529	239,195	4,837,572
2025	9	94,375	280,162	348,523	338,280	447,193	1,234,957	226,990	5,156,243
2026	10	106,778	293,732	355,844	353,876	461,762	1,215,385	214,786	5,474,915
2027	11	119,181	307,302	363,164	369,471	476,332	1,195,813	202,582	5,793,587
2028	12	131,584	320,872	370,485	385,067	490,902	1,176,241	190,378	6,112,259
2029	13	143,987	334,442	377,805	400,663	505,472	1,156,669	178,173	6,430,931
2030	14	156,391	348,013	385,126	416,259	520,042	1,137,098	165,969	6,749,602
2031	15	168,794	361,583	392,446	431,855	534,612	1,117,526	153,765	7,068,274
2032	16	181,197	375,153	399,767	447,450	549,182	1,097,954	141,560	7,386,946
2033	17	193,600	388,723	407,087	463,046	563,752	1,078,382	129,356	7,705,618

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2034	18	206,003	402,293	414,408	478,642	578,321	1,058,810	117,152	8,024,290
2035	19	218,406	415,863	421,728	494,238	592,891	1,039,238	104,948	8,342,961
2036	20	230,809	429,433	429,049	509,833	607,461	1,019,666	92,743	8,661,633
2037	21	243,213	443,003	436,370	525,429	622,031	1,000,094	80,539	8,980,305
2038	22	255,616	456,573	443,690	541,025	636,601	980,522	68,335	9,298,977
2039	23	268,019	470,144	451,011	556,621	651,171	960,950	56,130	9,617,649
2040	24	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2041	25	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2042	26	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2043	27	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2044	28	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2045	29	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2046	30	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2047	31	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2048	32	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2049	33	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2050	34	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320
2051	35	280,422	483,714	458,331	572,217	665,741	941,378	43,926	9,936,320

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
Total		6,396,354	13,184,628	14,021,122	15,723,145	19,279,638	38,350,092	4,905,799	260,733,204

Table 32: Annual Vehicle Hours Travelled by Speed Bin – Build (1 of 2)

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2017	1	-	-	-	112,455	-	103,328	140,375	42,327
2018	2	-	-	-	132,161	3,011	119,541	144,799	50,951
2019	3	-	-	43,302	151,867	52,421	135,753	149,223	59,575
2020	4	-	-	103,604	171,573	101,832	151,966	153,647	68,199
2021	5	84,344	43,966	163,906	191,278	151,242	168,178	158,071	76,823
2022	6	-	-	-	28,260	18,866	79,058	98,046	84,064
2023	7	-	-	-	42,391	28,298	85,892	99,923	99,164
2024	8	-	-	-	56,521	37,731	92,726	101,799	114,265
2025	9	-	-	-	70,651	47,164	99,559	103,676	129,365
2026	10	-	-	-	84,781	56,597	106,393	105,553	144,465
2027	11	-	-	-	98,912	66,029	113,227	107,429	159,566
2028	12	-	-	-	113,042	75,462	120,061	109,306	174,666
2029	13	-	-	-	127,172	84,895	126,895	111,183	189,766
2030	14	-	-	-	141,302	94,328	133,729	113,060	204,867
2031	15	-	-	-	155,432	103,761	140,563	114,936	219,967
2032	16	-	-	-	169,563	113,193	147,397	116,813	235,067
2033	17	-	-	-	183,693	122,626	154,231	118,690	250,168

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2034	18	-	-	-	197,823	132,059	161,065	120,567	265,268
2035	19	-	-	-	211,953	141,492	167,899	122,443	280,369
2036	20	-	-	-	226,084	150,924	174,733	124,320	295,469
2037	21	-	-	-	240,214	160,357	181,567	126,197	310,569
2038	22	-	-	-	254,344	169,790	188,401	128,074	325,670
2039	23	-	-	-	268,474	179,223	195,235	129,950	340,770
2040	24	-	-	-	282,604	188,656	202,069	131,827	355,870
2041	25	-	-	-	282,604	188,656	202,069	131,827	355,870
2042	26	-	-	-	282,604	188,656	202,069	131,827	355,870
2043	27	-	-	-	282,604	188,656	202,069	131,827	355,870
2044	28	-	-	-	282,604	188,656	202,069	131,827	355,870
2045	29	-	-	-	282,604	188,656	202,069	131,827	355,870
2046	30	-	-	-	282,604	188,656	202,069	131,827	355,870
2047	31	-	-	-	282,604	188,656	202,069	131,827	355,870
2048	32	-	-	-	282,604	188,656	202,069	131,827	355,870
2049	33	-	-	-	282,604	188,656	202,069	131,827	355,870
2050	34	-	-	-	282,604	188,656	202,069	131,827	355,870
2051	35	-	-	-	282,604	188,656	202,069	131,827	355,870

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
Total		84,344	43,966	310,812	6,821,198	4,355,168	5,572,227	4,380,004	8,391,825

