

**TIGER DISCRETIONARY PROGRAM
Project Application**

Name of Project: SH 121 (Section 13)

Agency Submitting Project: North Central Texas Council of Governments

Primary Contact:

Name: Michael Morris

Phone Number: (817) 695-9241

Email Address: mmorris@nctcog.org

Type of Project: Highway

Project Location:

City: Grapevine and Coppell

County: Dallas

State: Texas

Congressional Districts: Kenny Marchant (District 24)
Michael Burgess (District 26)

Rural or Urban Area? Urban

TIGER Funds Requested: \$ 85,000,000

DUNS Number: 10-246-2256

General Project Information

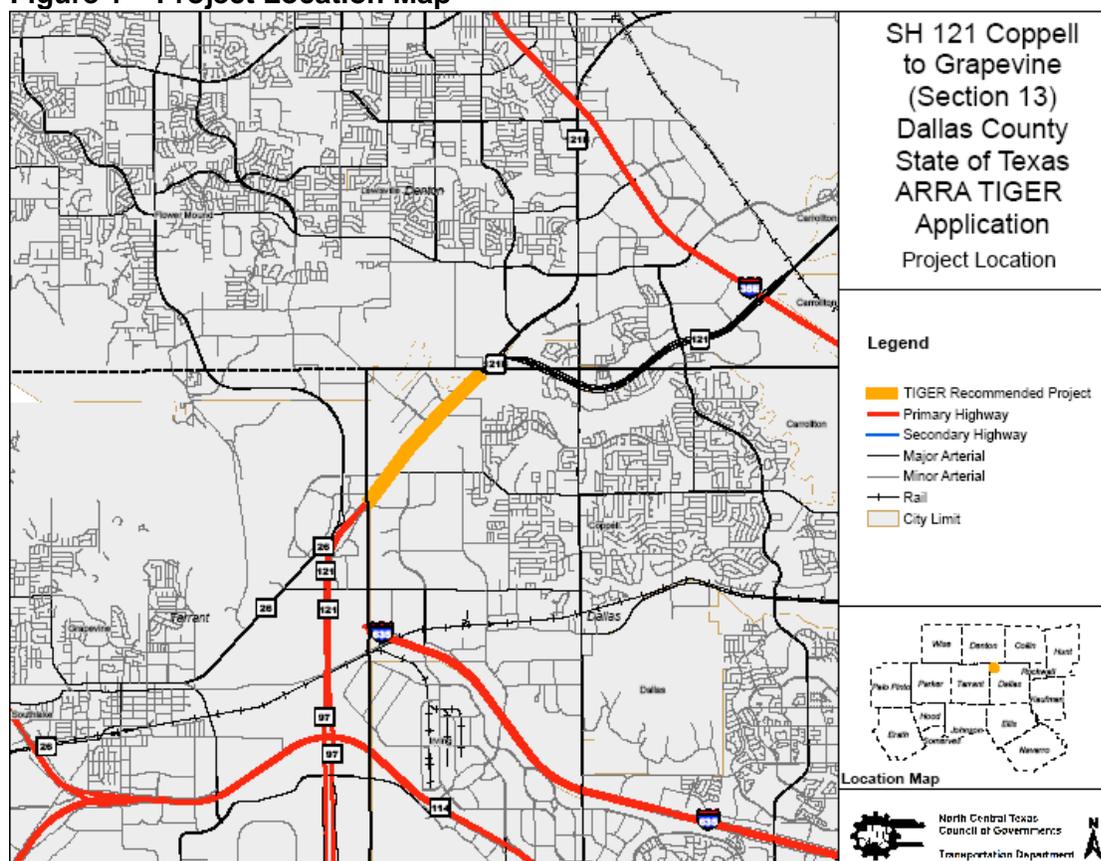
Submitting Agency/Grant Recipient: North Central Texas Council of Governments
Implementing Agency: Texas Department of Transportation

Project Name: SH 121 (Section 13)

Project Limits: Tarrant County Line to Denton Creek

Project Scope or Description: Widen existing highway from four to ten lanes, including frontage roads. The proposed project will connect an existing 10-lane cross section roadway with a proposed 10-lane cross section roadway. The existing 4-lane roadway will serve as the future northbound travel lanes when completed. **Figure 1** identifies the project location.

Figure 1 – Project Location Map



Urban vs. Rural Need: The proposed project is located within an urban area. The land within the project area is dominated by commercial development with a scattering of suburban development and patches of ranchland. The SH 121 (Section 13) project serves local area traffic related to employment, retail and commercial activities, as well as regional through-traffic. In addition to supporting local economic development along the corridor, the proposed project would provide better connections with existing and planned arterial roadways intersecting the corridor.

