Regional Transportation Council
The Transportation Policy Body for the North Central Texas Councill of Governments
(Metropolitan Planning Organization for the Dallas-Fort Worth Region)

March 9, 2012

The Honorable Ray LaHood
Secretary of Transportation
US Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Secretary LaHood:

Please find enclosed an application to the US Department of Transportation for the Interstate Highway (IH) 35E Managed Lanes Project as part of the Transportation Infrastructure Finance and Innovation Act (TIFIA) Program, submitted by the North Central Texas Council of Governments (NCTCOG), the Metropolitan Planning Organization (MPO) for the Dallas-Fort Worth region. The IH 35E project is essential to ease congestion from IH 635 in the city of Dallas, Texas north to US 380 in the city of Denton, Texas, a distance of approximately 28 miles. This is a proactive measure that will help ensure accommodation of future mobility needs of North Central Texas and our Nation.

The population growth and continuing development along the IH 35E corridor in both Dallas and Denton counties continues to rise each year, and the current infrastructure is unable to meet both current and future travel demands. The IH 35E project consists of parallel passenger rail improvements and roadway capacity improvements that will alleviate congestion and improve mobility in the Dallas-Fort Worth region, the nation's fourth largest urban area. These roadway improvements include the reconstruction and widening of the existing highway to incorporate additional general purpose lanes, managed lanes, and frontage roads.

The IH 35E project is vital to maintaining the region's strong economic competitiveness and a high quality of life. Because the project is part of the North American Free Trade Agreement (NAFTA) highway corridor, maintaining acceptable mobility is critical for the local, State and national economy. Eliminating traffic congestion and improving traffic flow through one of the busiest corridors in America will lead to significant improvements for national commerce. The reduction in commuter time spent in congestion will provide travelers more free time to pursue other activities, consistent with a better quality of life. Having advanced nearly $250 million in local revenue to have passenger rail service open during construction, speaks to the sustainability and innovative management approach to this corridor. Increasing capacity on the roadway will also positively impact goods movement and air quality. Reducing the time spent idling in stop-and-go traffic will aid in emissions reduction and eventually help the region to reach and/or maintain federal air quality standards.

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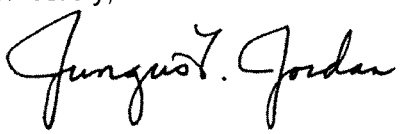
http://www.nctcog.org/trans

Again, this project will be a significant contributor to improved mobility, economic vitality, a robust quality of life, and an enhanced environment for the residents of North Central Texas. Thank you for the opportunity to submit this project for consideration for the TIFIA program. If you have any questions regarding this project, please contact Michael Morris, P.E., Director of Transportation at the North Central Texas Council of Governments at (817) 695-9241.

Sincerely,



Jungus Jordan
Chair, Regional Transportation Council
Councilmember, City of Fort Worth

RH:hc
Enclosure

cc: Michael Morris

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

in cooperation with

TEXAS DEPARTMENT OF TRANSPORTATION

IH 35E MANAGED LANES

TIGER IV FUNDING APPLICATION

PROJECT NARRATIVE

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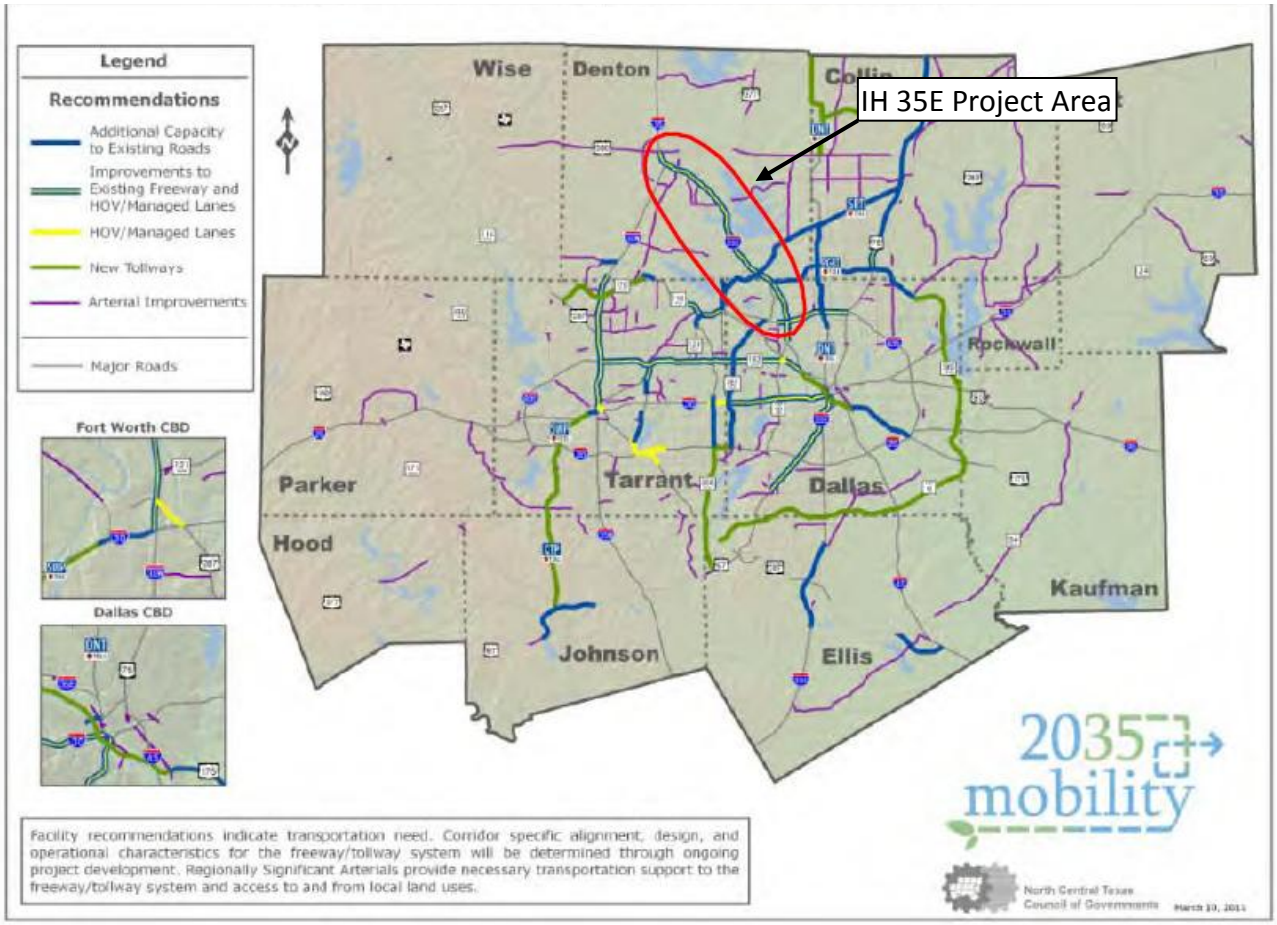
Executive Summary

The IH 35E corridor was built in the 1950s and is one of the most heavily congested corridors in Texas. Six sections of IH 35E are listed on the Texas Department of Transportation (TxDOT) list of 100 Most Congested Roadway Segments in Texas, causing millions of dollars of delays each year. Consequently, the IH 35E Managed Lanes Project has been identified as one of the region's highest priorities in the Dallas-Fort Worth (DFW) *Mobility 2035: The Metropolitan Transportation Plan for North Central Texas,* ("MTP" or "Mobility 2035"). The Project has consistently been a priority and has been included in all previous metropolitan transportation plans.

Figure E1: Dallas-Fort Worth Area Funded Roadway Recommendations



The IH 35E Managed Lanes Project will provide critical connectivity to existing roadway facilities and local street networks, including connections to: IH 35E South to Loop 12, IH 635/LBJ Express Managed Lanes Project, the SH 190/President George Bush Turnpike (PGBT) (Toll) Interchange, the Sam Rayburn Toll Road (SRT) Interchange**,** FM 2181, Loop 288, IH-35W and US 77. The proposed Project will relieve congestion, reduce travel time, and improve air quality, as well as provide social and economic benefits locally, regionally, statewide, and nationwide. After a recent surge in legislative action, funding initiatives, and planning and strategic work efforts, the affected cities, the local community and the North Texas region are ready to transform this corridor into a project for the 21st century. Project information is provided on the website: www.keepitmovingdallas.com/IH35E/.

Figure E2: Project Overview and Limits

The North Central Texas Council of Governments ("NCTCOG") in cooperation with TxDOT is seeking a TIGER IV Discretionary Grant and is including in this application estimates of the project's expected benefits in the five long-term outcomes identified in the TIGER IV Final Notice of Funding Availability ("Final Notice"). This application and its appendices quantify the monetary benefit in net present value of the IH 35E Managed Lanes Project and will substantiate the expected benefits and costs in accordance with the federal requirements.