Table 33: Annual Vehicle Miles Travelled by Speed Bin – Build (2 of 2)

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2017	1	-	171,601	289,959	213,514	330,634	1,391,533	324,625	3,120,349
2018	2	7,553	185,171	297,279	229,109	345,203	1,371,961	312,420	3,199,160
2019	3	19,956	198,741	304,600	244,705	359,773	1,352,389	300,216	3,372,522
2020	4	32,359	212,312	311,920	260,301	374,343	1,332,817	288,012	3,562,884
2021	5	44,762	225,882	319,241	275,897	388,913	1,313,245	275,808	3,881,556
2022	6	93,449	24,551	105,906	178,154	421,830	1,261,598	849,486	3,243,267
2023	7	103,306	36,826	114,482	192,313	440,134	1,249,672	865,762	3,358,162
2024	8	113,163	49,102	123,057	206,472	458,439	1,237,746	882,038	3,473,057
2025	9	123,019	61,377	131,633	220,630	476,743	1,225,821	898,314	3,587,953
2026	10	132,876	73,653	140,208	234,789	495,048	1,213,895	914,590	3,702,848
2027	11	142,733	85,928	148,784	248,948	513,352	1,201,969	930,865	3,817,743
2028	12	152,590	98,204	157,359	263,106	531,657	1,190,043	947,141	3,932,639
2029	13	162,447	110,479	165,935	277,265	549,962	1,178,118	963,417	4,047,534
2030	14	172,304	122,755	174,510	291,424	568,266	1,166,192	979,693	4,162,429
2031	15	182,161	135,030	183,086	305,582	586,571	1,154,266	995,969	4,277,324
2032	16	192,018	147,305	191,661	319,741	604,875	1,142,340	1,012,245	4,392,220
2033	17	201,874	159,581	200,237	333,899	623,180	1,130,415	1,028,521	4,507,115

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
2034	18	211,731	171,856	208,812	348,058	641,484	1,118,489	1,044,797	4,622,010
2035	19	221,588	184,132	217,388	362,217	659,789	1,106,563	1,061,073	4,736,906
2036	20	231,445	196,407	225,963	376,375	678,094	1,094,637	1,077,349	4,851,801
2037	21	241,302	208,683	234,539	390,534	696,398	1,082,712	1,093,625	4,966,696
2038	22	251,159	220,958	243,114	404,693	714,703	1,070,786	1,109,900	5,081,591
2039	23	261,016	233,234	251,690	418,851	733,007	1,058,860	1,126,176	5,196,487
2040	24	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2041	25	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2042	26	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2043	27	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2044	28	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2045	29	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2046	30	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2047	31	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2048	32	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2049	33	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2050	34	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382
2051	35	270,873	245,509	260,265	433,010	751,312	1,046,934	1,142,452	5,311,382

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph	Total
Total		6,545,282	6,259,876	7,864,550	11,792,698	21,208,141	40,209,280	32,991,468	156,830,839

Table 34: Annual Average Speed by Speed Bin – No Build (1 of 2)

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2017	1	-	-	-	18.3	-	27.4	32.2	35.1
2018	2	-	-	-	18.3	-	27.5	32.2	35.7
2019	3	-	-	13.3	18.3	21.4	27.7	32.2	36.1
2020	4	-	-	12.7	18.2	22.2	27.8	32.3	36.4
2021	5	3.6	8.2	12.5	18.2	22.4	27.9	32.3	36.6
2022	6	3.6	8.2	12.5	18.2	22.5	27.9	32.3	36.8
2023	7	3.6	8.2	12.4	18.2	22.6	28.0	32.3	37.0
2024	8	3.6	8.2	12.4	18.2	22.7	28.0	32.3	37.1
2025	9	3.6	8.2	12.4	18.2	22.7	28.1	32.4	37.2
2026	10	3.6	8.2	12.4	18.2	22.7	28.1	32.4	37.3
2027	11	3.6	8.2	12.3	18.2	22.8	28.1	32.4	37.4
2028	12	3.6	8.2	12.3	18.2	22.8	28.2	32.4	37.4
2029	13	3.6	8.2	12.3	18.2	22.8	28.2	32.4	37.5
2030	14	3.6	8.2	12.3	18.2	22.8	28.2	32.4	37.5
2031	15	3.6	8.2	12.3	18.1	22.8	28.2	32.5	37.6
2032	16	3.6	8.2	12.3	18.1	22.8	28.2	32.5	37.6
2033	17	3.6	8.2	12.3	18.1	22.8	28.3	32.5	37.7