Primarily the project will eliminate an “hour glass” effect by connecting the existing ten-lane Sam Rayburn Tollway and SH 121 frontage roads to the proposed 10-lane cross section DFW

Connector project with a consistent lane configuration. The existing SH 121 (Section 13) four-lane cross section was constructed as a temporary solution to eliminate several traffic signals on an existing arterial (SH 121). The temporary roadway facility connects two limited access segments (at the northern and southern project termini) with a limited access segment.

Employment in the study area served by the proposed project is concentrated at Dallas/Fort Worth International Airport (DFW Airport) and its surrounding commercial and industrial complexes. Constructing the proposed roadway facility would help satisfy the growing mobility and access needs within the study area. In addition to the DFW Airport, major nearby trip generation land uses include Grapevine Mills Mall and other large retail outlets. Major employers Verizon and the DFW Trade Center are located a short distance north of the proposed project study area.

Targeted Transportation Challenges: Currently the northern terminus connects to a ten-lane cross section. The southern terminus connects to a four-lane limited access facility which is moving into construction under a Comprehensive Development Agreement (CDA) with a private collaborative effort for a project known as the DFW Connector. When completed, the project's southern terminus will connect to a ten-lane cross section similar to the northern terminus connection. The primary transportation challenge is to connect each terminus with a similar ten-lane cross section.

Currently the four-lane limited access roadway is a temporary solution constructed to eliminate signalized intersections between two limited access facilities. The temporary facility capacity is not adequate under existing peak period conditions and will be functionally obsolete upon completion of the DFW Connector project. The existing four-lane facility is anticipated to serve as the northbound limited access lanes of the proposed ten-lane section.

In general, several transportation challenges would be eliminated with the implementation of this project. Primarily, safety would be increased with the elimination of the "Jersey" barrier and the addition of standard inside and outside shoulders. Congestion in both the morning and evening peak periods would be reduced with the elimination of the "hour glass" effect.

The current roadway is constructed with a temporary "Jersey" barrier separating two northbound and two southbound lanes. The proposed SH 121 (Section 13) project will eliminate this unsafe condition by constructing a similar facility to accommodate southbound traffic.

Generally there are no major transportation challenges to constructing the proposed facility. It is anticipated the proposed facility would be constructed using standard roadway construction practices. With the recently constructed roadway at the project's northern terminus as an indication, no major obstacles from environmental, geotechnical or community perspectives are anticipated.

The exploration of any modern, roadway design solution inevitably generates some degree of individual citizen concern on select topics. Improvements to the SH 121 corridor have been publically discussed throughout the concept's twenty five year history. The SH 121 corridor has been divided into segments and has achieved public consensus. A joint Texas Department of Transportation (TxDOT)/City/County/community stakeholder process has recommended a ten-lane freeway with frontage roads as the preferred transportation solution. In addition, the Cities and County, the North Central Texas Council of Governments (NCTCOG), and the local communities are anxiously anticipating project completion to improve congestion levels,

enhance passenger and freight movements and safety-related opportunities from the DFW Airport to US 75. **Table 1** provides a listing of total project costs and available funding from other sources.

Table 1 – Total Project Costs and Available Funding from Other Sources

Phase	Cost	Available Funding Amount	Funding Source	% Shares by Source	Costs Already Incurred
Engineering	\$4,504,864	\$2,425,383	State Hwy Fund	100% State	\$2,431,543
Environmental Review	\$385,000	\$373,247	State Hwy Fund	100% State	\$373,247
Right-of-Way	\$20,325,000	\$20,325,000	Cat 2 & 10% Dallas County	Federal - \$11,619,998 State - \$1,530,001 Local - \$7,175,001	0
Utility Relocation	\$898,800	\$898,000	Cat 2 & 10% Dallas County	State - \$809,820 Local - \$88,980	0
Construction	\$85,000,000				0

Project Schedule: Construction plans are approximately 60% complete and will be considered 100% complete in July 2010. Construction will begin in November 2010 and will be completed by April 2013. The project will be completed in an efficient and expeditious manner following TxDOT's guidance entitled Standard Specifications for the Construction of Highways, Streets, and Bridges. The project schedule is further identified in **Table 2** below.

Table 2 – Project Schedule

Phase	Estimated Start Date	Estimated Completion Date
Engineering	January 2008	July 2010
Environmental Review	CatEx Approved – 9/29/2006 Continuous Activity Required	Continuous Activity Memorandum – May 2010
Right-of-Way	TBD	July 2010
Utility Relocation	TBD	July 2010
Construction	November 2010	November 2012

Legislative Approvals Needed: No additional state or federal legislative approvals are needed. Letters in support of the project are attached.

