TIGER DISCRETIONARY GRANT PROGRAM
Project Application

Name of Project: US 67 from SH 174 to BU 67/Spur 102

Agency Submitting Project: North Central Texas Council of Governments

Other Project Parties: Texas Department of Transportation (Implementing Agency)

Primary Contact:
Name: Michael Morris
Phone Number: 817-695-9241
Email Address: mmorris@nctcog.org
Street Address: 616 Six Flags Drive
Arlington, TX 76005

Type of Project: Highway

Project Location:
City: Cleburne
County: Johnson County
State: Texas
Congressional Districts: Bill Flores (District 17)

Type of Jurisdiction: Rural Area

TIGER Funds Requested: $20,000,000

Total Project Cost: $24,000,000

DUNS Number: 10-246-2256

TIGER ID: nctcog2011 89776

Table of Contents

List of Exhibits

I. Project Description

The existing US 67 facility, as identified in Exhibit 1, is located on the north side of the City of Cleburne and is currently a two-lane roadway with grade separations at major intersecting roadways. The proposed project is ultimately a four-lane facility, for which all right-of-way has been acquired. The proposed project extends from just west of SH 174 to BU 67/State Spur 102/College Drive, a distance of 4.1 miles. The full US 67 Cleburne Bypass is 10.3 miles long. Exhibits 1 and 2 show the three active construction projects that upgrade approximately 6.2 miles of this bypass from two lanes to four. The proposed project would complete the four-lane conversion for the remainder of the bypass facility.

Targeted Transportation Challenges

Initially completed in 1998, the two-lane roadway provided improved local and regional mobility. However, since the bypass was constructed, the quality of this access has deteriorated due to traffic growth and an increasingly high percentage of trucks. The bypass acts to reduce congestion in downtown Cleburne, but travelers have found this alternate route less attractive as congestion has increased. The significant and increasing usage of trucks and heavy vehicles has led to premature deterioration of the existing infrastructure in some areas. Most crossings within the proposed project are grade separated, but the remaining at-grade intersection with County Road 801B creates operational inconsistencies and safety concerns within the facility. Upon completion of two nearby US 67 projects currently under construction, this unimproved section would be a short (4.1 miles) two-lane facility that could create an operational bottleneck between four-lane sections on each side.

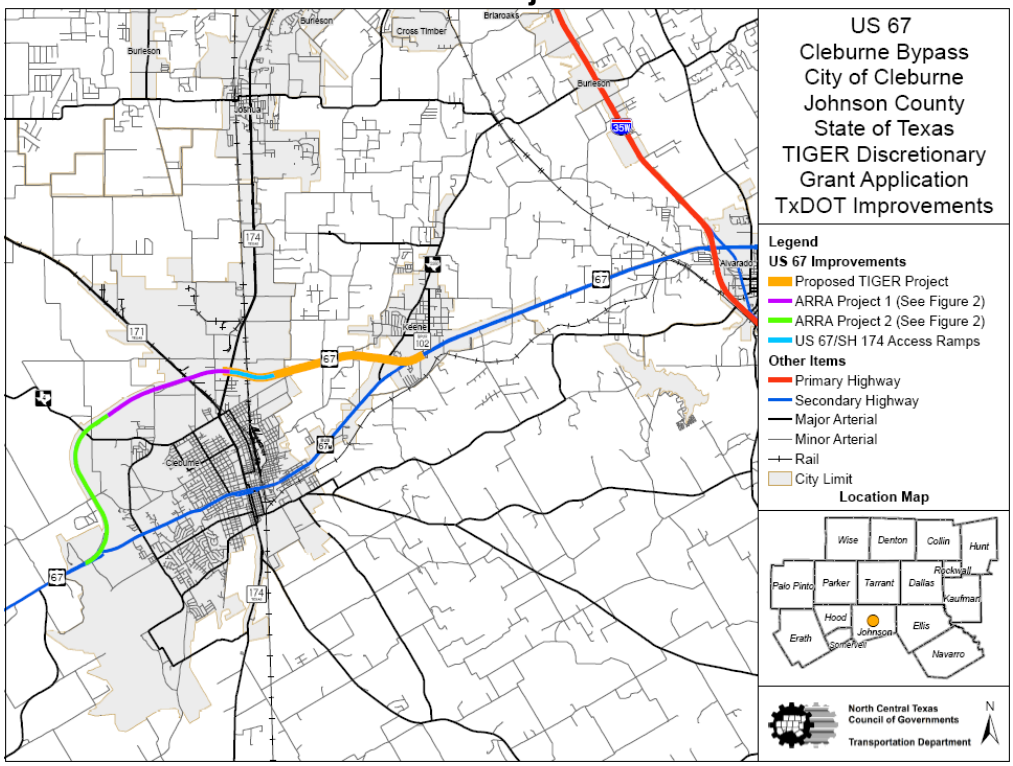
Challenges Addressed

The completed four-lane divided bypass would increase capacity and improve accessibility to public facilities and private property in the northeast quadrant of the city, with implicit benefits to those in downtown Cleburne, as this facility routes through-traffic away from the central business district. Four-lane operations would decrease the operational effects of heavy vehicles by enabling passing movements throughout the facility. The new grade separations and travel lanes would distribute the distress from heavy vehicle traffic more evenly, extending the expected life of the existing infrastructure. Grade separating the County Road 801B crossing and connecting the two four-lane segments on each end will yield operational improvements, including safety benefits. To meet long-range system planning needs, the facility has been designed to allow an extension should construction of a highway for the southeast quadrant become warranted.

Urban vs. Rural Need

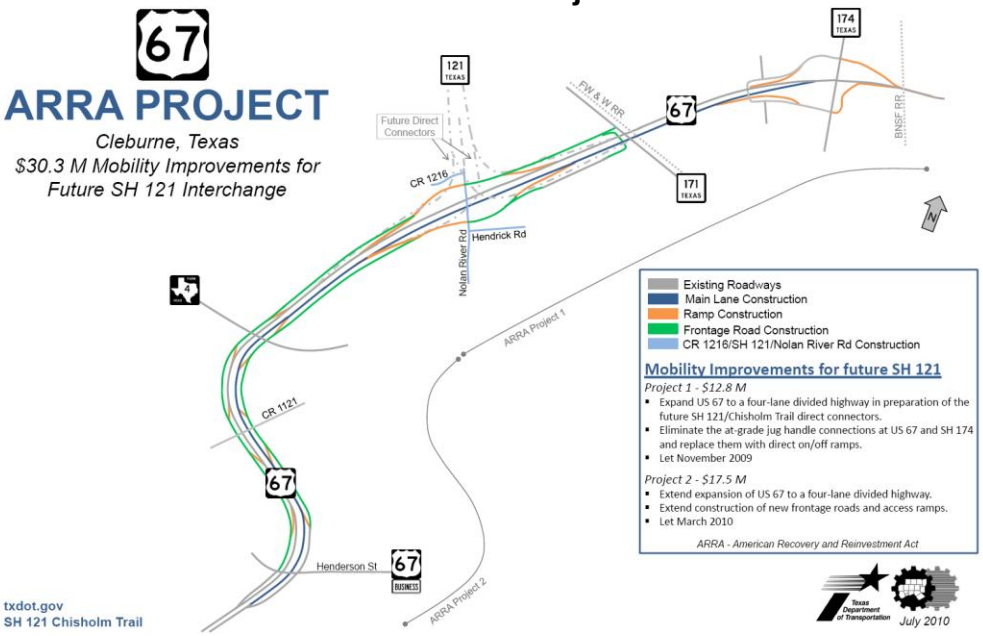
The project is located within the rural community of Cleburne, the county seat of Johnson County. Most of the project is within an urban cluster based on 2000 Census Bureau data. The project is entirely outside the Dallas-Fort Worth (DFW) urbanized area.

Exhibit 1: Project Location



Source: NCTCOG September 2011

Exhibit 2: TxDOT/ARRA US 67 Projects Under Construction



Source: TxDOT July 2010

II. Project Parties

a. North Central Texas Council of Governments (Submitting Agency)

The North Central Texas Council of Governments (NCTCOG) is a voluntary association of cities, counties, school districts, and special districts which was established in January 1966 to assist local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development.

It serves a 16-county metropolitan region comprised around the two urban centers of Dallas and Fort Worth. Currently, the Council has 233 members, including 16 counties, 165 cities, 23 independent school districts, and 29 special districts. The area of the region is approximately 12,800 square miles, which is larger than nine states, and the population of the region is over 6.4 million, greater than that of 35 states.