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2034	18	3.6	8.2	12.3	18.1	22.8	28.3	32.5	37.7
2035	19	3.6	8.2	12.3	18.1	22.8	28.3	32.5	37.7
2036	20	3.6	8.2	12.3	18.1	22.8	28.3	32.5	37.8
2037	21	3.6	8.2	12.3	18.1	22.9	28.3	32.5	37.8
2038	22	3.6	8.2	12.3	18.1	22.9	28.3	32.5	37.8
2039	23	3.6	8.2	12.3	18.1	22.9	28.3	32.5	37.8
2040	24	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2041	25	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2042	26	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2043	27	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2044	28	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2045	29	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2046	30	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2047	31	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2048	32	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2049	33	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2050	34	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9
2051	35	3.6	8.2	12.3	18.1	22.9	28.3	32.6	37.9

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph

Table 35: Annual Average Speed by Speed Bin – No Build (2 of 2)

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph
2017	1	-	46.2	52.6	58.3	62.3	68.4	70.0
2018	2	36.5	46.4	52.6	58.3	62.3	68.4	70.0
2019	3	40.9	46.6	52.6	58.3	62.3	68.4	70.0
2020	4	42.0	46.7	52.6	58.3	62.4	68.4	70.0
2021	5	42.4	46.8	52.6	58.3	62.4	68.5	70.0
2022	6	42.7	46.9	52.6	58.4	62.4	68.5	70.0
2023	7	42.9	47.0	52.5	58.4	62.5	68.5	70.0
2024	8	43.0	47.1	52.5	58.4	62.5	68.5	70.0
2025	9	43.1	47.2	52.5	58.4	62.5	68.5	70.0
2026	10	43.1	47.3	52.5	58.4	62.5	68.6	70.0
2027	11	43.2	47.3	52.5	58.4	62.5	68.6	70.0
2028	12	43.2	47.4	52.5	58.4	62.6	68.6	70.0
2029	13	43.3	47.4	52.5	58.4	62.6	68.6	70.0
2030	14	43.3	47.5	52.5	58.4	62.6	68.7	70.0
2031	15	43.3	47.5	52.5	58.4	62.6	68.7	70.0
2032	16	43.3	47.6	52.4	58.4	62.6	68.7	70.0
2033	17	43.4	47.6	52.4	58.4	62.6	68.7	70.0

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph
2034	18	43.4	47.6	52.4	58.4	62.7	68.8	70.0
2035	19	43.4	47.7	52.4	58.4	62.7	68.8	70.0
2036	20	43.4	47.7	52.4	58.4	62.7	68.8	70.0
2037	21	43.4	47.7	52.4	58.4	62.7	68.8	70.0
2038	22	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2039	23	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2040	24	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2041	25	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2042	26	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2043	27	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2044	28	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2045	29	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2046	30	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2047	31	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2048	32	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2049	33	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2050	34	43.4	47.8	52.4	58.4	62.7	68.9	70.0
2051	35	43.4	47.8	52.4	58.4	62.7	68.9	70.0

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph

Table 36: Annual Average Speed by Speed Bin – Build (1 of 2)

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2017	1	-	-	-	18.3	-	27.4	32.2	35.1
2018	2	-	-	-	18.3	-	27.5	32.2	35.7
2019	3	-	-	13.3	18.3	21.4	27.7	32.2	36.1
2020	4	-	-	12.7	18.2	22.2	27.8	32.3	36.4
2021	5	3.6	8.2	12.5	18.2	22.4	27.9	32.3	36.6
2022	6	-	-	-	17.3	22.1	27.2	32.7	37.9
2023	7	-	-	-	17.3	22.1	27.4	32.6	37.8
2024	8	-	-	-	17.3	22.1	27.5	32.4	37.7
2025	9	-	-	-	17.3	22.1	27.6	32.3	37.6
2026	10	-	-	-	17.3	22.1	27.7	32.1	37.5
2027	11	-	-	-	17.3	22.1	27.8	32.0	37.5
2028	12	-	-	-	17.3	22.1	27.8	31.9	37.4
2029	13	-	-	-	17.3	22.1	27.9	31.7	37.4
2030	14	-	-	-	17.3	22.1	27.9	31.6	37.4
2031	15	-	-	-	17.3	22.1	28.0	31.5	37.3
2032	16	-	-	-	17.3	22.1	28.0	31.4	37.3
2033	17	-	-	-	17.3	22.1	28.1	31.3	37.3

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph
2034	18	-	-	-	17.3	22.1	28.1	31.1	37.3
2035	19	-	-	-	17.3	22.1	28.2	31.0	37.3
2036	20	-	-	-	17.3	22.1	28.2	30.9	37.2
2037	21	-	-	-	17.3	22.1	28.2	30.8	37.2
2038	22	-	-	-	17.3	22.1	28.2	30.7	37.2
2039	23	-	-	-	17.3	22.1	28.3	30.6	37.2
2040	24	-	-	-	17.3	22.1	28.3	30.5	37.2
2041	25	-	-	-	17.3	22.1	28.3	30.5	37.2
2042	26	-	-	-	17.3	22.1	28.3	30.5	37.2
2043	27	-	-	-	17.3	22.1	28.3	30.5	37.2
2044	28	-	-	-	17.3	22.1	28.3	30.5	37.2
2045	29	-	-	-	17.3	22.1	28.3	30.5	37.2
2046	30	-	-	-	17.3	22.1	28.3	30.5	37.2
2047	31	-	-	-	17.3	22.1	28.3	30.5	37.2
2048	32	-	-	-	17.3	22.1	28.3	30.5	37.2
2049	33	-	-	-	17.3	22.1	28.3	30.5	37.2
2050	34	-	-	-	17.3	22.1	28.3	30.5	37.2
2051	35	-	-	-	17.3	22.1	28.3	30.5	37.2