State and Local Planning:

Local Planning: This project is the result of a collaborative planning effort by the City of Grapevine, the City of Coppell, Dallas County, North Texas Tollway Authority, TxDOT, NCTCOG, and the citizens of Dallas and Tarrant Counties.

TIP/STIP Status: The SH 121 (Section 13) project is included in Chapter 7 of the *2008-2011 Transportation Improvement Program, Amended April 2009*.

Metropolitan Transportation Plan: The proposed construction of SH 121 (Section 13) freeway lanes in Dallas County is consistent with the recommendations found in Mobility 2030: The Metropolitan Transportation Plan for the Dallas/Fort Worth Area, 2009 Amendment. The Metropolitan Transportation Plan includes this project as a widening from four lanes to ten lanes. Currently four freeway lanes are open in this section of SH 121; both directions of travel are accommodated on the southbound pavement, which was built to become the ultimate five-lane section. This project will complete the northbound five-lane section for a total of ten lanes. The project will also enhance the safety of the corridor through the conversion of this interim facility to its ultimate design, which includes the provision of full shoulders and the replacement of temporary Jersey barriers.

Statewide Transportation Plan: Because Dallas County is classified as non-attainment for the pollutant ozone, transportation conformity applies. This project is included in a conforming Metropolitan Transportation Plan and the State Transportation Improvement Program.

Technical Feasibility: This section of SH 121 proposed for upgrading is currently a four-lane divided roadway (two main lanes in each direction) with frontage roads in each direction and with grade separated structures at Grapevine Mills Drive/Sandy Lake Road and Freeport Parkway. The posted speed limit is 55 mph on the main lanes and 45 mph on the frontage roads.

The existing four-lane divided roadway with frontage roads was re-constructed in June 2009. Phase 1, the re-constructing of the four-lane divided roadway with frontage roads, laid the foundation foot print to expand the roadway to a ten-lane freeway with six-lane frontage roads. The recently completed concrete paving and bridges at Grapevine Mills Drive/Sandy Lake Road and Freeport Parkway can be expanded and/or additional pavement and parallel bridge structures can be constructed.

Additional right of way (ROW) is required. The right-of-way map has been completed. ROW acquisition is anticipated to begin in the near future with funding available for parcel acquisition.

The design schematic, reflecting the ultimate ten-lane freeway facility, was approved by the Federal Highway Administration (FHWA) on May 25, 2006. A Categorical Exclusion was approved by the FHWA on September 29, 2006. A Continuous Activity Memorandum will be required after September 29, 2009.

The plans, specifications and estimates are 60% complete. The construction plans will be completed and the project will be ready to solicit bids for construction in July 2010. The existing

level of design detail indicates the project is technically feasible. Project schematic plans are provided as an attachment.

Financial Feasibility: The Federal Highway Administration, Texas Department of Transportation, the Cities of Grapevine and Coppell, Dallas County and the North Central Texas Council of Governments continue to work together as a proactive team to ensure the best interests of the project; community and sponsoring agencies are maintained at all times. Tools for assisting management throughout the design phase include annual scope and estimate documentation, annual schedule updates, right-of-way acquisition monitoring and mapping, and project management meetings with stakeholders.

Pursuant to prior mutual transportation endeavors across north Texas, the Federal Highway Administration, the Texas Department of Transportation, the Cities of Grapevine and Coppell and Dallas County will enter into funding and construction agreements as necessary. These agreements will strictly outline roles, methods for oversight, and project responsibilities. Oversight methods identified in the agreements are applicable risk management tools for the aforementioned risks specifically identified for the project.

Annual project updates would be prepared as necessary and include current inflation rate review, unit bid prices, current costs associated with right-of-way acquisition, project implementation schedule, project scope and/or design revisions.

The proposed project is already underway. As previously stated, the project has undergone years of prior public involvement consensus-building per National Environmental Policy Act (NEPA) guidelines. Therefore the project now needs to be constructed as soon as possible to satisfy its primary need and purpose: travel safety. The project is considered a priority project among all involved agencies including the Cities of Grapevine and Coppell, Dallas County, NCTCOG and TxDOT.

Category 2, Metropolitan Area (TMA) Corridor Projects funds were utilized to finance the recently constructed Phase 1, and the acquisition of ROW and utility adjustments for this phase of SH 121. This section is a small segment of the overall SH 121 and Sam Rayburn Tollway corridor. However this segment (Section 13) does not have construction funding allocated for a conversion to a limited access freeway. This project ties to the adjacent Tarrant County Projects of SH 114, SH 183, etc., and is adjacent to other TxDOT Dallas District projects. This project also connects to North Texas Tollway Authority projects (Sam Rayburn Tollway) to provide a continuous facility from the DFW Airport and Grapevine Mills Mall area to US 75 in central Collin County.