The costs and benefits contained within this application were derived using traffic and assumptions from existing NCTCOG and TxDOT data & documents, including:

- IH 35E Project Environmental Assessment (Middle Segment), (October 2010)
- The IH 35E Interstate Access Justification Reports (Middle Segment), (April 2009)-Approved
- Draft Level 2 Traffic and Toll Revenue Study (October 2009), Wilbur Smith Associates
- Draft Level 3 Traffic and Toll Revenue Study (October 2010), Wilbur Smith Associates
- IH 35E Managed Lanes Project Value Engineering Report, (Sept. 2010), CVS and Associates, Inc.
- 2006-2008 TxDOT On-System Accidents data
- NCTCOG 2035: The Metropolitan Transportation Plan for North Central Texas
- NCTCOG 2030: The Metropolitan Transportation Plan for the Dallas-Fort Worth Area, 2009 Amendment

The CAL-B/C Cost-Benefit Model (set forth in **Appendix B**), was utilized to analyze the benefits verses the costs for the project. The analysis summarizes net benefits and the benefit/cost ("B/C") ratio for a net present value utilizing a 7 percent discount rate scenario. Net benefits in excess of $1,356 million over the 20 year time horizon are attainable with a B/C ratio of **1.1**. Below is a summary of costs and benefits for the IH 35E Managed Lanes Project.

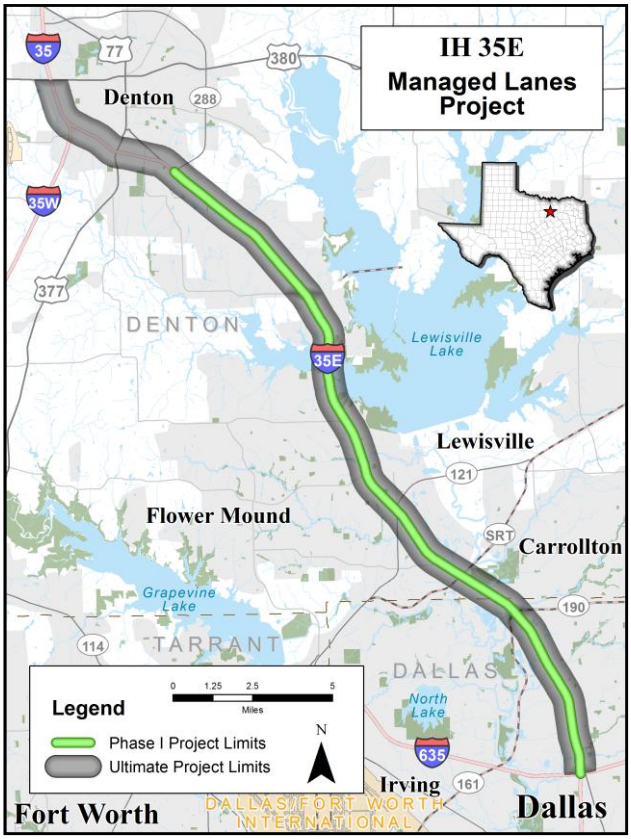
Table E1: Benefit-Cost Summary Results

Benefit-Cost Summary Results			***Average Annual***	***Total Over 20 Years***
Life-Cycle Costs (mil. $)	$1,280.0	***ITEMIZED BENEFITS (mil. $)***		
Life-Cycle Benefits (mil. $)	$1,356.5	Travel Time Savings	$29.0	$579.4
Net Present Value (mil. $)	$76.6	Vehicle Operation Cost Savings	$12.2	$244.1
BENEFIT/COST RATIO	**1.1**	Accident Cost Savings	$23.8	$476.8
		Emissions Cost Savings	$2.8	$56.3
Rate of Return on Investment:	7.6%	**TOTAL BENEFITS**	**$67.8**	**$1,356.5**
Payback Period:	11 years	Person Hours of Delay Saved	7,793,406	155,868,127
		Additional CO_2 Emissions (tons)	-109,868	-2,197,355
		Additional CO_2 Emissions (mil.$)	-$1.7	-$33.7

1.0 Project Description

1.1 Project Overview

Figure 1.1 : Project Map



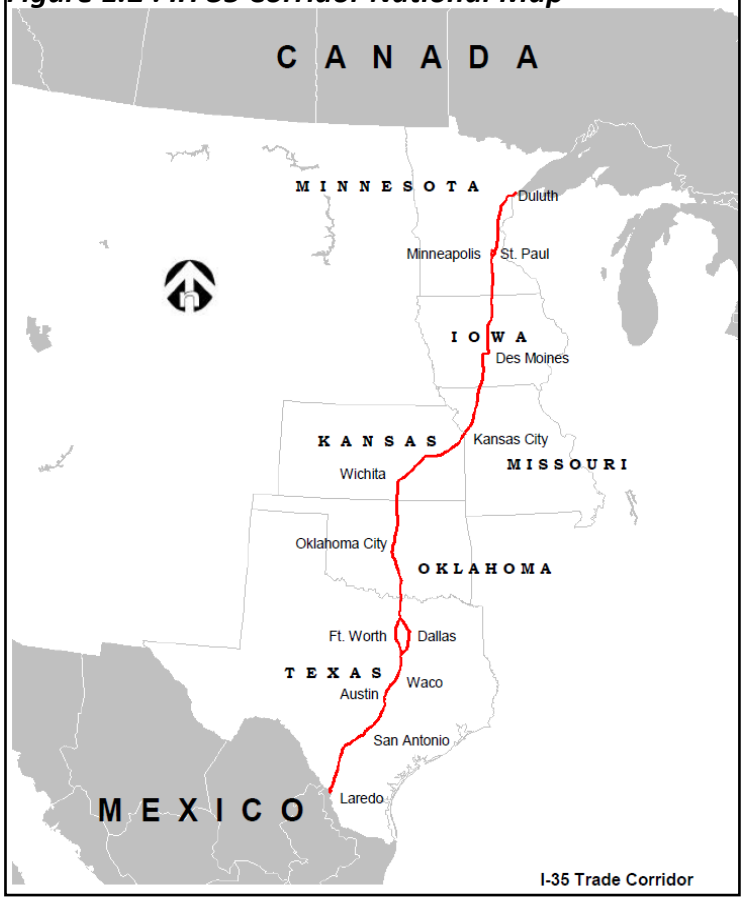
The North Central Texas Council of Governments (NCTCOG) in cooperation with the Texas Department of Transportation (TxDOT) is developing a project to reconstruct a 28-mile section of Interstate 35E (IH 35E) from IH 635 to US 380 in Dallas and Denton Counties. Ultimately, the project would include reconstruction and widening of the existing IH 35E corridor to incorporate additional general purpose lanes, managed lanes and frontage roads through the cities of Dallas, Farmers Branch and Carrollton in Dallas County; the Town of Hickory Creek, the cities of Lewisville, Highland Village, Lake Dallas, Corinth, Shady Shores and Denton in Denton County. Major intersecting roadways/facilities include President George Bush Turnpike (PGBT), SH 121, US 77, and IH 35W. A new bridge will be constructed over Lake Lewisville, adding critical additional capacity and relief routes in the event of an incident. In addition to roadway improvements, the project will facilitate rail improvements, incorporate sidewalks along both frontage roads crossing Lake Lewisville, and include a 14-foot wide outside lane along the frontage roads for shared use with bicycles. These features will allow pedestrians and bicycles to connect to the existing and proposed network of trails along the corridor. Additional Project information can be found on the website www.keepitmovingdallas.com/IH35E/.

In the broader context, the existing IH 35 corridor spans approximately 550 miles across the State of Texas from the Mexican border to the Oklahoma state line. The corridor serves as the primary trade route for North American Free Trade Agreement (NAFTA) traffic between Mexico and Canada. As the only Interstate Highway connecting Mexico and Canada through the U.S. heartland, the majority of Mexico's trade with the U.S. and Canada passes through Texas along the IH 35 corridor via commercial trucks and rail. The IH 35 corridor is considered to be one of the most critical corridors in the state of Texas in terms of future growth and economic development. Thirteen segments of IH 35 are on TxDOT's Top 100 Most Congested Roadways list[2], indicating more congestion than any other roadway in the State. In addition, four Texas cities along the IH 35

[2] TxDOT. 2011. 100 Most Congested Roadway Segment in Texas. http://apps.dot.state.tx.us/apps/top_100/

corridor, Dallas, Fort Worth, Austin, and San Antonio, are in the top twenty largest cities in the United States[3]. Thus, the IH 35E corridor is the backbone of the Texas economy and it plays a critical role in improving business productivity in the state.