Calendar Year	Project Year	0-5 mph	5-10 mph	10-15 mph	15-20 mph	20-25 mph	25-30 mph	30-35 mph	35-40 mph

Table 37: Annual Average Speed by Speed Bin – No Build (2 of 2)

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph
2017	1	-	46.2	52.6	58.3	62.3	68.4	70.0
2018	2	36.5	46.4	52.6	58.3	62.3	68.4	70.0
2019	3	40.9	46.6	52.6	58.3	62.3	68.4	70.0
2020	4	42.0	46.7	52.6	58.3	62.4	68.4	70.0
2021	5	42.4	46.8	52.6	58.3	62.4	68.5	70.0
2022	6	42.2	48.0	53.0	58.8	62.9	69.0	72.8
2023	7	42.3	48.0	52.9	58.7	62.9	69.0	72.9
2024	8	42.4	48.0	52.9	58.6	62.8	68.9	73.0
2025	9	42.5	48.0	52.9	58.6	62.8	68.9	73.1
2026	10	42.6	48.0	52.8	58.5	62.8	68.9	73.2
2027	11	42.6	48.0	52.8	58.5	62.8	68.8	73.2
2028	12	42.7	48.0	52.8	58.4	62.7	68.8	73.3
2029	13	42.7	48.0	52.8	58.4	62.7	68.8	73.4
2030	14	42.7	48.0	52.7	58.3	62.7	68.7	73.5
2031	15	42.8	48.0	52.7	58.3	62.7	68.7	73.5
2032	16	42.8	48.0	52.7	58.3	62.7	68.6	73.6
2033	17	42.8	48.0	52.7	58.2	62.7	68.6	73.7

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph
2034	18	42.9	48.0	52.7	58.2	62.6	68.6	73.7
2035	19	42.9	48.0	52.7	58.2	62.6	68.5	73.8
2036	20	42.9	48.0	52.7	58.2	62.6	68.5	73.9
2037	21	42.9	48.0	52.7	58.1	62.6	68.4	73.9
2038	22	42.9	48.0	52.6	58.1	62.6	68.4	74.0
2039	23	42.9	48.0	52.6	58.1	62.6	68.3	74.0
2040	24	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2041	25	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2042	26	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2043	27	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2044	28	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2045	29	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2046	30	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2047	31	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2048	32	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2049	33	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2050	34	43.0	48.0	52.6	58.1	62.6	68.3	74.1
2051	35	43.0	48.0	52.6	58.1	62.6	68.3	74.1

Calendar Year	Project Year	40-45 mph	45-50 mph	50-55 mph	55-60 mph	60-65 mph	65-70 mph	70-75 mph

Table 38: Fuel Consumption at Select Speeds

Speed (mph)	Auto - Gasoline (gallons/mi)	Truck - Diesel (gallons/mi)
5	0.1024	0.2112
8	0.0867	0.1944
12	0.0691	0.1583
13	0.0656	0.1459
17	0.0536	0.1150
18	0.0513	0.1120
21	0.0449	0.1011
22	0.0433	0.0963
27	0.0363	0.0788
28	0.0352	0.0771
30	0.0330	0.0738
31	0.0323	0.0750
32	0.0316	0.0763
35	0.0296	0.0799
36	0.0292	0.0796
37	0.0288	0.0794
40	0.0276	0.0788

Speed (mph)	Auto - Gasoline (gallons/mi)	Truck - Diesel (gallons/mi)
42	0.0272	0.0804
43	0.0270	0.0812
46	0.0266	0.0826
47	0.0266	0.0824
48	0.0266	0.0821
52	0.0270	0.0834
53	0.0272	0.0842
58	0.0286	0.0802
62	0.0306	0.0749
68	0.0343	0.0842
69	0.0350	0.0881
70	0.0356	0.0920