TxDOT does not have State or Federal Funding appropriated at this time for this project. The proposed SH 121 (Section 13) project is financially feasible with the inclusion of the requested TIGER funding.

Certification of compliance with Subchapter IV of chapter 31 of Title 40 (federal wage rate requirements) is provided at this link: [SH 121 Section 1511 Certification](#)

Environmental Outcomes

There are no significant impacts to the natural, social, or economic environment. The project has completed a Categorical Exclusion (CE) documentation process.

NEPA Approval Date: Categorical Exclusion approved by FHWA on September 29, 2006
Continuous activity required after September 29, 2009

Web link to final CE, ROD, or FONSI: The project schematic drawings can be viewed at the following web site: <http://www.keepitmovingdallas.com/SH+121/>. The DFW Connector (from FM 2499 to west of Business SH 121) is listed at the very bottom of the SH 121 listing.

The project's Categorical Exclusion can be viewed here:
<http://www.nctcog.org/trans/tip/private/121CE.pdf>

Description of Needed Federal Actions:

No additional federal actions (i.e., permits) are needed to implement this project.

Federal Wage Rate Requirement

Primary Criteria:

1. Long Term Outcomes

- a. **State of Good Repair:** The Texas Department of Transportation has a fully implemented asset management plan for existing roads and bridges on the state highway system, which will include this project's capacity enhancements upon completion. As part of its asset management effort, TxDOT conducts an annual assessment and inspection program of its major assets, summarizes the findings and makes recommendations for maintenance efforts. TxDOT uses an inventory and condition assessment process to report condition ratings and replacement costs associated with its major assets. This assessment provides a basis for the prediction of costs needed to maintain assets and manage funding needs. Typical activities will include striping, pavement maintenance, pavement rehabilitation, landscaping rehabilitation, coated surface remediation and bridge related maintenance activities including bearing replacement, decking repairs and skid resistance texturing, and seal integrity. TxDOT's assets are maintained with a view of the "total" cost or "life" cost of the assets. Maintenance and rehabilitation is planned to prevent significant deterioration. This approach saves money over the life of the assets and provides the best experience for the roadway user. Industry practices are followed to assess the condition of the assets to plan and manage the maintenance activities.

The old SH 121 roadbed had surpassed its expected life cycle. The existing four-lane divided roadway with frontage roads was re-constructed in June 2009 to eliminate signalized intersections. The four-lane divided roadway reconstruction with frontage roads laid the foundation footprint to expand the roadway ultimately to a ten-lane freeway with six-lane frontage roads. The current level of service during peak hours is F, which is characterized by heavy

congested flow, traffic demand exceeding roadway capacity and forced or breakdown traffic flow. By 2025, this section of roadway is expected to experience an increase in traffic volumes by 84 percent. Therefore, to preserve the concrete roadway completed in June 2009, additional travel lanes are necessary to accommodate the existing and projected traffic volumes.

TxDOT will allocate funding for long term maintenance operations through in-house maintenance and routine maintenance contracts.

The SH 121 has a current classification of a "Very Good" condition score. The condition score exceeds TxDOT's statewide goal. The additional capacity of six new through travel lanes will better accommodate the current over loaded roadway. The current and future traffic volumes will be disbursed across ten travel lanes instead of four and the life span of the existing four lanes will be significantly increased.

- b. Economic competitiveness:** Based on a cost benefit model developed by NCTCOG staff, the SH 121 (Section 13) project should have a net positive effect on the economy of \$26.8 million annually and create 292 permanent jobs nationally when complete. The methodology for the cost benefit model is included as an attachment. SH 121 is the primary northern route to DFW Airport, the seventh busiest airport in the world based on passengers served. SH 121 is also the shortest and fastest route from rapidly growing suburbs in Collin and Denton County to Tarrant County and Fort Worth. During construction there will be a net benefit to the economy of \$63.8 million and 346 jobs over each of the two years of the project. This project will have a long-term return on investment of 392% and generate 98% of the project cost in taxes (assuming a 25% capture rate).

The 292 permanent jobs created will be very diverse. Given the road's importance to the regional transportation network, any decrease in congestion will ease access for time-sensitive freight and passenger traffic accessing DFW Airport from the north. This improved accessibility to the airport will generate most of the 292 permanent jobs. These jobs will be in the service, hospitality, and retail industries related to passenger travel, as well as time-sensitive distribution and manufacturing industries surrounding the airport.