NCTCOG's structure is relatively simple; each member government appoints a voting representative from the governing body. These voting representatives make up the General Assembly which annually elects a 15-member Executive Board. The Executive Board is supported by policy development, technical advisory, and study committees, as well as a professional staff of 235.

Since 1974, NCTCOG has served as the Metropolitan Transportation Organization (MPO) for the Dallas-Fort Worth area. NCTCOG's Department of Transportation is responsible for the regional planning process for all modes of transportation. The department provides technical support and staff assistance to the Regional Transportation Council (RTC) and its technical committees, which compose the MPO policy-making structure. In addition, the department provides technical assistance to the local governments of North Central Texas in planning, coordinating, and implementing transportation decisions.

b. Texas Department of Transportation (Implementing Agency)

The Texas Legislature originally established the Texas Department of Transportation (TxDOT) in 1917 as the Texas Highway Department. TxDOT's workforce of more than 12,000 employees is made up of engineers, administrators, designers, architects, sign makers, accountants, purchasers, maintenance workers, travel counselors and many other professions. Headquartered in Austin, TxDOT is made up of 21 divisions and 6 offices. Four regional support centers provide operational and project delivery support for the agency's 25 geographical districts.

The project is located in the TxDOT–Fort Worth District which plans, designs, builds, operates and maintains the state transportation system in the following counties: Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Tarrant and Wise.

III. Grant Funds and Sources/Uses of Project Funds

Exhibit 3 details the costs of just the segment of the project that would be funded through this TIGER Discretionary Grant. The proposed project is part of a larger system of improvements to the US 67 Cleburne bypass. Exhibit 4 shows the costs for the full US 67 Cleburne bypass, including the proposed project.

Exhibit 3: TIGER Project Costs

Cost Category	Amount	Funding Source	Percent	Funding Amount[1]
Preliminary Engineering	$0.9 million	TxDOT	100%	$939,000
Construction	$24 million	Local Funds	16.7%	$4,000,000
		TIGER Request	83.3%	$20,000,000
Construction Engineering	$0.8 million	TxDOT	100%	$824,000
PROJECT TOTAL	$25.8 million	TxDOT	6.8%	$1,763,000
		Local Funds	15.5%	$4,000,000
		TIGER Request	77.6%	$20,000,000

Note: [1]Funding amounts are rounded up to the nearest $1,000

Exhibit 4: Total Facility Cost Summary

Cost Category	Amount	Funding Source	Percent	Funding Amount[1]
Project 1 – Segment from 0.6 miles east of FM 4 to SH 174 (TIP #53106) and Project 1 – Intersection from SH 174 to 0.9 miles east of SH 174 (TIP #53128)				
Project Engineering	$0.6 million	TxDOT	100%	$634,000
Construction	$14.1 million	Local Funds	9.3%	$1,305,000
		TIGER Funded	90.7%	$12,795,000
Construction Engineering	$0.6 million	TxDOT	100%	$582,000
Project 2 – Segment from BU 67M to 0.6 miles east of FM 4 (TIP #53116)				
Project Engineering	$0.9 million	TxDOT	100%	$858,000
Construction	$18.2 million	Local Funds	20.6%	$3,743,000
		TIGER Funded	79.4%	$14,466,000
Construction Engineering	$0.8 million	TxDOT	100%	$788,000
TIGER Project – Segment from SH 174 to BU 67/Spur 102				
Preliminary Engineering	$0.9 million	TxDOT	100%	$939,000
Construction	$24 million	Local Funds	16.7%	$4,000,000
		TIGER Request	83.3%	$20,000,000
Construction Engineering	$0.8 million	TxDOT	100%	$824,000
Total Facility – US 67 Bypass from BU 67M to BU 67/Spur 102				
FACILITY TOTAL	$60.9 million	TxDOT	7.6%	$4,625,000
		Local Funds	14.8%	$9,048,000
		TIGER Funded	44.7%	$27,261,000
		TIGER Request	32.8%	$20,000,000

Note: [1]Funding amounts are rounded up to the nearest $1,000

IV. Selection Criteria

To determine how the project aligns with each of the primary and secondary selection criteria, it is necessary to define the area that is to be examined to calculate the elements of the benefit-cost analysis.

Study Area Description

The study areas analyzed for this project consist of a two- and five-mile radius around the project centerline. Exhibit 5 shows population and employment in those study areas and includes demographics for the affected municipalities of Cleburne and Keene, as well as for Johnson County. The two-mile radius around the project encompasses approximately 21 percent and 29 percent of the Johnson County 2010 population and employment, respectively, while the five-mile radius encompasses about 45 percent of population and 54 percent of employment. The NCTCOG 2040 Demographic Forecast projects population increases between 2012 and 2035 of 49 percent and 53 percent for the two-mile and five-mile radius areas, respectively. Employment within the two study areas is expected to grow by 50 percent and 67 percent between 2010 and 2035.

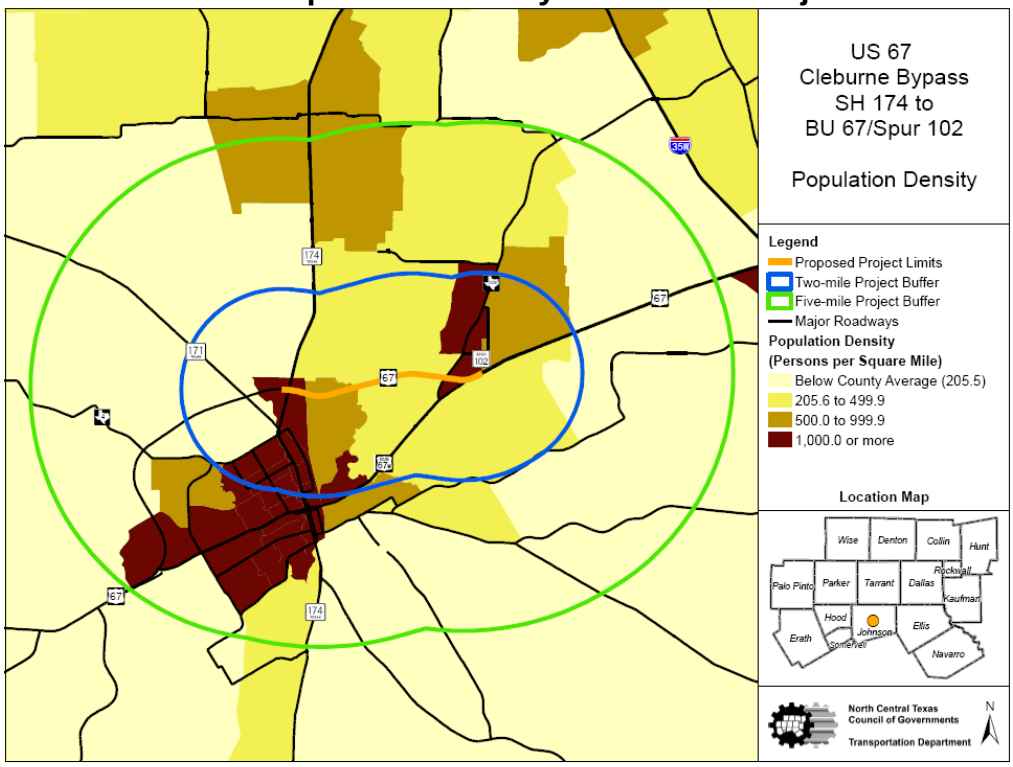
Exhibit 5: Demographics of Project Area

		Year			
Study Area	**Demographic**	**2000[1]**	**2010[1]**	**2010[2]**	**2035[2]**
Two-mile radius	Population	28,503	30,493	33,971	50,548
	Households	9,686	11,317	11,287	17,519
	Jobs	N/A	N/A	18,851	28,346
Five-mile radius	Population	59,477	64,434	73,455	112,122
	Households	20,984	24,955	24,405	38,860
	Jobs	N/A	N/A	35,753	59,579
Geographies	**Demographic**	**2000[3]**	**2010[3]**	**2010[2]**	**2035[2]**
City of Cleburne	Population	26,005	29,337	N/A	N/A
	Households	9,910	10,439	N/A	N/A
City of Keene	Population	5,003	6,106	N/A	N/A
	Households	1,772	1,923	N/A	N/A
Johnson County	Population	126,811	150,934	163,748	272,061
	Households	46,269	52,193	54,406	94,291
	Jobs	N/A	N/A	66,124	133,417