Table 39: Emission Rates for Automobiles at Select Speeds

Speed (mph)	CO (g/mi)	CO ₂ (g/mi)	NO _x (g/mi)	PM ₁₀ (g/mi)	SO _x (g/mi)	VOC (g/mi)
5	3.4738	1116.30	0.3085	0.0137	0.0112	0.3257
8	2.9975	944.96	0.2692	0.0108	0.0095	0.2469
12	2.5330	752.64	0.2269	0.0076	0.0076	0.1707
13	2.4595	713.59	0.2190	0.0070	0.0072	0.1588
17	2.1838	583.34	0.1916	0.0051	0.0059	0.1189
18	2.1195	557.27	0.1859	0.0048	0.0056	0.1108
21	1.9371	487.67	0.1701	0.0039	0.0049	0.0895
22	1.8834	470.21	0.1656	0.0036	0.0047	0.0845
27	1.6528	394.20	0.1476	0.0027	0.0040	0.0637
28	1.6180	382.38	0.1453	0.0026	0.0038	0.0609
30	1.5486	358.74	0.1407	0.0023	0.0036	0.0552
31	1.5319	351.42	0.1404	0.0023	0.0035	0.0538
32	1.5153	344.09	0.1400	0.0022	0.0035	0.0525
35	1.4654	322.12	0.1389	0.0020	0.0032	0.0483
36	1.4530	317.70	0.1389	0.0019	0.0032	0.0475
37	1.4406	313.28	0.1390	0.0019	0.0032	0.0467
40	1.4033	300.02	0.1392	0.0017	0.0030	0.0442

Speed (mph)	CO (g/mi)	CO ₂ (g/mi)	NO _x (g/mi)	PM ₁₀ (g/mi)	SO _x (g/mi)	VOC (g/mi)
42	1.3827	295.66	0.1399	0.0017	0.0030	0.0435
43	1.3724	293.47	0.1402	0.0017	0.0030	0.0432
46	1.3461	289.17	0.1416	0.0016	0.0029	0.0425
47	1.3403	289.22	0.1424	0.0016	0.0029	0.0426
48	1.3346	289.28	0.1432	0.0016	0.0029	0.0426
52	1.3117	293.53	0.1466	0.0016	0.0030	0.0431
53	1.3061	295.60	0.1476	0.0016	0.0030	0.0434
58	1.2460	311.43	0.1457	0.0017	0.0031	0.0439
62	1.2284	333.35	0.1455	0.0018	0.0033	0.0468
68	1.3833	374.76	0.1593	0.0020	0.0038	0.0588
69	1.4275	381.50	0.1627	0.0020	0.0038	0.0613
70	1.4718	388.24	0.1661	0.0021	0.0039	0.0638

Table 40: Emission Rates for Trucks at Select Speeds

Speed (mph)	CO (g/mi)	CO ₂ (g/mi)	NO _x (g/mi)	PM ₁₀ (g/mi)	SO _x (g/mi)	VOC (g/mi)
5	5.1981	2078.75	6.0007	0.0866	0.0196	0.8863
8	4.4977	1918.18	5.7223	0.0868	0.0181	0.7888
12	3.6328	1557.01	4.5078	0.0709	0.0149	0.5784
13	3.4338	1429.94	3.9933	0.0628	0.0137	0.5056
17	2.8830	1123.76	2.8318	0.0436	0.0110	0.3126
18	2.8066	1097.74	2.7656	0.0420	0.0107	0.2888
21	2.6003	1002.10	2.4211	0.0350	0.0098	0.2216
22	2.5468	958.50	2.2091	0.0311	0.0094	0.2019
27	2.3017	793.45	1.4911	0.0180	0.0078	0.1299
28	2.2593	776.32	1.4501	0.0173	0.0076	0.1234
30	2.1747	742.06	1.3682	0.0160	0.0073	0.1104
31	2.1326	752.04	1.4440	0.0168	0.0074	0.1096
32	2.0905	762.02	1.5198	0.0177	0.0075	0.1087
35	1.9643	791.97	1.7471	0.0202	0.0077	0.1062
36	1.9353	788.76	1.7522	0.0206	0.0077	0.1039
37	1.9064	785.54	1.7573	0.0210	0.0076	0.1015
40	1.8195	775.90	1.7727	0.0221	0.0075	0.0944

Speed (mph)	CO (g/mi)	CO ₂ (g/mi)	NO _x (g/mi)	PM ₁₀ (g/mi)	SO _x (g/mi)	VOC (g/mi)
42	1.7466	790.59	1.8703	0.0234	0.0077	0.0923
43	1.7102	797.94	1.9191	0.0241	0.0077	0.0913
46	1.6085	809.09	2.0513	0.0259	0.0078	0.0885
47	1.5797	805.55	2.0859	0.0264	0.0078	0.0876
48	1.5510	802.01	2.1205	0.0268	0.0078	0.0868
52	1.4529	814.82	2.2453	0.0308	0.0079	0.0850
53	1.4326	824.76	2.2731	0.0323	0.0080	0.0849
58	1.4260	792.28	1.9643	0.0330	0.0077	0.0799
62	1.4909	746.30	1.5524	0.0265	0.0073	0.0745
68	1.4670	850.40	1.7874	0.0226	0.0083	0.0778
69	1.4378	890.63	1.9502	0.0237	0.0087	0.0800
70	1.4087	930.87	2.1129	0.0248	0.0091	0.0822



Andrew K. Johnsen
Assistant Vice President
Community Affairs

BNSF Railway Company
2500 Lou Menk Dr.
Fort Worth, TX 76131
(817) 352-2325
Andrew.Johnsen@bnsf.com

October 26, 2017

The Honorable Elaine Chao
Secretary of Transportation
United States Department of Transportation
1200 New Jersey Avenue S.E.
Washington, DC 20590

Dear Secretary Chao,

BNSF Railway is pleased to provide its support for the I-35W Segment 3C project.