The 346 jobs created during construction will be primarily construction workers, their vendors, and retail and service jobs supported by their spending.

The areas within a two-mile radius of the SH 121 (Section 13) project are not considered an economically distressed area (by definition in 42 USC3161). According to the 2000 Census, the median income in the two-mile radius of the project area was \$78,189, compared to the national average of \$41,994. The poverty rate within a five-mile radius of the project area was 3.4 percent compared to the regional average of 8.1 percent. Please refer to **Figure 2** – Median Income; **Figure 3** – Poverty Rate; **Figure 4** – Male Unemployment Rate; **Figure 5** – Female Unemployment Rate; and, **Figure 6** – Environmental Justice maps for graphical data.

The SH 121 (Section 13) project will greatly support the new investment, expansion, and private sector production in Dallas. The project connects to major employment centers and residential locations. In addition, the project is in close proximity to the Dallas Fort Worth International Airport and Trinity Railway Express (TRE) rail line. The project is also within proximity of a major freight rail line as shown in **Figure 7 – Airports and Rail**.

The SH 121 (Section 13) project is an integral component of the road and rail infrastructure planned within the NCTCOG's Mobility 2030: The Metropolitan Transportation Plan for the Dallas-Fort Worth Area, 2009 Amendment. **Figure 8 – Mobility Plan 2030 – 2009 Amendment – Rail Recommendations** and **Figure 9 – Mobility Plan 2030 – 2009 Amendment – Roadway Recommendations** depict the road and rail networks within the plan.