Figure 1.2 : IH 35 Corridor National Map



Denton County is one of the fastest growing counties in Texas. Current projections estimate growth from 660,000 residents today to over one million by 2035. Dallas County is already a major population center with over 2.3 million people currently, and is expected to reach over 3.1 million by 2035[4]. This population explosion has surpassed the capacity of IH 35E to handle the corresponding traffic demand. Additionally, while Lake Lewisville provides many benefits to the area, it also poses challenges for regional mobility. As area residents know all too well, when an incident occurs in this area, the alternate routes around the lake are extremely limited.

1.2 Project Details

The project will be developed in phases. The first phase of the project is the basis of this application and extends approximately 24 miles from IH 635 to US 77. It delivers the most critical elements of the ultimate project and improves mobility to the region, while also generating revenue that can be leveraged and used toward the construction of subsequent phases.

The first phase consists of the construction of a two-lane reversible managed lane along the center of the corridor. It includes a collector-distributor system between President George Bush Turnpike (PGBT) and SH 121 providing greater connectivity between these two major regional highways. The remaining four fully directional ramps will be constructed on the north side of the interchange between IH 35E and SH 121 allowing for unconstrained movements in all directions for these two highways. The existing bridge over Lake Lewisville will remain in the Phase 1 configuration and will serve as the northbound general purpose and frontage road lanes as well as provide for a 14-foot shared use pedestrian path in Phase 1, until the full build-out of the bridge is completed in future

[3] U.S. Census Bureau. 2010. American Fact Finder Population Data. http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml
[4] NCTCOG. 2011. Mobility 2035 Plan, Population Forecasts: Page 3.3. http://www.nctcog.org/trans/mtp/2035/index.asp

phases. A portion of the ultimate bridge will be constructed to accommodate the southbound frontage road and general purpose lanes as well as the reversible managed lanes. The new bridge will also include an eight-foot wide sidewalk for pedestrian accessibility in the southbound direction. In the City of Carrolton, the Belt Line Road railroad improvements will also be included in the first phase. These improvements will replace the existing at-grade railroad crossing at Belt Line Road and the IH 35E frontage roads with a three-level interchange, separating the rail line from vehicular traffic. Future build-out of the ultimate facility will be implemented as needed in conjunction with capacity triggers and funding availability along various segments of the corridor.

*Table 1.1: Roadway Sections for IH 35E Managed Lanes Project Improvements**

	General Purpose Lanes (total)	Frontage Road Lanes (total)	Managed and/or HOV Lanes (total)	Collector-Distributor Lanes (total)
Existing	4 – 6	0 – 6	0 – 2	0
Phase 1	4 – 6	4 – 6	2 (reversible)	4 – 8
Ultimate	6 – 10	4 – 8	2 – 4	4 – 8

* Lane totals do not include auxiliary lanes

2.0 Project Parties

The NCTCOG in cooperation with TxDOT is submitting a TIGER IV Discretionary Grant application for the IH 35E Managed Lanes Project in Dallas and Denton Counties. Both the NCTCOG and TxDOT place a high priority on partnering with the cities along the corridor. Developing and maintaining these partnerships as the planning and development of the IH 35E corridor moves forward is a key component of the overall project. This 28-mile corridor begins on the northwest side of Dallas and travels through the cities of **Dallas, Farmers Branch, Carrollton, Lewisville, Highland Village, Town of Hickory Creek, Lake Dallas, Shady Shores, Corinth, and Denton**. TxDOT's environmental coordination and public involvement process has been conducted in an open proactive, participatory process to allow the public and interested agencies to gain knowledge and provide input throughout project development. This public involvement process ensures that the various cities, stakeholders, interested parties, as well as the general public fully support this much needed project.

In the 2011 legislative session, the Texas 82nd Legislature passed Senate Bill 1420 authorizing TxDOT to enter into comprehensive development agreements for several projects including the IH 35E Managed Lanes Project. This authority was codified in the Texas Transportation Code, §228.013 and Texas Administrative Code §27.90 – §27.92. These codes require that if the project is to be developed under a concession agreement or availability payment contract, a committee must be formed comprised of a representative from TxDOT, the NCTCOG, the North Texas Tollway Authority (NTTA), and each city or county providing funding or right-of-way for the project. The committee must issue a report providing input on the distribution of the project's financial risk, the method of financing for the project, and, unless the project is subject to a regional tolling policy, the project's tolling structure and methodology. The committee's report is scheduled to be submitted by the end of March 2012.

3.0 Grant Funds and Sources/Uses of Project Funds

Amount of Grant Funding Requested
NCTCOG and TxDOT are seeking a TIGER Discretionary Grant in the amount of $20 million.

Availability / Commitment of Funds
Public funding in the amount of $639 million has been identified from various sources for the project including the Regional Toll Revenue (RTR, i.e. NTTA's SH 121 excess toll revenue payment from November 2007), Congestion Mitigation and Air Quality (CMAQ) funds, Proposition 14 funds, as well as other sources. Approximately $93 million of the identified funds have been spent on early right-of-way (ROW) acquisition and preliminary engineering. Currently, there are $546 million in funds available for the development of the project. Efforts to identify additional sources of funds are ongoing. Potential funding sources include state and local bond programs and/or toll revenue bonds as well as private participation.

The project was broken into three segments to facilitate environmental documentation: The limits of the three segments are:

- North Segment: US 380 to FM 2181
- Middle Segment: FM 2181 to PGBT
- South Segment: PGBT to north of IH 635

The estimated capital cost for the first phase of the project in each of these segments is presented in **Table 3.1**.

Table 3.1: Total Project Capital Costs

Capital costs by segment (nominal $ millions)	Construction	Right of Way (ROW)	Total
North	$157	$34	$191
Middle	$845	$342	$1,187
South	$373	$260	$633
Subtotal Phase 1	**$1,375**	**$636**	**$2,011**

Assuming a 10 percent TIFIA credit rate conversion, a $20 million TIGER Grant would help NCTCOG and TxDOT obtain a $200 million TIFIA loan. The TIGER Discretionary Grant Funds would therefore directly contribute to funding approximately 10 percent of the project costs. An estimate of the sources and uses of project funds is provided in **Table 3.2**.

Table 3.2: Sources and Uses of all Project Funds (estimate)

Sources	(Nominal, $ millions)	Uses	(Nominal, $ millions)
Private Activity Bonds	$ 340	Construction Costs	$ 1,279
TIFIA Loan	199	Utilities	96
TIFIA Capitalized Interest	19	Right-of-Way Purchase	636
Bank Debt	478	Financing Fees and Interest	157
Private Equity	482	Transfers to Debt Service Reserve Account, Ramp up Reserve Account	105
Public Subsidy	746		
Interest on PABs Escrow and Debt Service Reserve Account	9		
Total	**$ 2,273**		**$ 2,273**

4.0 Primary Selection Criteria – Long Term Outcomes

4.1 State of Good Repair

Since it opened as part of the original national Interstate program almost 50 years ago, the IH 35E corridor has been under a constant state of maintenance, upgrade, expansion, evaluation, planning, design and construction. The current infrastructure along IH 35E is nearing the end of its design life, which is causing TxDOT to incur increasing life-cycle costs. The proposed project will replace the functionally obsolete, deteriorating infrastructure as well as add capacity for the projected 40 percent increase in traffic volume anticipated over the next 20 years.

The proposed Project improves the condition of existing facilities with an emphasis on minimizing life-cycle costs. Before improvements are made, the condition of current physical assets such as pavement thickness and condition or bridge rating will be evaluated and deemed sufficient to meet or exceed projected service requirements. Additionally, the IH 35E project will require that infrastructure components be replaced with those that meet current use requirements, up-to-date engineering standards, and applicable new regulatory requirements to ensure the facility is in a state of good repair. The IH 35E Project Management Plan, along with the business/service plans that underpin them, will be updated on a regular basis to reflect changes in user needs, market demand, asset condition, technology and other considerations. The IH 35E Operation & Maintenance Plan will consider assets that may be "functioning as designed" but still may be overdue for replacement. To be in a state of good repair, these assets must not only function as designed but also be within their useful lives and reliability. This can be achieved by means of regular maintenance and replacement programs that will be included in the IH 35E project.

The IH 35E Managed Lanes and the Collector/Distributor system will reduce congestion at all the existing interchanges and network of roadways currently utilized to move traffic through the project limits. This reduction in traffic volumes on now-existing paved facilities outside the ROW will translate to lower loading Equivalent Single Axle Load (ESAL's) on the existing paved facilities, which will enable TxDOT to stretch the budget on resurfacing these existing facilities. The use of

innovative design and materials will be encouraged to ensure that project improvements last longer, reduce construction times and limit traffic disruption. The Life-Cycle Cost of the project is $1,280 million and the Life-Cycle Benefit is $1,356 million, with the Net Present Value calculated to be $76.6 million.