The I-35W corridor is an important interstate highway for BNSF. In addition to providing our 4,000-plus headquarters employees a route to and from work everyday, it is a critical link to our Alliance facility, the premier rail freight facility in North Texas. Since its opening in 1994, BNSF has invested significantly in this facility to support intermodal freight growth in North Texas. In 2016, the Alliance Facility handled approximately 680,000 lifts of intermodal units, the fourth highest total among BNSF's network of intermodal facilities. Every lift is one fewer truck trip on Texas and US roadways.

Separately, BNSF is executing approximately \$60 million in expansion projects at the Alliance facility. Adding this rail capacity will keep even more trucks off Texas and US roads annually.

The rail freight activity conducted at Alliance directly contributes to the strength of our North Texas economy while keeping trucks off Texas and US highways. The completion of the public roadway improvements outlined in this grant application will help BNSF and its customers realize the full value of the Alliance terminal and our latest expansion.

Sincerely,

A handwritten signature in blue ink that reads "Andrew K. Johnsen". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Andrew K. Johnsen
Assistant Vice President
Community Affairs



October 24, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route which are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding the project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA Grant program.

Sincerely,

A handwritten signature in black ink that reads "Mac Churchill". The signature is written in a cursive, flowing style.

Mac Churchill
Chairman, 35W Coalition



October 26, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express our support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

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Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize our support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

Betsy Price
Mayor

BETSY PRICE, MAYOR

CITY OF FORT WORTH ★ 200 TEXAS STREET ★ FORT WORTH, TEXAS 76102
(817) 392-6118 ★ FAX (817) 392-2409



GIOVANNI CAPRIGLIONE
TEXAS HOUSE OF REPRESENTATIVES
DISTRICT 98

October 24, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

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Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

A handwritten signature in black ink that reads "G. Capriglione".

Giovanni Capriglione
State Representative

GIOVANNI.CAPRIGLIONE@HOUSE.STATE.TX.US

CAPITOL OFFICE: P.O. BOX 2910 • AUSTIN, TEXAS 78768-2910 • (512) 463-0690
DISTRICT OFFICE: P.O. BOX 770 • KELLER, TEXAS 76244-0770 • (817) 807-8010



NICOLE COLLIER



STATE REPRESENTATIVE • DISTRICT 95

October 24, 2017

The Honorable Elaine Chao
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

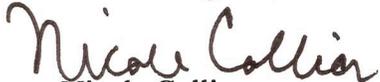
TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

Again, I'd like to emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Kindest Regards,


Nicole Collier

United States Senate

WASHINGTON, DC 20510-4305

September 27, 2017

The Honorable Elaine Chao
Secretary
Department of Transportation
1200 New Jersey Avenue Southeast
Washington, DC 20590

Dear Secretary Chao:

I am writing to express my support for the INFRA application for the IH35W North Tarrant Expressway Segment 3C (North Tarrant Expressway) project submitted to the United States Department of Transportation by the Texas Department of Transportation (TxDOT).

As you and your staff review the proposal, I trust you will give full consideration to the many strengths of this application. As you may know, the Dallas-Fort Worth-Arlington metropolitan area is one of the largest in the nation. TxDOT has proposed five projects dealing with right of way acquisition, adding U-turn bridges, adding interchange frontage road, replacing interchange bridges, and incorporating drainage improvements that will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity. Part of these improvements will have not only a regional importance, but also a national one, as a section of the North Tarrant Expressway accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

As one of the largest export markets in the United States, the Dallas-Fort Worth-Arlington region requires mobility and supporting transportation infrastructure to remain competitive. This grant, if awarded, would enable TxDOT to begin working on these critical improvements, accelerating the mobility and economic benefits to communities and businesses by twenty years.

I would appreciate your efforts to ensure that I am kept informed of the progress of this application. Please contact Andrea McGee (Andrea.McGee@cornyn.senate.gov), my Grants Coordinator, with any developments regarding this proposal as soon as they are available.

Thank you for your assistance and consideration.