Figure 2 – Median Income

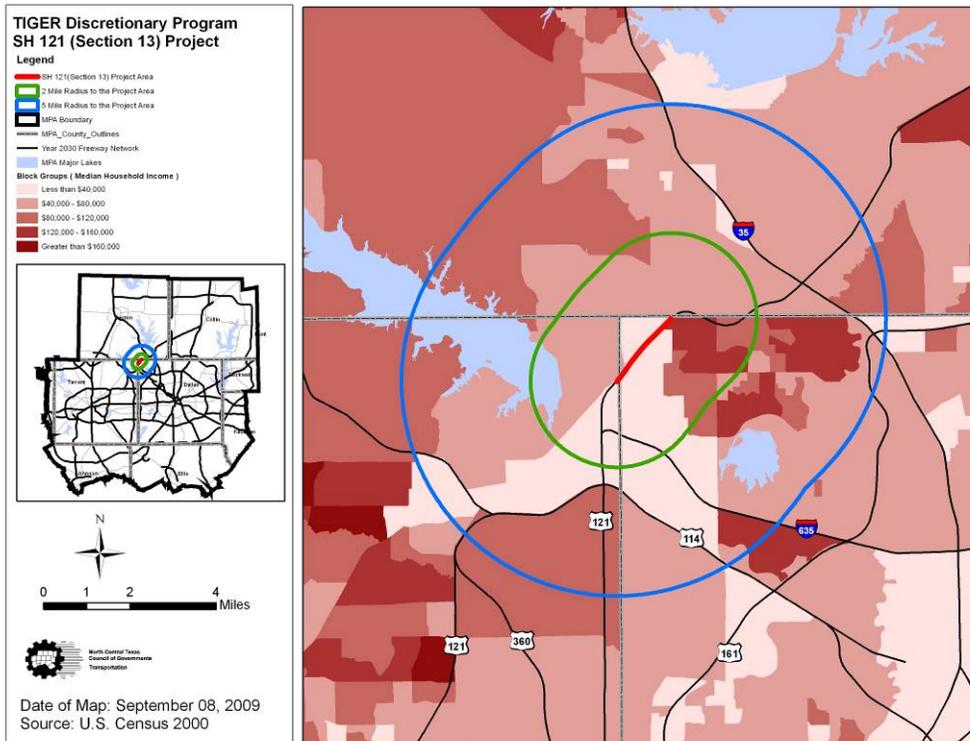


Figure 3 – Poverty Rate

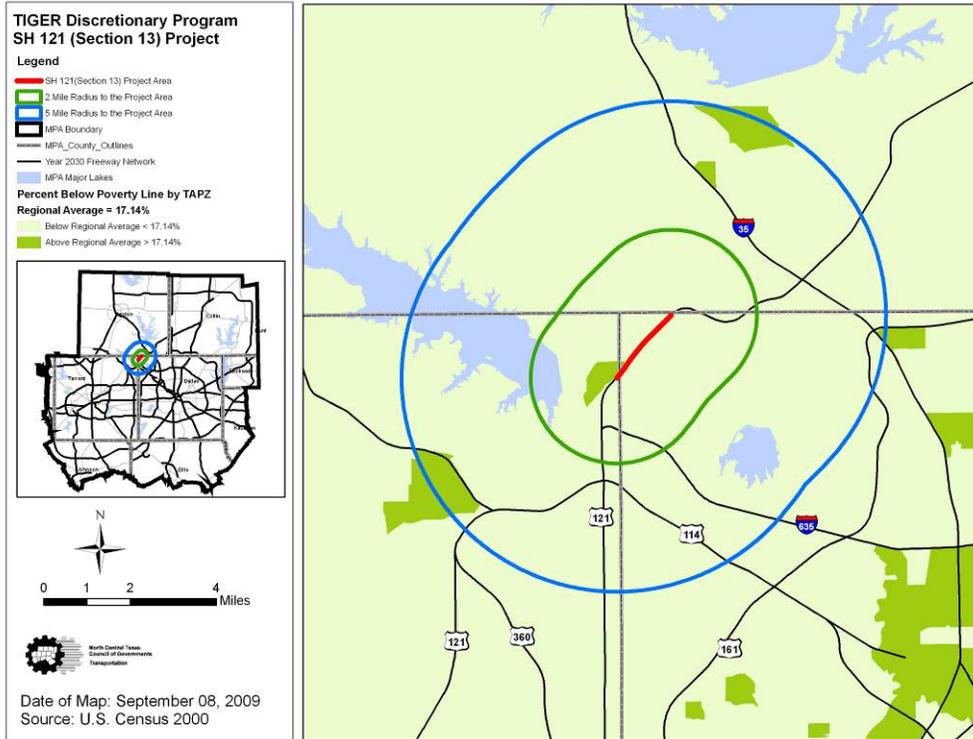


Figure 4 – Male Unemployment Rate