The current financial analysis accounts for full reconstruction of pavement sections that are not replaced during the initial reconstruction five years after opening of the managed lanes. This will allow for a period of revenue generation on the facility to help defray this planned reconstruction cost. If this project is not developed, the existing pavement would need to be reconstructed at some point in the very near future. These reconstruction costs are reflected in the net cost of the project presented in the cost-benefit analysis (**Appendix B**).

4.2 Economic Competitiveness

The IH 35E corridor is currently burdened with a cycle of repairs, rehabilitations and on-going maintenance resulting in high maintenance costs, frequent lane closures and lost time for its many users. These conditions, when combined with the current congestion levels, translate into lost time , lost economic opportunity and reduced quality of life for all users of IH 35E. The development of the IH 35E project will spur economic development throughout the local economy by providing improved access to employment opportunities, markets, goods, and services. Increased commercial property values in the proposed project area could reasonably be expected to occur due to improved accessibility and mobility. Increased property values, in turn, would increase city and county tax revenues. The IH 35E Managed Lanes project will support new investment, development and expansion needs, and private sector production in Dallas and Denton counties.

From a national perspective, IH 35E is also part of the NAFTA corridor and provides a vital link between Mexico, Canada, and America's heartland (see **Figure 1.2**). Vast amounts of freight moving to and from each of these areas passes along IH 35E every day. Congestion along the corridor increases the cost of delivering these goods to market, and these higher costs are then passed along to the consumer. Therefore, this corridor accommodates important interests to both the local and national economy.

Transportation mobility is a critical need in the Dallas-Fort Worth (DFW) metropolitan area. The lack of adequate mobility causes residents to have limited access to job opportunities, and employers are denied full access to the region's pool of job skills and talents. Limited mobility also results in increasing amounts of unproductive time spent moving people and goods from one point to another. Economic costs associated with traffic congestion have a direct effect on the competitiveness of the area and its ability to create and sustain long-term employment opportunities. **Table 4.1 and Figure 4.1** below summarize the Regional System Performance for the 2012 roadway system in the NCTCOG region and the projected performance for 2035[5]. The

[5] NCTCOG. 2011. Mobility 2035 Plan, Regional Performance: Pages 7.2-7.3 http://www.nctcog.org/trans/mtp/2035/index.asp

2035 performance levels are based on the premise that all of the projects included in the NCTCOG MTP will be built.

Table 4.1: 2012 and 2035 Regional Performance Measures

Regional Performance Measures	2012 System	2035 System
Population	6,651,887	9,833,378
Employment	4,210,178	6,177,016
Vehicle Miles of Travel	176,461,914	279,426,796
Hourly Capacity (Miles)	42,331,524	50,525,839
Vehicles Hours Spent in Delay (Daily)	1,112,877	2,490,143
Increase in Travel Time Due to Congestion	31.5%	44.8%
Annual Cost of Congestion (Billions)	$4.5	$10.1

Figure 4.1: 2012 and 2035 Regional Performance Measures Map

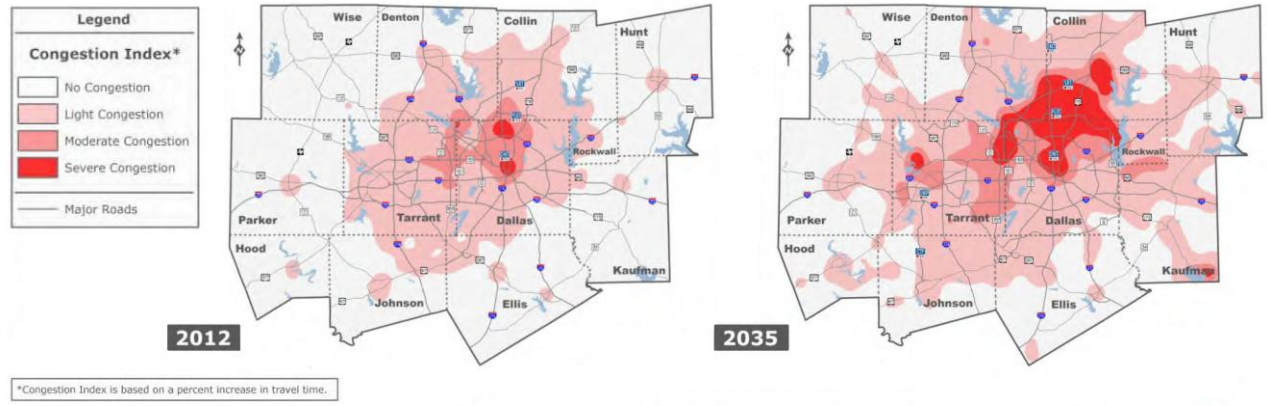


Figure 4.1 above also provides the regional performance representing peak hour congestion levels in 2012 and in 2035, with the MTP recommendations in place. Even assuming the $101.1 billion of recommended improvements in the MTP, the annual cost of congestion in 2035 is expected to be $10.1 billion, substantially more than the $4.5 billion in 2012. As the regional performance measures demonstrate, the congestion levels in the DFW region are expected to increase significantly, with vehicle hours spent in delay and congestion costs predicted to increase by 124 percent by 2035, even with the construction of all of the projects currently recommended in the MTP[6].

The proposed project will provide relief to all users of the corridor by reducing congestion, decreasing travel times and vehicle operating costs (quantified and discussed further in **Section 4.3**). Even those who choose not to utilize the managed lanes system will benefit from lower congestion on the general purpose lanes due to the increased capacity of the entire system. Future phases will provide even greater congestion relief with additional managed lanes as well as new general purpose and frontage road lanes. The additional bridge capacity proposed at Lake

[6] NCTCOG. 2011. Mobility 2035 Plan, Regional Performance: Pages 2.4; 7.2-7.3 http://www.nctcog.org/trans/mtp/2035/index.asp

Lewisville during Phase 1, as well as in the ultimate condition, will provide critical relief routes if an incident occurs in this area

The Belt Line Road rail improvements proposed as a part of the first phase of this project will allow for a grade-separated intersection with Belt Line Road and the Union Pacific Railroad. This will not only increase safety, but also allow for better mobility of the rail system in this area, thus allowing for more efficient freight movement.

4.3 Livability

The IH 35E project was planned in a way that would not only meet transportation needs, but would also have a positive impact on quality of life in the surrounding communities. This project is part of a larger multimodal vision for the region that seeks to reinforce livability of neighborhoods by linking communities to job opportunities, education, and essential services, while reducing travel time and vehicle operating costs. The multimodal improvements of the IH 35E project increase capacity and mobility in the region by providing a variety of travel options and by enhancing connectivity to the region's travel network. Being able to connect people in the region to important commuter routes, link communities to economic centers, and provide options for travel not only benefits regional economies, but allows people and goods to travel more safely and efficiently, resulting in improved statewide and national economies.

It is estimated that implementation of the project would result in a Travel Time Savings (over 20 years) of $579 million and a total Vehicle Operating Costs savings (over 20 years) of $244 million to communities along the project corridor. A year-by-year summary of Travel Time Savings and Reduced Vehicle Operating Costs attributable to the project is provided in **Appendix B.**

These savings are attributable to enhancements to the system that would allow for more reliable and increased commuter bus and vanpool service, additional points of modal connectivity, and improve connectivity of bicycle and pedestrian facilities along the corridor.

These improvements include:

Managed Lanes: Managed lanes are a strategy to help manage traffic and congestion on a facility. They allow motorists a choice and are intended to keep traffic moving at a faster, more reliable speed (minimum average of 50 mph) by adjusting the toll rate up and down on the roadway as the number of vehicles increases or decreases, respectively. Drivers can generally expect to pay more to use managed lanes during peak travel times than during off-peak hours. Motorists can choose to drive on the general purpose lanes or they can choose to pay for a higher level of service on managed lanes. This tolling framework will comply with the Regional Managed Lane Policy and Excess Toll Revenue Sharing Policy for Managed Lanes adopted by NCTCOG. These policies are included as **Appendices D and F**, respectively and can also be found at: http://www.nctcog.org/trans/committees/rtc/.

Collector-distributor (C/D): C/D roads are one-way "super" ramps that run parallel to the main traffic lanes providing access to/from multiple interchanges. The C/D road collects traffic exiting for several destinations from ramps and the main lanes, and distributes traffic to off-ramps and

eventually back to the main lanes. These C/D roads minimize weaving conflicts on the main lanes, which increases the overall capacity and safety of the freeway corridor.