Source: [1]US Census Bureau (Block Group data) [2]NCTCOG 2040 Demographic Forecast, February 2011 (Traffic Survey Zone data, subject to additional refinement) [1]US Census Bureau (City and County demographic profile data)

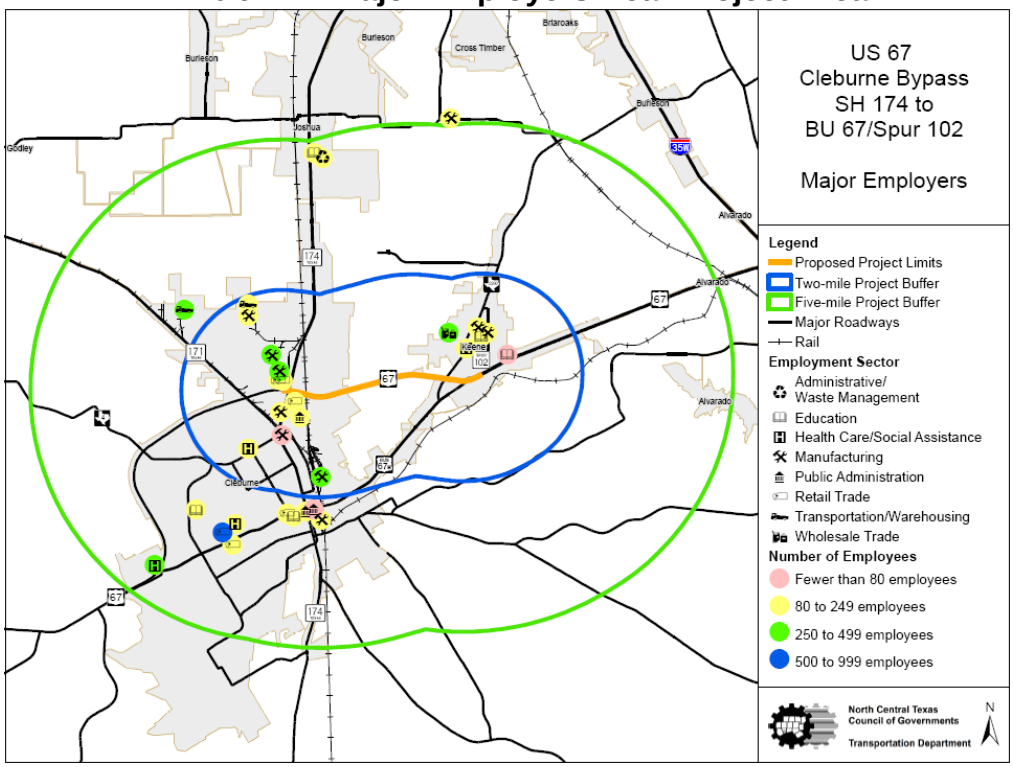
Exhibit 6 displays population densities near the project and Exhibit 7 identifies the locations of major employers near the proposed project. The proposed project would improve roadway connections between local population and employment centers. The proposed project would also improve connectivity to the regional and interstate transportation system, since the US 67 Cleburne bypass is the primary east-west route between IH 35W and the City of Cleburne and major rural arterials such as SH 171 and SH 174.

Exhibit 6: Population Density In and Near Project Area



Map Date: September 2011 Source: 2010 U.S. Census

Exhibit 7: Major Employers Near Project Area



Map Date: September 2011 Source: NCTCOG 2011

Special Generators of Economic Activity

Some employment centers, such as major airports and medical facilities generate traffic over and above the typical traffic generated by employees traveling to and from work. These special generators are generally important to the economic and social life of communities. The only special generator in the analyzed study areas is the Texas Health Harris Methodist Hospital Cleburne (Walls Regional Hospital) at the intersection of US 67 and BU 67 on the west side of Cleburne. Mobility improvements to the proposed facility would improve access to the hospital.

Economically Distressed Area

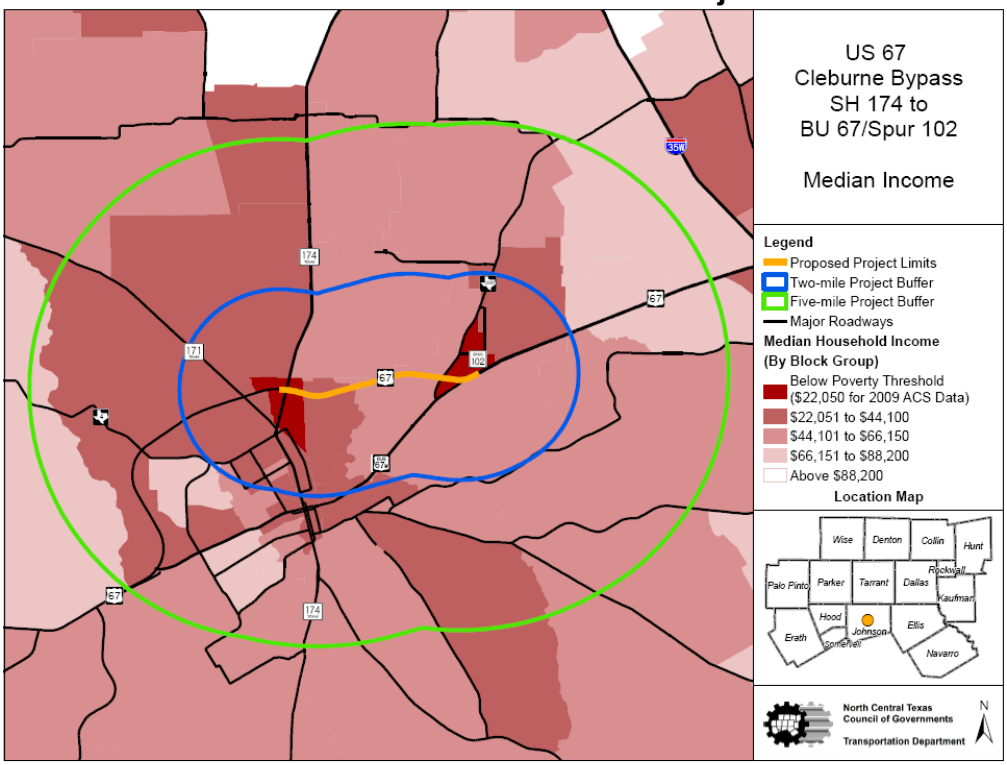
According to the FHWA HEPGIS tool, Johnson County is an Economically Distressed Area (EDA) as defined under 42 U.S.C. 3161 § 301(a). There are two criteria for determining EDAs: per capita income is 80 percent or less of the national average, or the unemployment rate is one percent or more above the national average. Based on 2009 per capita income from the Bureau of Economic Analysis and 24-Month Average Unemployment Rates between July 2009 and June 2011 from the Bureau of Labor Statistics, Johnson County qualifies as an EDA.

In addition to the criteria for classification as an EDA, both the median income levels and poverty rates in the study areas indicate that the proposed project is in an economically disadvantaged area. Exhibit 8 shows median incomes near the project area based on 2005-2009 American Community Survey data. The lowest median incomes in the study area are near both ends of the project. Exhibit 9 illustrates poverty rates near the project area based on 2005-2009 American Community Survey data. Compared to the average poverty rate in Johnson County, the study areas show higher concentrations of poverty, especially along SH 174 near the western end of the project and near downtown Cleburne.