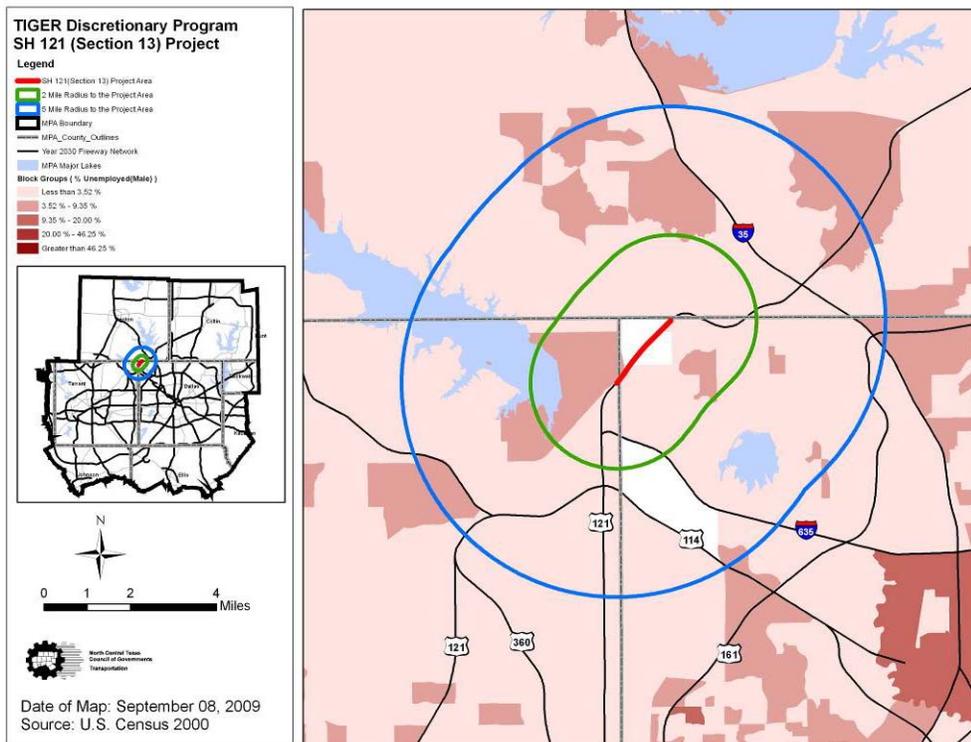


Figure 5 – Female Unemployment Rate

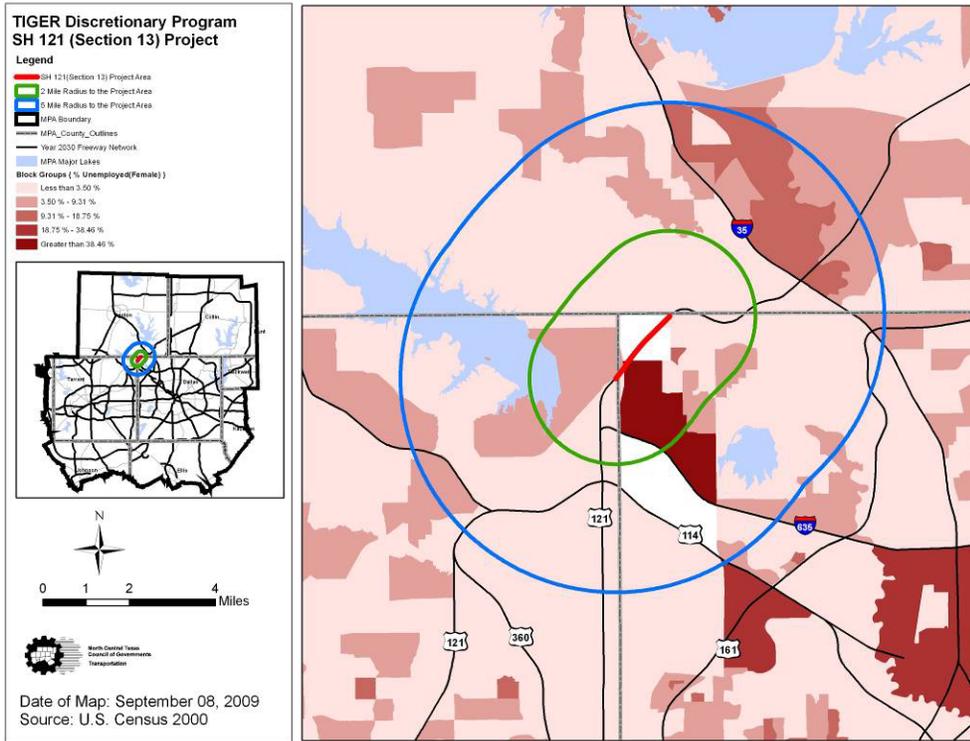


Figure 6 – Environmental Justice Areas

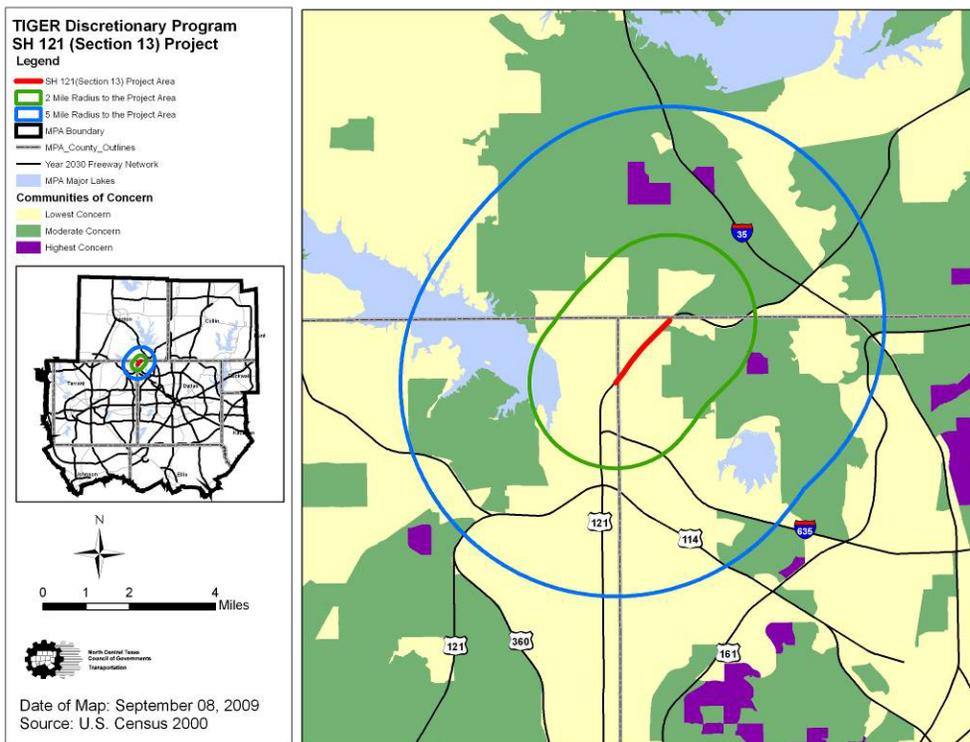