Bicycle/Pedestrian facilities within the project and IH 35E Corridor: Bicycle and pedestrian facilities are incorporated into the planning and design of the IH 35E ultimate project. When frontage road improvements are implemented, sidewalks will be constructed on each side of the corridor. Also, a wide outside lane will be utilized, allowing for shared use with bicycles. The proposed bridge at Lake Lewisville will include a 14-foot sidewalk in the northbound direction and an eight-foot sidewalk in the southbound direction. These will allow for the continuation of public-access to recreational amenities along the Trinity Trail hike and bike facility (part of the northward spine of the regional Trinity Trails System) across the lake. In addition, the proposed frontage roads and crossroads will include wide outside lanes that improve bicycle travel and connectivity to existing bike lanes in communities adjacent to the facility.

In 2006 the Regional Transportation Council (RTC), the policy body of the NCTCOG, awarded $11.8 million for regional bicycle and pedestrian projects through the Local Government Air Quality Call for Projects (see **Table 2 in Appendix A**). Through federal, state, and local funding initiatives since 1993, the NCTCOG Bicycle and Pedestrian Program has contributed to the construction of the Regional Veloweb off-street trail network, enhancement of bicycle and pedestrian transportation districts, and continued improvements to on-street bicycle routes. The future of funding awards for bicycle and pedestrian projects through NCTCOG remains promising. Currently, 42 projects are being evaluated for RTR funds. The program will allocate more than $40 million to sustainable development projects.[7]

Transit Component within IH 35E Corridor: TxDOT is working with Dallas Area Rapid Transit (DART) and Denton County Transportation Authority (DCTA) to integrate transit and promote alternative modes of transportation. DART and DCTA are playing a major role in improving mobility along the IH 35E corridor by accommodating significant ridership levels. The IH 35E project proposes to enhance connectivity to these services by improving corridor Park-and-Ride lots which currently serve local and regional buses, but may serve as regional rail stations in the future. The proposed free flowing and grade separated nature of the entrance and exit conditions for HOV and managed lane traffic lanes at key locations will allow regional connector buses to operate at increased reliability providing time savings that will attract and maintain riders.

The improvements planned on IH 35E were developed as part of a rigorous public involvement process that involved not only the general public, but multiple stakeholders in communities along the corridor. An aesthetics team was established during project development to work with stakeholders on design elements that integrate solutions to transportation needs with community values. As a result, some design elements of IH 35E improve the integration of the facility with the surrounding communities, and enhance the human and pedestrian aspects of the facility by providing:

[7] http://www.nctcog.org/trans/outreach/stateofregion/SOR08.pdf

- Continuous pedestrian sidewalks and shared-use lanes over Lake Lewisville that allow for the continuation of public-access to recreational amenities along the Trinity Trail hike and bike facility (part of the northward spine of the regional Trinity Trails System) across the lake, and
- Sidewalks on crossroads to accommodate pedestrian travel across the IH 35E facility.

Other context sensitive solutions, such as pedestrian refuges along the right-of-way and visual aesthetics continue to be developed with the coordination of stakeholders to ensure that the facility prevents barriers in communities and is fully integrated into the environment.

4.4 Sustainability

The RTC has taken a proactive approach to improving regional traffic congestion and air quality through its Sustainable Development Policy adopted in 2001. The RTC policy establishes strategies to meet financial constraints, diversify mobility, and improve air quality for the DFW region which includes utilizing existing system capacity, promoting mixed use development, and improving rail mobility. As part of the transportation network in the region, the IH 35E Project seeks to promote a sustainable transportation system by avoiding adverse environmental impacts and incorporating modal options that reduce the amount of greenhouse gas emissions.

This project not only increases roadway capacity, but also provides connectivity to alternative modes of transportation with low impact on the environment, such as transit, walking, and cycling. Air quality can actually be improved by providing additional travel capacity through transit and managed lanes, which allow a greater flow of traffic and decrease the amount of vehicles traveling at lower speeds or idling, creating less fuel combustion and lower emissions including Mobile Source Air Toxins, carbon monoxide (CO), and ozone precursors.

The concept of congestion pricing on the roadway helps promote these alternative modes of travel. By allowing user fees to adjust based upon congestion levels on the roadway, congestion pricing encourages use of the facility at non-peak times, or use of alternative modes, such as bus, carpools/vanpools, or rail transit options. By providing these types of transportation alternatives and incentives to the public, a sustainable transportation system will be developed that improves access and manages traffic congestion while simultaneously reducing environmental impacts.

While maintaining vehicular access and circulation, the IH 35E Project will contribute to a well-connected transportation network, support increased densities, help walking become more practical for short trips, support bicycling for both short- and long-distance trips, improve transit linkages to serve frequented destinations, conserve energy resources, and reduce greenhouse gas emissions and air pollution. The reduction in carbon dioxide (CO_2) emissions attributable to project implementation is estimated to be nearly 2.2 million tons over 20 years, which equates to a total CO_2 emission reduction value of approximately $33.7 million. The Total Emissions Reduction Cost Savings (including CO_2, CO, NO_X, PM_{10}, SO_X, and VOC) attributable to the implementation of the project equates to $2.8 million per year, representing a benefit of $56.3 million over the 20-year lifecycle of the project. A year-by-year summary of Emission Reduction benefits attributable to the project is provided in **Appendix B.**

4.5 Safety

Initially developed as a rural freeway in the 1950's, the IH 35E corridor contained a ROW width of approximately 300 feet. This allowed considerable design flexibility while initially constructing the four-lane freeway and segments of frontage roads to maintain local property access. The existing IH 35E corridor has been upgraded through the years from the initial four-lane freeway to a six-lane freeway with discontinuous frontage roads throughout many places in the corridor; however, these upgrades have not kept pace with adjacent development, as well as increase in inter-regional, intra-state, interstate, and international trip demands. The 2010 average daily traffic (ADT) from IH 635 to Belt Line Road at the south end of the project is 245,800 ADT. Traffic within this segment is projected to increase 38 percent to 338,400 ADT in 2030. The 2010 ADT from Belt Line Road to Valley Ridge Boulevard is 200,300 ADT. Traffic within this segment is projected to increase 44 percent to 288,000 ADT in 2030.

The current roadway is functionally obsolete and not projected to accommodate future demand. Design deficiencies include: inadequate shoulder and lane widths, and inadequate ramp lengths. Additionally, there are at-grade rail crossings at Belt Line Road and the adjacent IH 35E frontage roads.

Belt Line Road Rail Improvements: The existing at-grade railroad crossing at the IH 35E-Belt Line Road intersection is in need of improvement. The existing railroad alignment transects both Belt Line Road and the IH 35E frontage roads in areas just prior to intersections causing an unsafe condition should traffic queues back up onto the tracks. The proposed design will eliminate this condition by constructing a three-level interchange; allowing the railroad to remain at-grade and Belt Line Road and the frontage roads to passs under the rail line.

Inadequate shoulders and lane width: Many segments of the IH 35E corridor do not have full shoulders. In the case of a freeway incident, the involved vehicle or vehicles do not have adequate areas to maneuver off the main lanes; creating excessive queuing of traffic and unsafe conditions along the facility. Furthermore, emergency vehicles do not have easy access to the incident. Also, some portions of the IH 35E segment under consideration do not have adequate lane width. Narrow lanes cause traffic to move slower, which creates unsafe conditions for drivers and contributes to congestion.

Inadequate Ramp lengths: Drivers must be provided with sufficient distance where possible to accelerate or decelerate safely. Some ramps along the corridor do not provide adequate acceleration or deceleration lengths at the freeway junctions. The resulting friction between freeway vehicles and entering/exiting vehicles can cause unsafe and undesirable operational conditions, slow down overall main lane speeds, and increase congestion. Additionally, the location of several ramps near the intersection of major arterials creates long queues that back up onto the freeway causing safety issues due to large speed differentials between lanes.