Environmental Justice

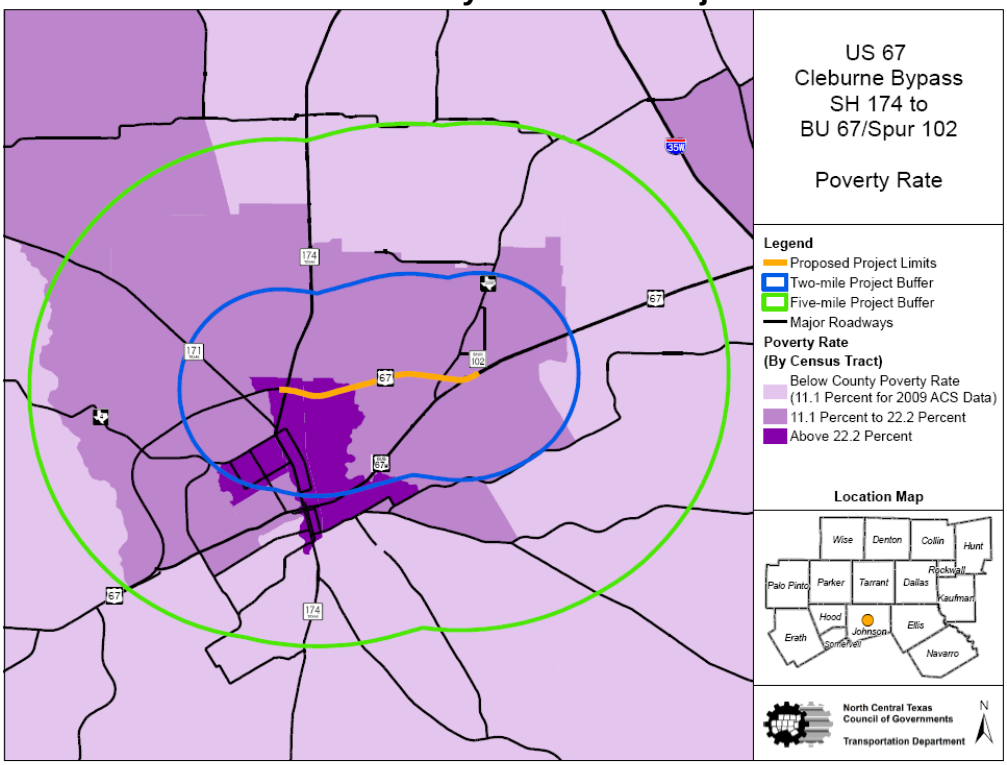
The purpose of environmental justice analysis is to ensure that transportation projects do not disproportionately impact protected populations, including minorities and low income groups. Exhibit 10 highlights minority population locations near the proposed project. The city centers of both Cleburne and Keene have minority populations that are at least twice the county average. Together with the income data in Exhibits 8 and 9, the locations of minority populations are used to identify protected populations. Exhibit 11 displays the NCTCOG environmental justice index, a measure developed to highlight concentrations of protected populations. Based on this index, the area south and slightly west of the project near downtown Cleburne is a locale with higher protected population concentrations than average. The benefits of the proposed facility are expected to extend to both protected and non-protected populations in the study areas.

Exhibit 8: Median Income Near Project Area



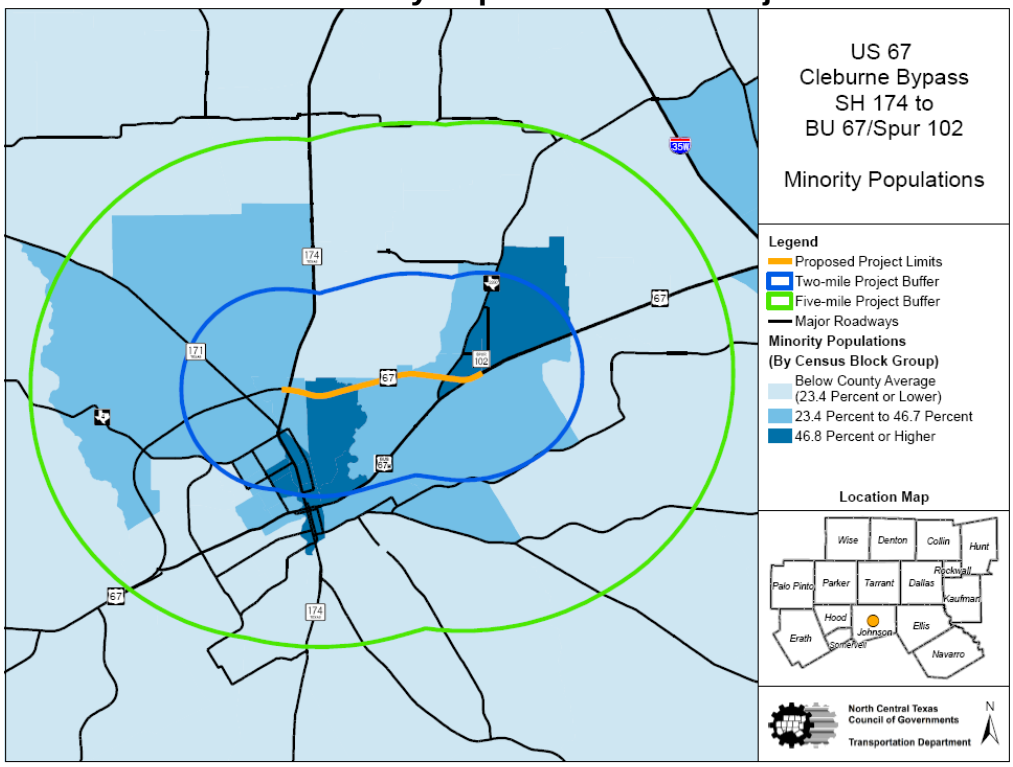
Map Date: September 2011 Source: U.S. Census Bureau, 2005-2009 American Community Survey Data

Exhibit 9: Poverty Rate Near Project Area



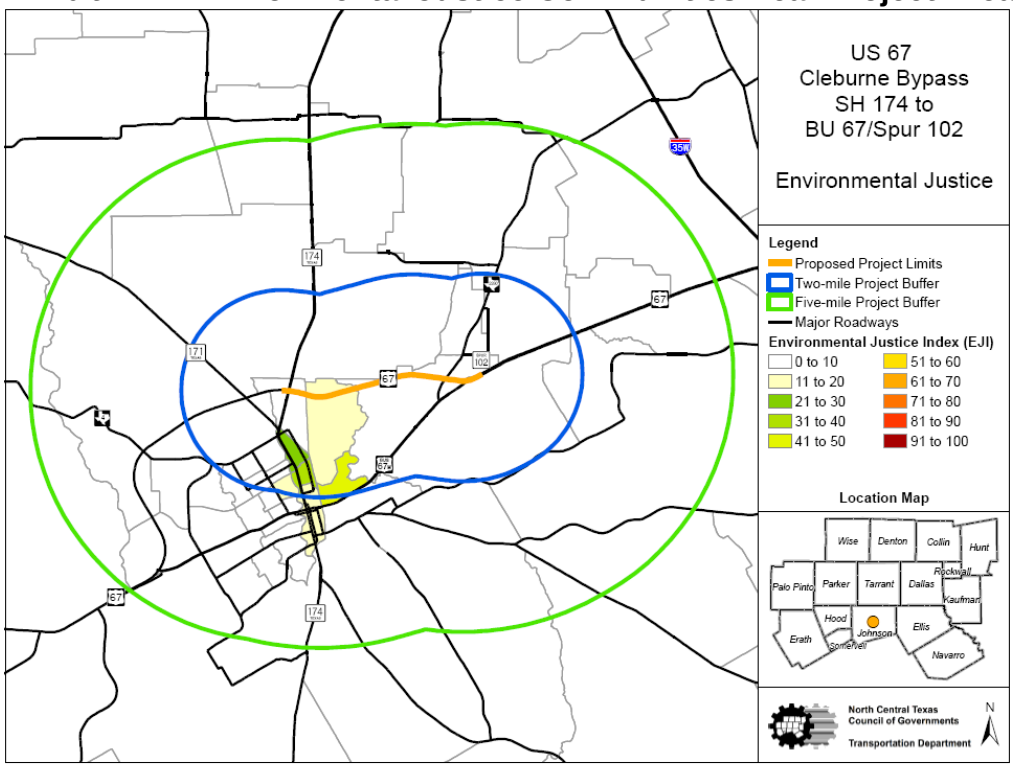
Map Date: September 2011 Source: U.S. Census Bureau, 2005-2009 American Community Survey Data

Exhibit 10: Minority Populations Near Project Area



Map Date: September 2011 Source: 2010 U.S. Census

Exhibit 11: Environmental Justice Communities Near Project Area



Map Date: September 2011 Source: NCTCOG 2011

a. Long-Term Outcomes

A key component of the project benefit-cost analysis was an early identification of a wide range of potential direct and indirect benefits associated with this project, whether those benefits are subjective or objective in their nature. The following table, Exhibit 12, provides a snapshot of these project benefits and how they each relate to the five long-term outcomes as requested by the US Department of Transportation.