Sincerely,

JOHN CORNYN
TEXAS

United States Senate
WASHINGTON, DC 20510-4305


JOHN CORNYN
United States Senator

KAY GRANGER
12TH DISTRICT, TEXAS

Congress of the United States
House of Representatives

WASHINGTON OFFICE:
1026 LONGWORTH HOUSE OFFICE
BUILDING
WASHINGTON, D.C. 20515
(202) 225-5071
FAX: (202) 225-5683

APPROPRIATIONS COMMITTEE

CHAIRWOMAN,
DEFENSE SUBCOMMITTEE

MEMBER, STATE AND FOREIGN
OPERATIONS SUBCOMMITTEE

MEMBER, ENERGY AND WATER SUBCOMMITTEE

DISTRICT OFFICE:
SUITE 407
1701 RIVER RUN ROAD
FORT WORTH, TX 76107
(817) 338-0909
FAX: (817) 335-5852
kaygranger.house.gov

October 30, 2017

The Honorable Elaine Chao
Office of the Secretary
U.S. Department of Transportation
1200 New Jersey Ave., SE
Washington, D.C. 20590

Dear Secretary Chao:

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

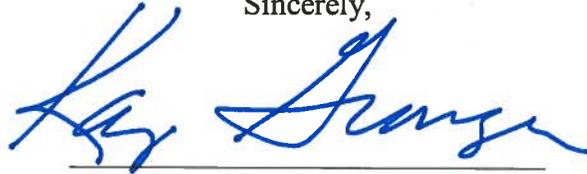
TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program, if doing so would be consistent with applicable law, rules, and regulations.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kay Granger". The signature is fluid and cursive, with a horizontal line drawn underneath it.

Kay Granger
Member of Congress



The Senate of The State of Texas

SENATOR KELLY HANCOCK

October 23, 2017

The Honorable Elaine Chao
Secretary, U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao:

We would like to express support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

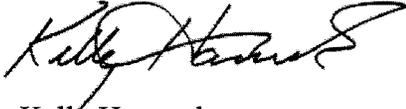
Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

CAPITOL OFFICE:
P.O. Box 12068
Room 1E.9
Austin, Texas 78711
512-463-0109
FAX: 512-463-7003

DISTRICT OFFICE:
9121 Belshire Drive,
Suite 200
North Richland Hills, Texas 76182
817-514-3804
FAX: 817-514-3806

I support this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

A handwritten signature in black ink, appearing to read "Kelly Hancock". The signature is fluid and cursive, with a large initial "K" and a long, sweeping underline.

Kelly Hancock
Texas Senate, District 9
Chairman, Business & Commerce



October 23, 2017

The Honorable Elaine Chao
Secretary
U. S Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route which are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of the regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA Grant program.

Sincerely,

L. Russell Laughlin
Executive Vice President



B. GLEN WHITLEY
COUNTY JUDGE
of
TARRANT COUNTY

October 26, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Secretary Chao,

As Tarrant County Judge, I want to express my support for the Texas Department of Transportation's INFRA Grant application for the Interstate 35W North Tarrant Expressway, Segment 3C project, in Tarrant County. This project will advance construction along the I-35W corridor that is of great importance to Tarrant County, North Texas and the nation.

TxDOT's INFRA funding request covers five important project elements. These include right of way acquisition, U-turn bridges along I-35W, an interchange frontage road and replacement of interchange bridges at I-35W and I-820, and incorporating drainage improvements at Golden Triangle Boulevard and I-35W. These projects will provide improvements to enhance the safe and efficient movement of freight traffic on I-35W, the major north-south corridor from Mexico to Minnesota. They will enhance local connectivity, access to jobs and development. These proposed projects are part of the larger I-35W North Tarrant Express ultimate configuration.

The North Tarrant Express provides access to AllianceTexas, one of the largest inland ports in North America. Alliance is an 18,000-acre master-planned, mixed-use community that is a North Texas job creator. More than 50,000 people now work there. Its cornerstone is the Alliance Global Logistics Hub. The Hub offers multimodal transportation access for freight and traffic, including the Class I railroads BNSF and UP, intermodal facilities and the Fort Worth Alliance Airport, which is the world's first airport dedicated and designed for cargo, as well as corporate and government aviation.

TxDOT will have to delay these additions to the NTE ultimate configuration until at least 2040 without the INFRA Grant funding. Awarding this project will improve regional mobility and provide economic benefits to our communities and businesses and the nation's commerce. I urge you to approve this regionally and nationally significant project.

Sincerely,

Glen Whitley
Tarrant County Judge



DATE – 10/24/17

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I, James Hudson, would like to express my/our support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

A handwritten signature in blue ink, appearing to read "James Hudson". The signature is stylized with large loops and is positioned above the printed name and title.

James Hudson
General Manager, Martin Brower



Mercantile Partners

October 24, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao:

We would like to express our support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses Alliance Texas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

We emphasize our support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

Brian Randolph
President

October 25, 2017



Ryder Warren, Ed.D.
Superintendent of Schools

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

Ryder Warren, Ed.D.
Superintendent of Schools
Northwest Independent School District

Northwest Independent School District
An Equal Opportunity District

2001 Texan Dr, Justin • TX 76247 • P.O. Box 77070 • Fort Worth, TX 76177-0070
Phone 817.215.0171 • Fax 817.215.0170 • www.nisdtx.org



October 24, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my/our support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders and neighborhoods along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years, thus improving quality of life.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

Rosa Navejar
President



The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express accesses AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

A handwritten signature in blue ink, appearing to read "Clint Abernathy".