By addressing these design deficiencies where possible, the project will remove dangerous weaving patterns and will undoubtedly improve safety and reduce the number of annual traffic incidents. It is estimated that project implementation will generate a Total Accident Cost Savings

over 20 years of approximately $476.8 million. A year-by-year summary of Accident Cost Savings attributable to the project is provided in **Appendix B.**

5.0 Primary Selection Criteria - Job Creation and Economic Stimulus

The IH 35E project will promote the short and long-term creation and/or preservation of jobs in the region. In December 2008 The Associated General Contractors of America released a study of the impacts of nonresidential construction spending for the Texas market. This study reported that an additional $1 billion in nonresidential construction spending would add about $2.7 billion to the state's Gross Domestic Product (GDP), about $840 million to personal earnings and create or sustain 24,000 jobs. The following is an estimated breakdown of the numbers and types of jobs that would be created or sustained from an additional $1 billion in nonresidential construction spending:

- 8,200 jobs would be direct construction jobs located within Texas.
- 3,800 jobs would be indirect jobs from supplying construction materials and services. The majority of these jobs would be located within the state but there would be some out of state jobs supported.
- 12,000 jobs would be induced when workers and owners in construction and supplier businesses spend their incomes locally and nationwide.[8]

The IH 35E project construction will create and preserve jobs in construction and related services that have seen a softening in demand since the beginning of the recent economic recession. Using the assumptions above, the $1.7 billion ($ 2011) project is predicted to create or sustain over 40,000 jobs during construction. After construction the IH 35E improvements is complete, lower levels of traffic congestion will improve access to jobs in the rapidly growing areas of Denton and Dallas Counties. The availability of jobs will increase in the area as a result of real benefits to companies' bottom lines from increased delivery speeds and reductions in congestion. These cost savings can be used by businesses to create additional jobs in distribution centers, manufacturing, office work, and retail employment sectors.

The job creation and economic stimuli of the IH 35E Managed Lanes Project were examined and results compared over a development period using computer models[9] to analyze the project's public and private expenditures to year 2030. The results of these analyses quantify three types of benefits which are expected to accrue in the Dallas Metropolitan Area (defined as Collin, Dallas, Tarrant, Denton, Ellis, Hunt, Kaufman, and Rockwall counties) as a result of the IH 35E Project.

- Economic Impact: Economic impact is the benefit to the general economy of the entire Dallas Metropolitan area, shown as a multiplier and generally referred to as the "economic

[8] Source: Ken Simonson, Chief Economist, AGC of America, simonsonk@agc.org, from Prof. Stephen Fuller, George Mason University; National Association of Realtors (NAR); The Nelson A. Rockefeller Institute of Government; and U.S. Government sources

[9] Source: Ken Simonson, Chief Economist, AGC of America, simonsonk@agc.org

ripple effect." This calculation uses U.S. Bureau of Economic Analysis Regional Input-Output Modeling System (RIMS) II multipliers specific to the Dallas Metropolitan area.

- Direct Employment: Direct employment refers to public payrolls associated with the construction of IH 35E Managed Lanes Project.
- Indirect Employment: Indirect employment refers to the basic, retail, and service jobs that are generated by the purchases of goods and services by the public and private entities and their employees which developed as a result of the construction of the IH 35E Managed Lanes Project.

Economic stimulus is tied to increased development. Local jurisdictions expect greater increases in commercial development under IH 35E Managed Lanes Project as compared to the No-Build Alternative. Increases in developed land, particularly commercial and industrial land use, would enhance the economic base of the area by providing jobs, income, and tax revenues. Expected residential growth would also provide local demand for consumer services. In spite of the current economic downturn, growth in local economic development and migration to the region should continue and contribute to the growth potential in the Dallas Metropolitan Area.

Additionally, information provided by the NCTCOG's Development Monitoring database, DART and DCTA regional rail expansion projects, as well as interviews with stakeholders including local chambers of commerce and economic development representatives within the Employment Opportunity Impact Assessment (EOIA) study area indicate that there are future employment opportunities of varying skill anticipated as a result of the IH 35E Project. The addition of new businesses generated from the improvements to the IH 35E facility would create additional employment opportunities throughout the corridor and may represent an opportunity to absorb any permanent employment effects that could result from the proposed IH 35E improvements within the affected municipalities.[10]

The expansions of the DART and DCTA transit lines also enhance future employment opportunities by providing new centers for employment as planned through "Transit Oriented Development" at the new rail stations as well as improved access to regional employment centers such as City of Denton and the Dallas Central Business District.

6.0 Secondary Selection Criteria – Innovation and Partnership

6.1 Innovation

Electronic Toll Collection (ETC) will be used along the facility allowing for the free flow of traffic without requiring vehicles to stop and pay tolls. The ETC system will be interoperable with other regional and statewide tolling networks currently in place. In order to maintain a minimum speed along the managed lanes, the rates charged on the facility will vary depending on the time of day and day of the week, and will vary depending on the level of congestion. Annual variations in the

[10] *IH 35E Employment Opportunity Impact Assessment, HNTB (June 2010)*

toll rate will be driven by changes in congestion in the network as the population of the region continues to grow, and by increases in a willingness to pay as income levels grow over time.

Intelligent Transportation System (ITS) devices are planned to be an integral part of the proposed IH 35E project. The type of traffic monitoring technology includes closed-circuit television cameras, vehicle detection devices, and dynamic message signs. Traffic monitoring technologies detect incidents in a timely manner to gain quicker responses from transportation and enforcement officials. The speed at which an incident is detected affects the amount of time for clearance and the amount of disruption the incident will cause to the remaining motorists.

6.2 Partnership

As previously mentioned, the NCTCOG and TxDOT are developing the IH 35E project collaboratively with the input of local cities, regional partners and other stakeholders. The NCTCOG and TxDOT share the goal of improving mobility to the DFW region and thus improving the lives of the traveling public in the region. As the region's Metropolitan Planning Organization (MPO), the NCTCOG is responsible for project selection and programming of the region's transportation system. TxDOT is charged with the responsibility for planning, designing, constructing, and maintaining the State Highway System. Thus, the two entities maintain a particularly close working relationship to ensure that the transportation needs of the region are being met. The IH 35E project is just one example of this collaboration.

TxDOT continues to develop partnerships with the private sector to deliver needed infrastructure using innovative funding mechanisms, given limited public funds. TxDOT has demonstrated such innovation on a variety of projects in the Dallas-Fort Worth area, including the DFW Connector, North Tarrant Express (NTE), and IH 635/LBJ Express Public-Private Partnerships (PPPs). This innovative funding mechanism has allowed the projects to move forward faster than traditional approaches to better serve the region's travelers. The NTE PPP marked the first time that transportation private activity bonds were sold unwrapped, was among the first managed lanes projects in the United States to be developed as a PPP, and was the only such project to close in 2009 where the private sector assumed all risk. TxDOT may pursue available private partnership opportunities for the IH 35E project and is meeting with local stakeholders to develop financing options and potential delivery methods.

PPP delivery would allow the Project to benefit from the private sector's innovation and creativity in dealing with unique project challenges. This approach would offer potential for both cost and time savings during design and construction as it allows the contractor to work directly with the designer to find the best solutions for construction staging, traffic management, and generating efficiencies. The private partner may also carry out operations and maintenance of the Project, allowing for a smooth transition from construction and in-depth familiarity with the Project. In addition, the PPP delivery approach would assure that risks such as cost overruns and traffic and revenue shortfalls are borne by the private partner rather than the State.

7.0 Results of the Benefit-Cost Analysis

Table 7.1 presents the overview of the Benefit-Cost Analysis (BCA) conducted for the IH 35E project. The BCA examined life-cycle costs and benefits associated with the proposed project and calculated year-by-year streams of benefits and costs attributable to the project over the 20 year analysis period. Values were discounted at a rate of 7 percent to arrive at a Net Present Value (NPV). The BCA shows a Benefit/Cost ratio of 1.1 for the IH 35E project, representing a NPV of $76.6 million. Additional details on the BCA, including assumptions and model inputs, are provided in **Appendix B**.

Table 7.1: Summary of Benefit-Cost Analysis Results for IH 35E Project

SUMMARY		ITEMIZED BENEFITS (mil. $)	Average Annual	Total (20 year)
Life-Cycle Costs (mil. $)	$1,280	Travel Time Savings	$29.0	$579.4
Life-Cycle Benefits (mil. $)	$1,356	Vehicle Operating Cost Savings	$12.2	$244.1
Net Present Value (mil. $)	$76.6	Accident Cost Savings	$23.8	$476.8
BENEFIT/COST RATIO	**1.1**	Emissions Cost Savings	$2.8	$56.3
Rate of Return on Investment	7.6%	***TOTAL BENEFITS***	**$67.8**	**$1,356.5**
Payback Period	11 years	Person Hours of Delay Saved	7,793,406	155,868,127
		Additional CO2 Emissions (tons)	-109,868	-2,197,355
		Additional CO2 Emissions (mil. $)	-$1.7	-$33.7

8.0 Project Readiness and NEPA

8.1 Project Schedule

The schedule shown in **Figure 8.1** provides details of milestones and timeframes established for project procurement. It is anticipated that contract award will occur in early 2013, with a 5-year construction schedule; allowing for operations of the first phase to begin in early 2018.