Exhibit 12: Identification of Project Benefits

Long-Term Outcome Category	Projected Benefit
State of Good Repair	Lowers maintenance costs
	Reduces frequency of construction and repair
	Extends pavement life
	Reduces pavement wear through weigh-in-motion technology
Economic Competitiveness	Reduces roadway and freight operating costs
	Promotes travel time savings
	Reduces freight shipping costs
	Creates economic development opportunities
	Enhances access to Southwest Parkway and IH 35
	Fuel savings for roadway users, including freight
	Creates construction jobs due to project (short term)
	Supports long-term job creation
Livability	Promotes alternate modes of travel
	Impacts land use changes
	Increases local accessibility and creates alternate routes
	Relieves downtown Cleburne thru traffic
	Reduces congestion on the roadway system
	Promotes system continuity by completing bypass
Environmental Sustainability	Increases reliability of system
	Reduces both recurring and nonrecurring congestion
	Reduces greenhouse gas emissions
	Air quality benefits through reduced emissions ($PM/NO_X/Ozone/CO_2$)
Safety	Reduces fatalities
	Increases safety of Comanche Peak Nuclear Plant evacuation route
	Reduces crash costs and number of crashes

The full benefit-cost analysis for the proposed project is included with the application as an appendix (**TIGERDiscGrant_US67CleburneBypass_BenefitCostAnalysis.pdf**).

i. State of Good Repair

The proposed project would improve the condition of existing and proposed US 67 Cleburne bypass facility and reduce lifecycle costs for the lanes already in place. Due to the uncertainties in quantifying these measures they are not included in Section IV-E – Results of Cost Benefit Analysis.

Lower Maintenance Costs
The existing US 67 Cleburne bypass is a two-lane facility. Capacity reduction could create a traffic bottleneck if one or both lanes were closed during maintenance activities. The proposed improvement would expand the facility to four lanes that could provide continuous connectivity in the event of a temporary closure of two travel lanes.

Extends Pavement Life
The existing facility is comprised of continuously reinforced concrete pavement. TxDOT identified sections of the existing US 67 Cleburne bypass that were deteriorating more rapidly than anticipated due to high truck traffic. The overpasses serve bi-directional traffic, so all heavy vehicles on the facility are served by the same infrastructure. By distributing these heavy vehicles over parallel infrastructure, the effective life of the pavement and bridge structures would be extended.

Reduces Frequency of Construction and Repair
Doubling the capacity of the US 67 Cleburne bypass reduces the usage intensity of each lane of travel. Pavement deteriorates more rapidly under heavy use, so distributing traffic between the existing and additional travel lanes would reduce the frequency of construction and repair on the facility.

Weigh-In-Motion Technology
The addition of weigh-in-motion technology to the proposed project will contribute to the state of good repair of the facility. This technology would facilitate enforcement of weight limits by law enforcement officials, reducing the number of overweight vehicles using the facility. This benefit is difficult to quantify, but it would likely increase the usable life of the existing and proposed facility.

ii. Economic Competitiveness

There are several ways the proposed project contributes to the economic competitiveness of the United States over the medium- to long-term. Two economic competitiveness measures were quantified and included in Section IV-E – Results of Cost Benefit Analysis. Under a discount rate assumption of seven percent the travel time savings would yield a benefit of **$10,474,637** and the fuel savings benefit would be **$901,679**. Alternatively, under a discount rate assumption of three percent the travel time savings would create a benefit of **$18,548,182** and the fuel savings benefit would be **$1,596,667**.

Reduces Roadway and Freight Operating Costs
NCTCOG's travel demand forecasting model indicates mobility benefits from this project in several of the reported performance measures. The benefits in these measures are adequately captured by the travel time savings and fuel savings measures.

Travel Time Savings
Based on travel modeling, the proposed project contributes to a positive reduction in vehicle hours of congestion delay which directly relates to the efficiency and reliability of the roadway system. Reductions in congestion delay directly benefit transportation system users by allowing them to use that time for other purposes. **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

Reduces Freight Shipping Costs
The proposed project would contribute to a reduction of freight shipping costs because of increased reliability and transportation network efficiency due to reduced congestion. These benefits are assumed to be small and are difficult to quantify compared to other economic competitiveness benefit measures.

Economic Development Activities
Improved mobility and connectivity contributes to the economic vitality of the project area and the region. This project would improve system connectivity and promote economic development, but its primary effect is expected to be small relative to other calculated benefits.

Enhanced Access to Interstate Highway (IH) 35W and Chisholm Trail Parkway
Improved access to regional economic centers through regional and interstate transportation facilities would be facilitated by the proposed project. This benefit is difficult to quantify, but the attractiveness and economic competitiveness of commercial and industrial activities within the project area would be enhanced.

Fuel Savings for Roadway Users – Including Freight
As discussed in more detail in the Benefit-Cost Appendix, the proposed project would reduce projected congestion delay compared to the no build alternative. This would benefit transportation system users by reducing fuel wasted during congestion-related delays. **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

iii. Livability

The proposed project fosters livable communities through investments that increase transportation choices and access to transportation services for people in communities across the United States. Due to the uncertainties in quantifying these measures they are not included in Section IV-E – Results of Cost Benefit Analysis.

Promotes Alternate Modes of Travel

Through CleTran, the City of Cleburne and Johnson County provide demand response transit service within the city limits of Cleburne and throughout Johnson County. The majority of CleTran riders are elderly and low income persons. According to CleTran representatives the US 67 Cleburne bypass is one of CleTran's primary routes, so the proposed project would benefit transit users in the study area.

Impacts Land Use Changes

The proposed project would have only minimal impacts to land development patterns in the study area. The land along the facility is within the city limits or extra-territorial jurisdiction of Cleburne and Keene, so the future land use plans of those municipalities would be the dominant influence on future development patterns.

Increases Local Accessibility and Creates Alternate Routes

The projected mobility improvements that would result from the implementation of the proposed project would enhance local accessibility. While this benefit is already quantified through the time savings measure, the increased accessibility to local cultural and community facilities would enhance community cohesion.

Relieves Downtown Cleburne Through-Traffic

The proposed project expands capacity on the existing bypass around downtown Cleburne. By improving the level of service on the US 67 Cleburne bypass, the route becomes a more attractive facility for longer distance through trips not destined for the downtown area. The local arterial streets, including BU 67, in downtown Cleburne do not have sufficient right of way for improvements beyond their current capacity. The construction and expansion of the US 67 Cleburne bypass to handle through traffic has been and continues to be a high priority for the City of Cleburne.

Reduces Congestion on the Roadway System

There are livability impacts of roadway congestion in addition to the economic impacts previously described. While the livability impact is small and difficult to quantify, increased traffic congestion would alter, for some residents, the character and quality of life in Cleburne and Keene. The proposed project would alleviate some of the projected traffic congestion.

Promotes System Continuity by Completing Bypass

US 67 to the east of the proposed facility is a four-lane divided rural arterial. Construction projects scheduled to be completed by summer 2012 will upgrade the US 67 Cleburne bypass to a four-lane controlled access facility to the west of the proposed facility. The construction of the proposed project would complete the expansion of US 67 to a continuous divided roadway of four or more lanes from west of Cleburne to the merge with IH 35E in the City of Dallas, a distance of approximately 55 miles. Providing a continuous four-lane facility for US 67 would meet driver expectations, fulfill community transportation goals, and also encourage continuity in accessibility and adjacent land use development patterns.

iv. Environmental Sustainability

The proposed project would improve energy efficiency, help to reduce dependence on oil, reduce greenhouse gas emissions and benefit the natural environment. Two economic competitiveness measures were quantified and included in Section IV-E – Results of Cost Benefit Analysis. Under a discount rate assumption of seven percent the combined greenhouse gas and air quality benefits would yield a benefit of **$245,299**. Alternatively, under a discount rate assumption of three percent the combined greenhouse gas and air quality benefits would be **$1,369,689**.

Increases Reliability of the System

The proposed project would improve the reliability of the US 67 Cleburne bypass. The existing facility is two-lanes, forcing passing movements to wait for gaps in traffic. The operational characteristics of heavy vehicles and the high truck volumes on the facility can lead to unreliable service for passenger vehicles using the roadway. The four-lane operations of the proposed project would improve traffic operations and benefit users by enhancing system reliability. It is difficult to quantify the cumulative effect of passing movements and congestion caused by heavy vehicle traffic.

Reduces Both Recurring and Nonrecurring Congestion

As noted in other measures, the proposed project would reduce projected traffic congestion compared to a no-build alternative. The travel forecasting process identifies locations with recurring congestion, but does not capture nonrecurring congestion. This nonrecurring congestion is related to crashes, maintenance operations and other temporary obstructions. The environmental sustainability benefits from reductions in nonrecurring congestion are difficult to quantify and the benefits from reductions in recurring congestion are quantified in another measure.