Clint Abernathy
President

Texas Health Harris Methodist Hospital Alliance



Congress of the United States
House of Representatives
Washington, DC 20515-4333

October 26, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County. This key project will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

The North Tarrant Express connects to AllianceTexas, one of Dallas/Fort Worth's major regional job creators. Alliance is an 18,000-acre master-planned, mixed-use community whose cornerstone is the Alliance Global Logistics Hub. The Hub is an inland port that offers multimodal transportation access for freight and passenger traffic, including Class I railroads (BNSF and UP), intermodal facilities, and the Fort Worth Alliance Airport, which is the world's first 100 percent industrial airport specifically designed for cargo, corporate and government aviation.

Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I emphasize my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Sincerely,

A handwritten signature in blue ink, appearing to read 'MV', with a long horizontal stroke extending to the right and a circular flourish underneath.

Marc Veasey
Member of Congress



October 24, 2017

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Dear Secretary Chao,

I would like to express my support for the Texas Department of Transportation's INFRA Grant application for the IH35W North Tarrant Expressway Segment 3C project in Tarrant County, which will advance construction elements along this route that are of particular importance to stakeholders along the IH35W corridor.

TxDOT's INFRA funding request would cover five project elements including right of way acquisition; adding three U-turn bridges along IH35W; adding an interchange frontage road and replacing interchange bridges at IH35W and IH820; and incorporating drainage improvements at Golden Triangle Blvd and IH35W. These projects will provide operational improvements to facilitate the safe and efficient movement of freight traffic and enhance local connectivity, access to jobs, development activities and general mobility. These proposed projects are part of the larger IH35W North Tarrant Express Ultimate configuration.

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Without INFRA Grant funding, TxDOT will have to delay these additions to the NTE Ultimate configuration until 2040 or beyond. Awarding this project will mean accelerating the mobility and economic benefits to communities and businesses by twenty years.

I would like to offer my support of this regionally and nationally important project, and thank you for your consideration and hopeful selection of the IH35W North Tarrant Expressway Segment 3C project for the INFRA program.

Wade Trim, Inc.
682.237.7718 Direct
105 Denton Dr.
877.533.9873
Roanoke, TX 76262
682.237.7719 Fax

www.wadetrim.com



Page 2

RE: TxDOT's FY2017-2018 INFRA application for IH35W North Tarrant Express

Feel free to contact me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Mark C. Schluter'.

Mark C. Schluter, P.E.
Sr. Project Manager
Wade Trim, Inc.

Wade Trim, Inc.
682.237.7718 Direct
105 Denton Dr.
877.533.9873
Roanoke, TX 76262
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Attachment C

Summary of NTE SEP-15 Experimental Project Features

Issuance of the final RFP prior to final NEPA approval for the Project, notwithstanding 23 CFR 636.109;

Receipt by TxDOT of supplemental information from Proposers after submission of proposals;

Pre-award negotiations with apparent best-value Proposer for work on Segment 1 prior to execution of CDA;

Adoption of a modified approach with regard to project authorization under 23 CFR 635.112, whereby such authorization would be provided (a) through FHWA's approval of the RFP, for any Project segments for which final NEPA approval has been obtained prior to that date, and (b) through a separate approval process, for any other Project segments. [This enabled procurement of the pre-development agreement for the I-35W NTE.]

Negotiation of a price for development work for one or more of Segments 2 through 4 following award of the CDA, subject to a price reasonableness determination as specified herein. [This enabled procurement of the pre-development agreement for the I-35W NTE.]

Including a general warranty in the CDA that exceeds the period specified in 23 CFR 635.413(e)(1)(i), and allowing the developer to undertake responsibility for routine maintenance services.

In addition, TxDOT requests FHWA concurrence with TxDOT's interpretation of federal rules and policies, as follows:

Since this procurement concerns a public-private partnership, the only provision in 23 CFR Part 636 that applies to this procurement process is 23 CFR 636.119.

The procurement process described herein constitutes a competitive process for purposes of 23 C.F.R. 636.119.

It is permissible for the developer and/or a subconsultant on the developer's team to provide NEPA support services for the Project, with the understanding that (1) a consultant not affiliated with the developer will compile the NEPA documents, (2) all developer and consultant services will be subject to control and direction by TxDOT and FHWA, and (3) TxDOT and FHWA will be responsible for preparation of the NEPA documents and for determining the content and conclusions thereof. [This enabled procurement of the pre-development agreement for the I-35W NTE.]

The CDA may include a contract provision indicating that the provisions of 23 CFR 635.116(d) have superseded the 30% self-performance requirements of Section VII in Form FHWA-1273.