Figure 8.1: Project Procurement Schedule

Milestone	Date
Issued Request for Qualifications (RFQ)	January 2012
Proposer submission of Qualification Statements in response to RFQ	March 2012
TxDOT issues short-list of proposers eligible to submit detailed proposals	Spring 2012
TxDOT issues draft RFP to short-listed proposers	Spring 2012
TxDOT issues final RFP to short-listed proposers	Summer 2012
Proposer submission of proposals in response to RFP	Late Summer 2012
TxDOT selection of preferred proposer/conditional award of contract	Late 2012

8.2 Environmental Approvals

As stated earlier, the project was broken into three segments to facilitate environmental documentation: The limits of the three segments are:

- North Segment: US 380 to FM 2181
- Middle Segment: FM 2181 to PGBT
- South Segment: PGBT to north of IH 635

Up-to-date and approved environmental documentation for the project can be found at the following website:

http://www.keepitmovingdallas.com/projects/interstate-highways/ih-35e-from-ih-635-to-us-380/schematics-and-environmental-documents

A Finding of No Significant Impact (FONSI) has been issued by FHWA for the North, Middle, and South Segments of the project. The public involvement and environmental processes for the IH 35E have been ongoing for several years. Below is a history of events related to the environmental process for all three segments:

- **1998** – TxDOT initiated a Major Investment Study (MIS) to gather community input and forward recommendations throughout the process. Thirteen public meetings were held throughout the MIS development process which occurred in the summer and fall of 1998 and 1999.
- **March 20, 2003** – A public meeting was conducted as part of the Environmental Assessment (EA) process for the IH 35E expansion and reconstruction project. The objective of this meeting was to present an overview of the proposed IH 35E project and gather public comments.

- **2005-2008** – Presentations were given to the city councils of several cities along the project corridor. These presentations provided an overview of the proposed project, anticipated timeline for the construction of the proposed project, and allowed the elected officials an opportunity to ask questions.
- **March 20, 2007** – Schematic approved by TxDOT
- **August 6, 2008** – TxDOT held its first Technical Stakeholders meeting for the revised IH 35E Managed Lane Concept.
- **August 27 – September 3, 2008** – A series of coordination meetings were held with stakeholders along the IH 35E corridor.
- **November 10 – 17, 2008** – A series of three Public Meetings were held corridor-wide for public input on the proposed IH 35E improvements
- **October 28, 2009** – Schematics were approved at local, state and federal levels for the North, Middle and South Segments
- **October 28, 2009** – Interstate Access Justification Study Approved by FHWA
- **November 6, 2009** – USACE letter of conditional concurrence issued on the assessment and impacts of the IH 35E project at Lake Lewisville is received
- **January 28, 2010** – FONSI issued by FHWA for the Middle Segment
- **September 27, 2011** – A Public Hearing is held for South Segment
- **October 20, 2011** – A Public Hearing is held for North Segment
- **December 28, 2011** – FONSI issued by FHWA for South Segment
- **January 31, 2012** – FONSI issued by FHWA for North Segment

8.3 Legislative Approvals

In the 2011 legislative session, the Texas 82nd Legislature passed Senate Bill 1420 authorizing TxDOT to enter into comprehensive development agreements for several projects including the IH 35E Managed Lanes Project. This authority was codified in the Texas Transportation Code, §228.013 and Texas Administrative Code §27.90 – §27.92. These codes require that if the project is to be developed under a concession agreement or availability payment contract, a committee must be formed comprised of a representative from TxDOT, the NCTCOG, the NTTA, and each city or county providing funding or right-of-way for the project. The committee must issue a report providing input on the distribution of the project's financial risk, the method of financing for the project, and, unless the project is subject to a regional tolling policy, the project's tolling structure and methodology. The committee's report is scheduled to be submitted by the end of March 2012. Information on the committee, including members and the entities they represent, meeting minutes, and presentations can be found at the following website:

http://txdot.gov/project_information/projects/dallas/i35e/sb1420.htm

On September 29, 2011, the Texas Transportation Commission issued Minute Order 112840 authorizing TxDOT to issue a request for qualifications (RFQ) for the IH 35E project. The minute order can be found at the following location on the internet:

http://www.txdot.gov/about_us/commission/2011_meetings/documents/minute_orders/sep29/11a.pdf

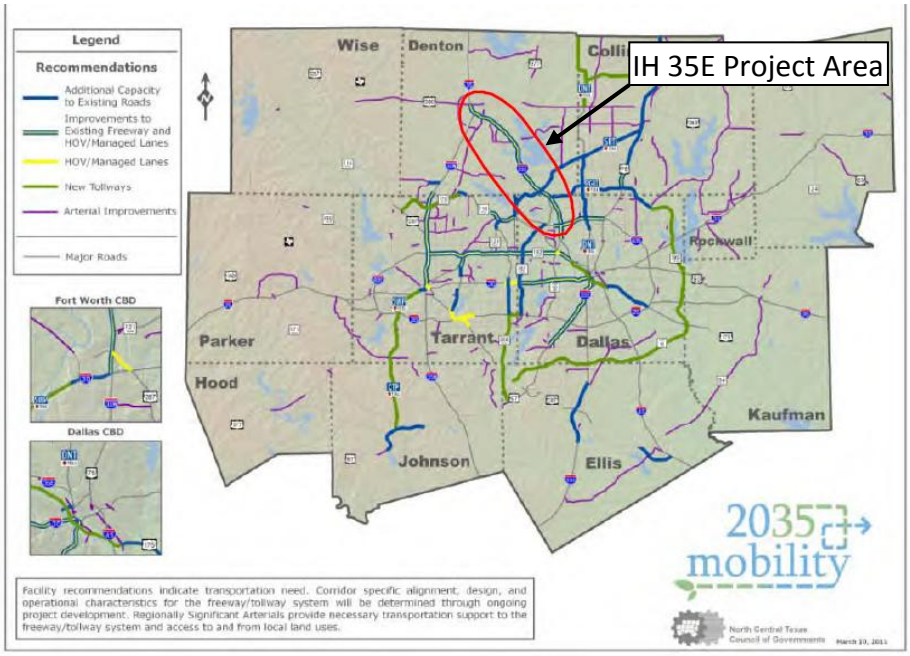
TxDOT issued a RFQ for the IH 35E Project on January 23, 2012. Reponses to the RFQ are due on March 23, 2012. More information on the IH 35E Project RFQ can be found at the following website:

http://www.txdot.gov/project_information/projects/dallas/i35e/rfq.htm

8.4 State and Local Planning

Mobility 2035: The Metropolitan Transportation Plan for North Central Texas (MTP) defines transportation systems and services in the DFW metropolitan area. It serves as a guide for the expenditure of state and federal funds through the year 2035. The plan addresses regional transportation needs that are identified through forecasting current and future travel demand, developing and evaluating system alternatives, and selecting those options which best meet the mobility needs of the region. The proposed IH 35E project is included in the MTP and can be found at: http://www.nctcog.org/trans/mtp/2035/index.asp. Specific details for the project can be found on page 71 in *Appendix G: Transit and Roadway Fact Sheets*.

Figure 8.2: Funded Roadway Recommendations



Within the MTP, IH 35E is identified as part of a regional toll/managed lane network. The implementation of the managed lanes would support the overall regional transportation system need by generating revenue for the operation and maintenance of IH 35E, funding future expansion of the facility, as well as funding additional regionally significant projects.

The Transportation Improvement Plan (TIP) is a staged, multiyear listing of surface transportation projects for funding by federal, state, and local sources within the DFW metropolitan area. It is developed through a cooperative effort of the NCTCOG, TxDOT, local governments, and

transportation authorities. The proposed IH 35E project is included in the most recent version of the DFW TIP. The FY 2011 – 2014 DFW TIP can be found at: http://www.nctcog.org/trans/tip/11_14tip/11-14tipamended.asp.

In addition to the MTP and TIP, the IH 35E was also listed as a top priority in the MY 35 Plan, a plan for the IH 35 corridor in Texas developed 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 corridor. Based on this input, the IH 35E project was recommended by the I-35 Corridor Advisory Committee in the MY 35 Plan as one of the top three roadway projects for implementation within the next five to ten years in this region. The MY 35 Plan was finalized in August 2011 and has been posted at www.MY35.org.

8.5 Technical Feasibility

The IH 35E project has been developed over a number of years, taking into account the needs of the corridor and desires of local stakeholders. Full geometric schematic design drawings have been developed for the ultimate configuration as part of the environmental process; and a preliminary schematic design of the interim configuration has also been developed. During the project planning phases, the project has undergone several cost estimates as well as value engineering and cost saving studies.

Capital cost estimates included in this application were developed by performing a quantity take-off of the proposed interim design. Recent TxDOT unit prices for bid items were applied to the quantities to develop the project construction cost. A 20 percent construction contingency was included for the proposed estimate, which is appropriate for this level of design. Additional items such as aesthetics, mobilization, traffic control and insurance were estimated using a percentage of the construction cost.