Reduces Greenhouse Gas Emissions

Based on traffic modeling to analyze the build and no-build alternatives, the proposed project would reduce regional greenhouse gas emissions, specifically carbon dioxide (CO_2). **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

Air Quality Benefits through Reduced Emissions (PM/NO_X/Ozone/VOCs)

Based on traffic modeling analysis between the build and no-build alternatives, the proposed project would create air quality benefits, specifically by reducing emissions of nitrogen oxides (NO_X) and volatile organic compounds (VOC). **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

Clean Construction

The incorporation of the clean construction specification leads to increased sustainability benefits for the project, including reductions in air pollutants and petroleum consumption. Investment in newer construction equipment and/or diesel retrofit technologies will result in use of cleaner-burning engines in place of higher-polluting equipment. This will minimize criteria emissions, including ozone-forming NO_X, from

construction equipment, which is critical for further progress in working toward regional attainment of the federal ozone standard. Additional reductions are anticipated in particulate matter (PM) and diesel exhaust, which would also positively impact human health. Furthermore, newer equipment often has a better fuel economy than older engines and incorporate technologies that allow for minimized idling and other added efficiencies. These advances facilitate reductions in petroleum consumption, which support national energy policy efforts. These benefits begin immediately upon project implementation but are long-lasting through the entire useful life of the cleaner equipment and technologies which will be put into service on this project.

Green Concrete

To be conservative, it is assumed that the requirement to use "green" cement will not result in additional air quality benefits, as it is speculated that cement from lower-emitting kilns is widely used in construction projects under normal circumstances. However, inclusion of this requirement will eliminate the possibility of cement being sourced from a kiln with higher emissions, and therefore helps ensure maximum environmental sustainability benefits may be achieved.

v. Safety

The proposed project would have a beneficial impact on the safety of the existing US 67 Cleburne bypass. Two economic competitiveness measures were quantified and included in Section IV-E – Results of Cost Benefit Analysis. Under a discount rate assumption of seven percent the combined crash and fatality reduction benefits would yield a benefit of **$10,954,599**. Alternatively, under a discount rate assumption of three percent the combined safety benefits would be **$19,398,085**.

Reduces Fatalities

An analysis from the Federal Highway Administration summary report "Safety Effects of the Conversion of Rural Two-Lane Roadways to Four Lane Roadways" indicates that conversion to four-lane divided roadway appears to result in significant safety benefits. The conversion from a "most typical" four lane divided roadway appears to result in a crash reduction of 40 percent. The facility averaged 0.29 fatalities per year, so a 40 percent reduction would translate into approximately 0.12 fewer fatality crashes per year and 4.6 fewer crashes over the 40-year life of the project. **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

Reduces Crash Costs and Number of Crashes

The proposed project would convert the existing two-lane facility to a four-lane divided roadway resulting in significant safety benefits. As with the reduced fatality measure, the conversion from a "most typical" four lane divided roadway is expected to result in a crash reduction of 40 percent. The facility averaged 31 crashes per year, so a 40 percent reduction would translate to 12 fewer fatality crashes per year and approximately 496 fewer crashes over the 40-year life of the project. **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

Comanche Peak Nuclear Plant Evacuation Route

US 67 Cleburne bypass is a federally designated evacuation route for the Comanche Peak Nuclear Plant. The proposed project would enhance the suitability of the facility for this function. Because the benefits would only become apparent in the event of an evacuation, they are extremely difficult to quantify.

b. Job Creation and Near-Term Economic Activity

Job creation and near-term economic activity would be promoted by the proposed project. The benefits from this project would create economic opportunities and activity within an economically disadvantaged area. There are no outstanding issues that would slow the implementation of the project should funds be awarded. Long-term job creation benefits were quantified and included in Section IV-E – Results of Cost Benefit Analysis. Under a discount rate assumption of both three and seven percent the long-term job creation would yield a benefit of **$15,450,522**.

Creates Construction Jobs Due to Project (Short-Term)

Even though it is believed this project will result in additional short-term temporary jobs and economic benefit during the construction of the project, short-term job creation was not taken into account or quantified, based on guidance provided by the US DOT.

Creates Long-Term Jobs

The implementation of the proposed project would lead to long-term job creation based on the government capital investment in infrastructure. It is estimated that 261 job-years will be created as a result of this project, as detailed in the Benefit-Cost Appendix. Those 261 job-years translate into roughly 8.7 permanent jobs through the 30-year benefit cycle of this project. **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

Clean Construction

Use of the clean construction specification on this project is anticipated to prompt contractors to replace, repower, and/or retrofit construction equipment which does not meet Tier 2 emissions standards. This will likely result in job creation/retention throughout the supply chain, including equipment dealerships and manufacturers, associated with demand for new equipment and/or technologies. Based upon a formula developed by the Manufacturers of Emission Controls Association (MECA), NCTCOG expects that expenditure of up to $240,000 for equipment replacement/repower/retrofit associated with the clean construction specification will result in approximately 3.6 jobs created or retained. **This benefit has been quantified and is discussed in more detail in the Benefit-Cost Appendix.**

c. Innovation

The proposed project would include three innovative elements to pursue the long-term outcomes outlined in the selection criteria. The project would be implemented using clean construction techniques to increase environmental sustainability. Also, the project

would be constructed using green concrete to increase environmental sustainability. Finally, the project would be implemented with weight-in-motion technology to improve and extend the state of good repair for the existing and improved facility.

Clean Construction Techniques

As the MPO of an ozone nonattainment area, the NCTCOG Transportation Department works to develop air quality control strategies that reduce emissions of criteria pollutants associated with ozone formation, specifically nitrogen oxides (NO_X). Through recent years, NCTCOG staff has been investigating potential strategies to address emissions from construction equipment, which contributes approximately eight percent of ozone-forming NO_X emissions in North Central Texas, according to preliminary modeling conducted by the Texas Commission on Environmental Quality (TCEQ). Staff has determined that contract specifications which include emissions-related requirements on public works or other construction projects may be one of the more promising strategies to reduce emissions.

The negative impacts associated with diesel pollution from construction equipment utilized in roadway projects have been recognized at the federal level through introduction of the Clean Construction Act of 2011. The NCTCOG Clean Construction Specification is similar in nature to this pending legislation. However, the local requirements target reductions in NO_X, which is the primary determinant of ozone formation in the DFW ozone nonattainment area, rather than particulate matter (PM). To set a regional example, take a leadership role, and increase sustainability benefits of this project, NCTCOG will incorporate a Clean Construction Specification on this project. The Clean Construction Specification will help mitigate emissions associated with construction equipment utilized during the construction phase of this project. The specification will require use of construction equipment which meets Tier 2 or better emissions standards, with certain exemptions for situations where such equipment is not practicable (e.g. equipment which is seldom used, equipment brought on-site in an emergency situation). Operational requirements, such as idling limitations, will also be in place. Up to one percent of the total project cost may be utilized to help offset additional project expenses associated with contractors' compliance with this requirement.

Green Concrete

In October 2006, The North Texas Clean Air Steering Committee (NTCASC), a committee of the NCTCOG Executive Board, passed a resolution requesting that local governments in the nonattainment area give special consideration to purchasing cement sourced from cement kilns which meet lowest emissions levels. This measure was passed as another strategy to work toward reducing ozone-forming emissions, specifically NO_X. During construction of this project, NCTCOG will also include a requirement that all cement used in the project be sourced from a kiln which meets an emission rate of 1.7 pounds of NO_X per ton of clinker or less. This requirement will ensure that cement is sourced from a kiln which is using a lower-emitting production process compared to industry counterparts.

Weigh-In-Motion Technology

Virtual Weigh-in-Motion (VWIM) can provide the functionality of a weigh station at a lower cost. A VWIM system may include wireless communications, remote cameras, electronic transponders, optical character recognition (OCR) cameras, and license plate reader (LPR) technology to support enforcement. The VWIM system weighs all trucks, and can refer only those potentially overweight or out-of-compliance vehicles to law enforcement. VWIM systems help to minimize the likelihood of illegally overloaded trucks traveling on the region's highways, which contribute to accelerated road deterioration and increasing safety concerns.