Routine maintenance costs were calculated using the annual cost of janitorial-type maintenance such as mowing, litter collection, sweeping, drainage cleaning; regular maintenance items such as crack sealing, striping and lighting maintenance; and damage repair such as attenuators, barriers and signs.

Operations costs were calculated for oversight and safety services such as patrolling, enforcement, service center, and the operation of reversible facilities. Toll collection costs were calculated using a fixed fee per transaction and a variable fee based on revenue, covering costs such as bank charges and interoperability fees.

Lifecycle costs were calculated using TxDOT average low-bid prices and were applied to cycles of replacement infrastructure elements in accordance with good industry practice modified for local conditions such as expansive soils and traffic volumes; and using local engineering judgment for percentages of replacement. It was assumed that existing infrastructure to be retained has minimal residual life.

In order to keep up with the tremendous population growth across the DFW region, TxDOT has developed several major projects over the past several years. Currently there are three major

projects under construction in the DFW area alone; the $1.0 billion DFW Connector Project, $2.0 billion NTE Project, and the $2.7 billion IH 635/LBJ Express Project. As a result of these projects, TxDOT has gained much experience and expertise in the planning, design, procurement and implementation of mega-projects such as the IH 35E. Therefore, TxDOT staff is highly capable of delivering a project of this magnitude.

IH 35E would be operated as a HOV/managed facility. According to the RTC's *Managed Lane Policies,* utilizing managed lanes would require toll collection for both single occupancy and HOV vehicles (***Appendix D: Regional Toll Managed Lane Policies and Appendix E: Express Lane Demonstration Project Toll Agreement.***) Motorists can choose to drive on the general purpose lanes or they can choose to pay for a higher level of service on managed lanes. Drivers can generally expect to pay more to use managed lanes during peak travel times than during off-peak hours.

A reduced toll rate (half price) would be applied towards HOV 3+ vehicles and publicly-operated vanpools during the AM and PM peak periods. During the off-peak periods, HOV 3+ would pay the same toll as Single Occupancy Vehicles (SOV) and HOV 2. The RTC may choose to phase out the HOV discount for the AM and PM peak periods once the air quality attainment maintenance period comes to an end. General purpose lanes and frontage roads, including the proposed added capacity, would remain non-toll for all users.

A policy for TxDOT managed lanes projects, the ***Excess Toll Revenue Sharing: Managed Lane Policy,*** has been developed and approved by the RTC (**Appendix F**). This policy outlines the circumstances under which excess toll revenue would become available and distributed in the region. In the foreseeable future, the proposed IH 35E facility could substantially benefit communities in the project area by generating revenue for additional transportation projects that could also increase capacity, reduce traffic congestion, improve mobility, and improve design deficiencies within the corridor.

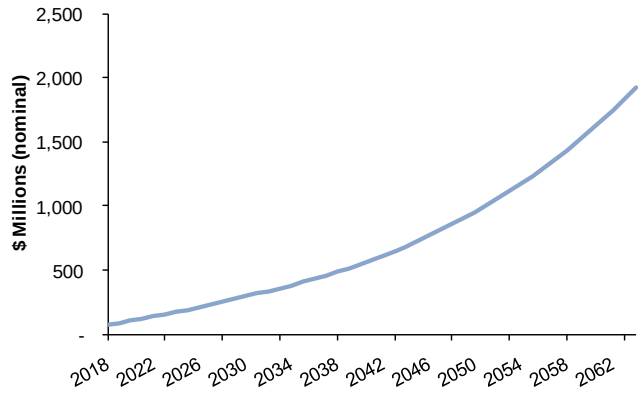
There are currently several major projects under construction in the Dallas-Fort Worth region that will utilize the managed lane concept. The implementation of a regional system of managed lanes will increase Electronic Toll Collection (ETC) participation rates, due to user familiarity to the benefits of this system of managed lane facilities that will all become operational within the 2014-2016 timeframe. As such, the traveling market is expected to be well versed with toll road usage by the 2018 opening of the proposed IH 35E managed lane corridor. The ETC penetration rate is therefore expected to be in a mature state. These levels, however, will be dependent, to a large extent, on the marketing implemented to encourage ETC usage and promote awareness of the advantages multiple toll facilities in the corridor study area provide to potential users. In addition, ongoing efforts by NTTA to promote use of its system as it becomes an all ETC network, along with the current marketing efforts undertaken by TxDOT to promote the statewide interoperability of TxTag, will no doubt accelerate the regional participation rates. In addition, the proposed facility may also benefit from the marketing efforts that may be undertaken for several other managed lane facilities such as LBJ Express/IH 635 and NTE.

8.6 Financial Feasibility

NCTCOG and TxDOT continue to work together with all local stakeholders to ensure the successful delivery of this project critically important to the region. Along with NCTCOG and TxDOT, the public sector entities in the DFW region, including Denton and Dallas counties, the cities along the proposed project route, the NTTA, DART, and DCTA seek the successful development of the Project. Additionally, the RTC has made the Project its highest priority.

Working closely with consultants and advisors, a proposed financing structure has been developed that is both robust and viable. Public funding in the amount of $639 million has been identified from various sources for the project including the Regional Toll Revenue (RTR, i.e. NTTA's SH 121 excess toll revenue payment from November 2007), Congestion Mitigation and Air Quality (CMAQ) funds, Proposition 14 funds, as well as other sources. Approximately $93 million of the identified funds have been spent on early right-of-way (ROW) acquisition and preliminary engineering with $546 million in funds remaining. Efforts to identify additional sources of funds are ongoing. Potential funding sources include state and local bond programs and/or toll revenue bonds as well as private participation. Additionally, the project scope will continue to be refined in order to ensure a financially feasible project. The receipt of TIGER funds will help ensure that the Phase I scope is fully implemented.

Figure 8.3: Project Revenue Projections



Debt service on loans used to finance the facility would be paid through tolls collected electronically via toll gantries located at access points to the managed lanes. The toll rates would be established in accordance with the RTC Managed Lanes Policy in effect at the time any agreements are executed. The rates charged on the facility will be controlled by dynamic pricing, projected to change during the day on five-minute intervals depending on demand patterns and will vary depending on the day of the week and month of the year. Annual variations will be driven by changes in congestion in the network as the population of the region continues to grow, and by increases in a willingness to pay as income levels grow over time. A soft toll rate cap based on performance measures such as a 50 mph minimum speed limit will be implemented along with the ability to exceed that cap during times of deteriorating performance of the managed lanes.

Level II Intermediate and Level III Traffic and Revenue studies have been performed on this project. Recently, new demographic information has become available from the NCTCOG MTP update and the Census 2010 data has also been released. TxDOT is currently updating their current Level III Traffic and Revenue study to reflect this information and this effort is expected to be complete in the near future. For the purpose of this analysis, sketch level traffic and revenue

analysis has been performed taking into account this most recent information to meet the schedule of this application. **Figure 8.3** above depicts revenue information expected on the facility through 2063.

During the recent legislative session, TxDOT was provided with authority under Senate Bill 1420 to develop certain projects through PPP agreements under Texas Transportation Code Section 223.201, including the IH 35E Project. As evidenced by such landmark projects as the NTE and IH 635/LBJ Express, TxDOT has demonstrated the ability to work with the private sector to successfully finance and develop large managed lane highway projects.

8.7 Grant Management

The IH 635 and NTE projects both received loans through the TIFIA program. The ongoing success of these projects demonstrates TxDOT's ability to manage grants, in cooperation with a private sector partner. TxDOT intends to pursue a similar approach for the IH 35E project.

NCTCOG currently manages federal, as well as state administered, grants that are in various stages of development, implementation, and closeout. In fiscal year 2010, NCTCOG facilitated expenditures of $86.1 million from various federal grants including awards from the Department of Energy, Environmental Protection Agency, Federal Transit Administration, Federal Aviation Administration, U.S. Department of Housing and Urban Development, Department of Labor, and the Department of Defense. Also in fiscal year 2010, NCTCOG facilitated expenditures of $50.1 million from various state administered grants including awards from the Texas Commission on Environmental Quality, Texas Department of Health, Texas State Energy Conservation Office, and TxDOT. The NCTCOG Transportation Department employs 20 fiscal and grant professionals who provide financial, legal and compliance support for projects funded from various grants

No adverse audit findings from standards used by states, local governments, and non-profit organizations expending federal awards (Circular A-133) have been found at this time. NCTCOG has not been required to comply with special "high risk" terms and conditions under agency regulations in the implementation of consistency and uniformity in the management of grants and cooperative agreements with state, local, and federally recognized Indian tribal governments (OMB Circular A-102).

9.0 Federal Wage Rate Certification

A Federal Wage Rate Certification is provided in **Appendix C.**

10.0 Material Changes to Pre-Application Form

None