The US 67 corridor carries eight percent trucks, which is higher than the Dallas-Fort Worth regional average of seven percent. The gas drilling activities in Johnson County contribute to the high truck percentage within this corridor. The gas drilling industry is heavily dependent on commercial vehicles to bring equipment, chemicals, sand, and water to the drilling sites, and to transport wastewater from the drilling site locations.

Depending on the type of technology deployed, the system's lifespan is estimated at 10 years and will cost up to $500,000 to furnish and install VWIM infrastructure for a four lane facility, including the necessary auxiliary equipment, integration and communication. As part of this project, NCTCOG proposes the installation of one VWIM at a strategic location within the project limits to aid in enforcing weight limits, while also ensuring that it does not result in diversion of overweight trucks onto arterial streets.

d. Partnership

The US 67 Cleburne bypass project demonstrates a strong commitment to collaboration with a broad range of participants, including integration between transportation planning and implementation efforts and other public service efforts.

i. Jurisdictional and Stakeholder Collaboration

Local representatives from the City of Cleburne and Johnson County have a long-standing tradition of championing the Cleburne Bypass to ensure a well developed local and regional transportation network. In November 1973, a delegation from Cleburne took the initiative and requested that the Texas Transportation Commission authorize a Cleburne bypass. That process led to the construction of the existing two-lane facility. The eventual expansion of the facility to four lanes was incorporated into the environmental assessment, originally approved in 1989.

The continuing support of the City of Cleburne, City of Keene, and Johnson County for the US 67 Cleburne bypass is evidenced through the project's inclusion in local planning documents. This plan is consistent with the regional transportation planning process as developed by NCTCOG, the Metropolitan Planning Organization (MPO) for the DFW Metropolitan Area.

Letters of support for the project have been submitted by the following public entities:

- Texas State Representative Rob Orr (District 56)
- Johnson County Judge Roger Harmon
- Texas Department of Transportation

As shown in Section III, the proposed project is part of a larger system of improvements. The total cost of the two- to four-lane conversion of the entire US 67 Cleburne bypass is approximately $61 million dollars. While funding has been obligated for most of the facility, no reasonably foreseeable financial scenarios would generate the investment needed to complete the project. The TIGER Discretionary Grant would help to complete an overall financing package for the full project.

NCTCOG published Mobility 2035 – The Metropolitan Transportation Plan for North Central Texas in March 2011. This financially constrained plan includes all transportation projects that could be funded through federal, state, local, and private sector investments. NCTCOG, representing municipal and county governments in north central Texas, has committed to financially support the construction of the US 67 Cleburne bypass with $4 million in local funds.

ii. Disciplinary Integration

The three innovative elements demonstrate the value of partnerships across agencies. The VWIM technology will allow for cooperation between law enforcement and transportation agencies to promote a state of good repair for the proposed facility. The commitments to clean construction techniques and the use of green concrete promote incorporating environmental sustainability into transportation projects.

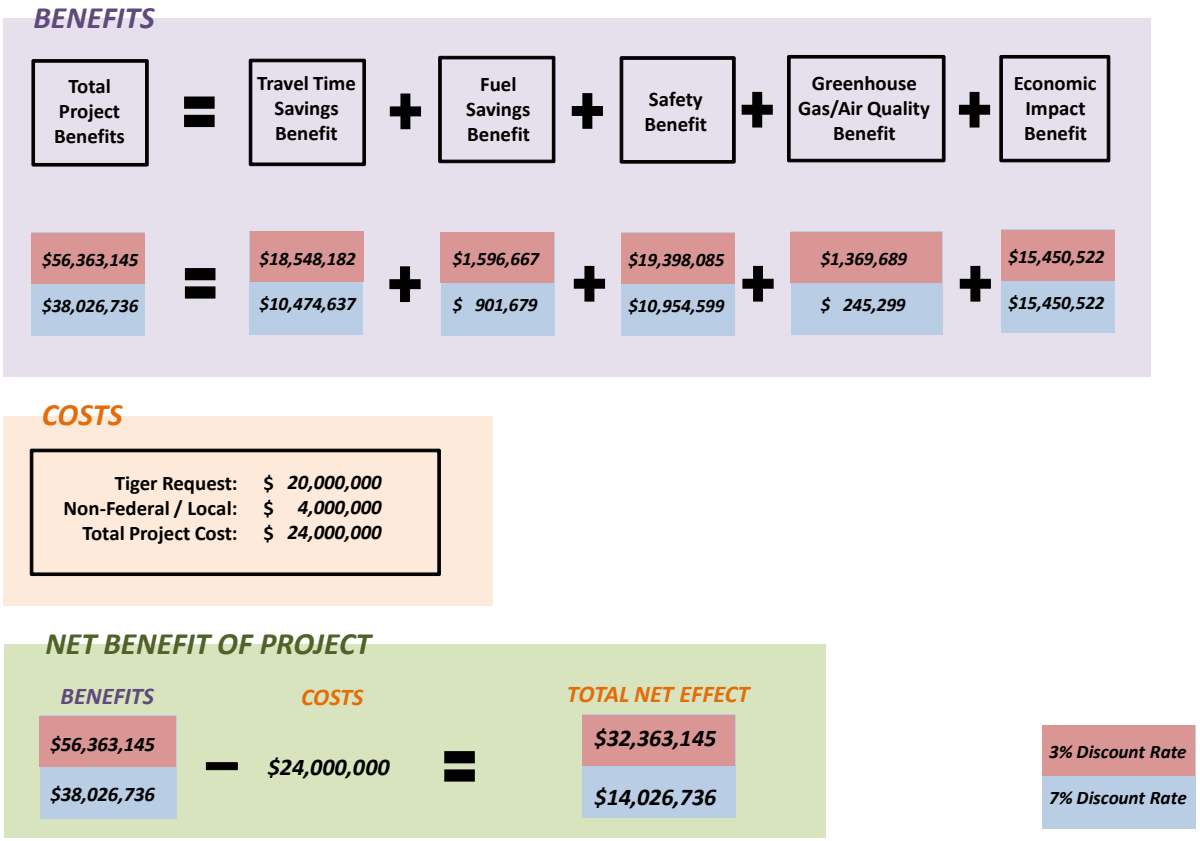
Letters of support for the project, focusing on the commitment to Clean Construction Specifications, have been submitted by the following non-transportation entities:

- American Lung Association
- North Texas Commission
- North Texas Clean Air Steering Committee

e. Results of Benefit-Cost Analysis

The benefits of the US 67 Cleburne bypass project are illustrated in Exhibit 13. As this graphic indicates, each of the benefits described in previous chapters was summed together for both the three percent and the seven percent discount rate of benefits. The total benefits over the life of this project will be **$56,363,145** based on a three percent discount rate and **$38,026,736** for a seven percent discount rate. Applied to a total project construction cost of $24,000,000, a significant benefit is achieved for both discounting scenarios. The overall net effect of this transportation investment will result in a positive lifetime benefit of **$32,363,145** at three percent and **$14,026,736** at seven percent, after discounting the cost of the project. The results of this benefit-cost analysis clearly indicated that this project will provide a lifetime of benefits to the region, and will significantly improve the quality of life for its residents.

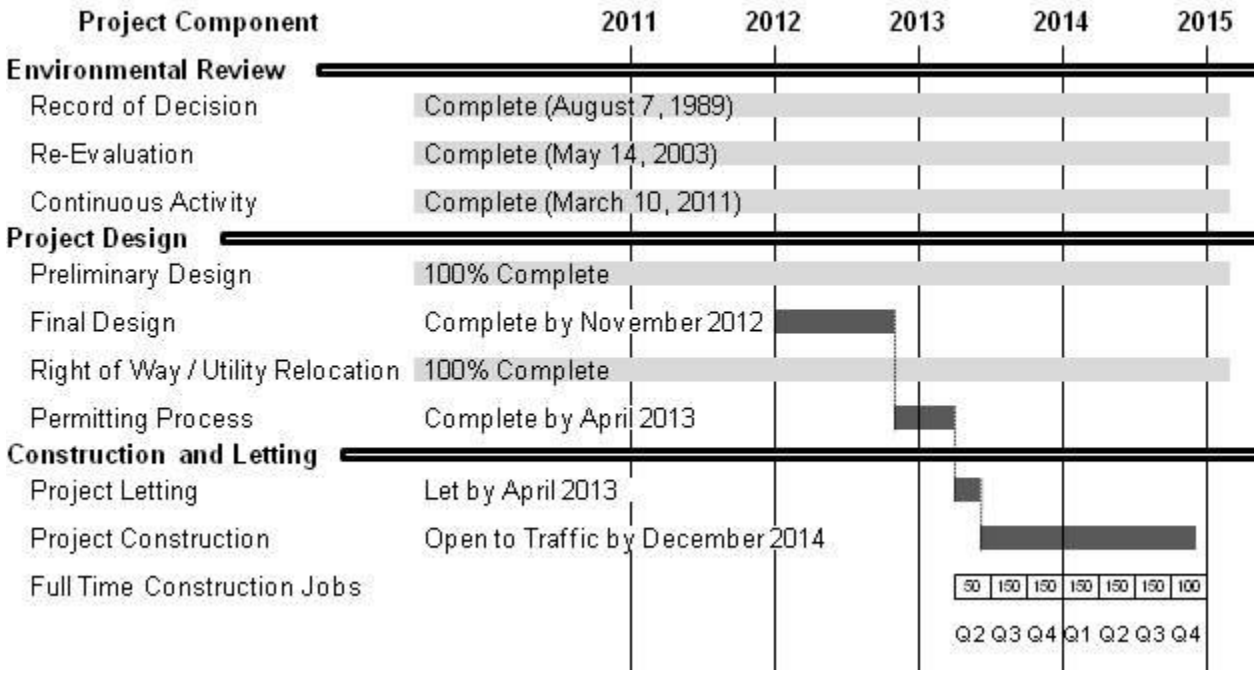
Exhibit 13: Benefit-Cost Analysis



V. Project Readiness and NEPA

a. Project Schedule

Exhibit 14: Schedule by Phase



According to TxDOT, the proposed project is projected to employ 150 full-time workers throughout the construction process. Actual project construction is scheduled to begin in June 2013, the third month of the quarter, only 50 (one-third of 150) full-time positions are projected for the second quarter of 2013. Similarly, construction is scheduled to be completed by December 2014, the third month of the quarter, only 100 (two-thirds of 150) full-time positions are projected for the fourth quarter of 2013.

b. NEPA Status

Status of NEPA Process: Record of Decision, Environmental Impact Statement
Completion Date: August 7, 1989
Final Environmental Impact Statement:
http://www.nctcog.org/trans/tip/private/67FinalEIS.pdf

Status of NEPA Process: Re-Evaluation Approval
Completion Date: May 14, 2003
FEIS Re-Evaluation Approval: http://www.nctcog.org/trans/tip/private/67FEISApprv.pdf

Status of NEPA Process: Continuous Activity [included in current Metropolitan Transportation Plan (MTP)]
Approval Date: March 10, 2011
MTP: http://www.nctcog.org/trans/mtp/2035/index.asp

Description of Needed Federal Actions
For this project, permanent losses to Waters of the U.S. will be below 0.10 acre per location. A US Army Corps of Engineers Nationwide Permit #14 (Linear Transportation Projects) will be assumed, as will a Section 401 from TCEQ. Because there are no navigable waters associated with this project, neither a US Coast Guard Section 9 Permit nor a USACE Section 10 Permit will be required. As these permits and certifications are typically required for many highway projects, and as TxDOT is well-experienced in securing them, no difficulties are foreseen in obtaining them.

c. Legislative Approvals

Legislative approvals are not required for this project.

d. State and Local Planning

Local Planning
US 67 is a recognized facility on the Texas state transportation system, therefore planning improvements to the facility is the responsibility of TxDOT, not local governments. Nevertheless, this project is included in the baseline assumptions of the April 2008 City of Cleburne Master Thoroughfare Plan Update [http://ci.cleburne.tx.us/files/pages/planning/MTP.pdf]. The City of Keene does not have a published thoroughfare plan, but their current zoning map allocates right-of-way within their jurisdiction for the proposed US 67 improvements [http://www.keenetx.us/special-interests/maps/Current_Zoning.pdf?attredirects=0&d=1].

Johnson County's active support of the US 67 Bypass is evidenced through the Johnson County Thoroughfare Plan, adopted in August 2002 [http://www.nctcog.org/trans/thoroughfare/JohnsonCoTP.pdf]. This plan is consistent with the regional transportation planning process as developed by NCTCOG, the Metropolitan Planning Organization (MPO) for the DFW Metropolitan Area.

TIP/STIP Status
This project is not in the current Transportation Improvement Program (TIP). If TIGER funds are awarded to this project, NCTCOG certifies it will be amended into the TIP in advance of construction.

Because Johnson County is classified as a non-attainment county for the pollutant ozone, transportation conformity applies. This project is included in a conforming MTP and would be amended into the State Transportation Improvement Plan once it has been added to the TIP.

Metropolitan Transportation Plan

The proposed US 67 Cleburne bypass project is consistent with the recommendations found in Mobility 2035: The Metropolitan Transportation Plan for North Central Texas [http://www.nctcog.org/trans/mtp/2035/index.asp, Appendix E, page E.55]. The MTP includes this project as a four-lane freeway with grade-separated crossings.

Statewide Transportation Plan

The US 67 Bypass is in Johnson County was not explicitly identified in the Texas Statewide Long-Range Transportation Plan 2035 (SLRTP) [http://www.txdot.gov/public_involvement/transportation_plan/report.htm] or the 2012 Unified Transportation Program (UTP) [http://www.txdot.gov/business/governments/unified_transportation.htm]. Both of these documents indicate that projects identified by MPOs and funded through TIPs would be incorporated into statewide plans. The improvements proposed by this project support the major goals of TxDOT; namely to address future multimodal transportation needs, enhance safety, maintain the existing transportation system, promote congestion relief, enhance system connectivity, and facilitate the development of comprehensive multimodal transportation funding strategies.

e. Technical Feasibility

Technical feasibility is typically a function of a project's engineering components/phases relating to environmental clearance, design, final environmental permitting based on final design, right-of-way acquisition, utility adjustments, relocation of residential and commercial land-owners and/or constructability issues. Parcel acquisition for the US 67 Cleburne bypass is complete, while design work and utility adjustments are substantially complete. Minimal constructability issues are anticipated for the following reasons: 1) the large majority of construction will occur within existing right-of way, 2) grade separations were constructed 10 years ago (Phase 1 construction) to accommodate one-half of the ultimate four-lane roadway, so connectivity at these grade separations may be maintained during construction, 3) disruptions to local businesses are anticipated to be minimal to nonexistent as locally requested access roads were likewise constructed 10 years ago to facilitate and maintain local access during final construction.

f. Financial Feasibility

The viability and completeness of the project's financing package (assuming the availability of the requested TIGER Discretionary Grant funds), including evidence of stable and reliable financial commitments and contingency reserves, as appropriate, and evidence of the grant recipient's ability to manage grants.

VI. Federal Wage Rate Certification

NCTCOG supports entities that comply with federal labor laws. Any procurement activities sponsored by these entities require compliance with all federal, state, and local laws. In addition, in order to qualify for incentives, businesses must abide by all federal, state, and local laws.

As indicated above, NCTCOG complies with Title VII of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA). Both of these laws require all private employers, state and local governments, and education institutions that employ 15 or more individuals, private and public employment agencies, labor organizations, and joint labor management committees controlling apprenticeship and training to comply. As a matter of policy and law, these agencies will follow these laws and principles for this (and all) projects.

As the submitting agency, NCTCOG certifies compliance with federal wage rate requirements as indicated on the next page.

VII. Material Changes to the Pre-Application Form

None

Federal Wage Rate Requirement

The North Central Texas Council of Governments (NCTCOG), as an applicant for Transportation Investment Generating Economic Recovery (TIGER) Discretionary funds under the American Recovery and Reinvestment Act (ARRA), certifies that for TIGER funds awarded to NCTCOG it will comply with the requirements of Subchapter IV of Chapter 31 or Title 40 (40 U.S.C. 3141, *et. seq.*) (federal wage rate requirements) as required by the 2009 American Recovery and Reinvestment Act.

Furthermore, NCTCOG annually certifies compliance with the Davis-Bacon Act as amended, 40 U.S.C. 3141 *et. seq.*, the Copeland "Anti-Kickback" Act, as amended, 18 U.S.C. 874, and the Contract Work Hours and Safety Standards Act, as amended, 40 U.S.C. 3701 *et. seq.*, regarding labor standards for federally assisted projects. NCTCOG certifies to this provision within its annual Certifications and Assurances to the Federal Transit Administration.

Monte Mercer, CPA
Deputy Executive Director
North Central Texas Council of Governments

10/25/2011
Date