Figure 7 – Airports and Rail

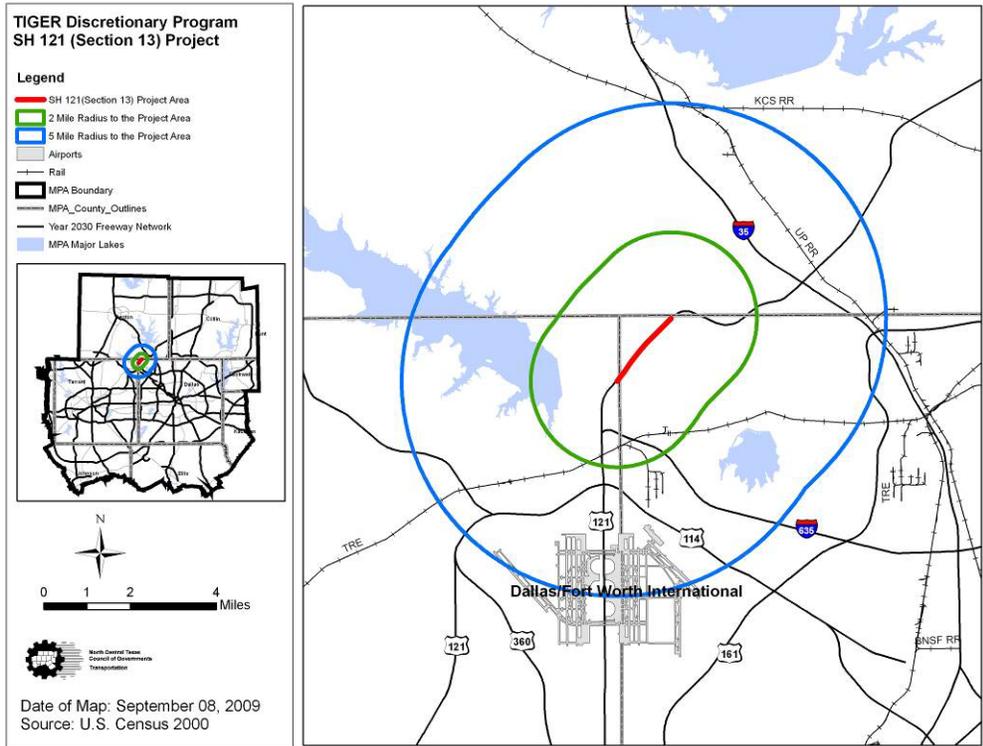


Figure 8 – Mobility Plan 2030 - 2009 Amendment – Rail Recommendations

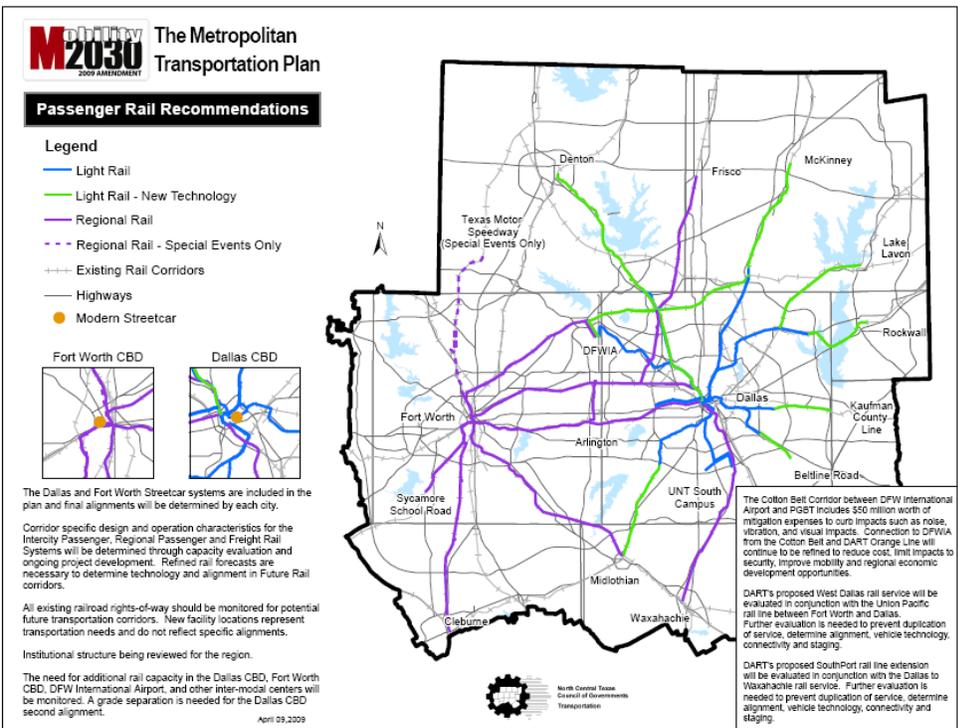
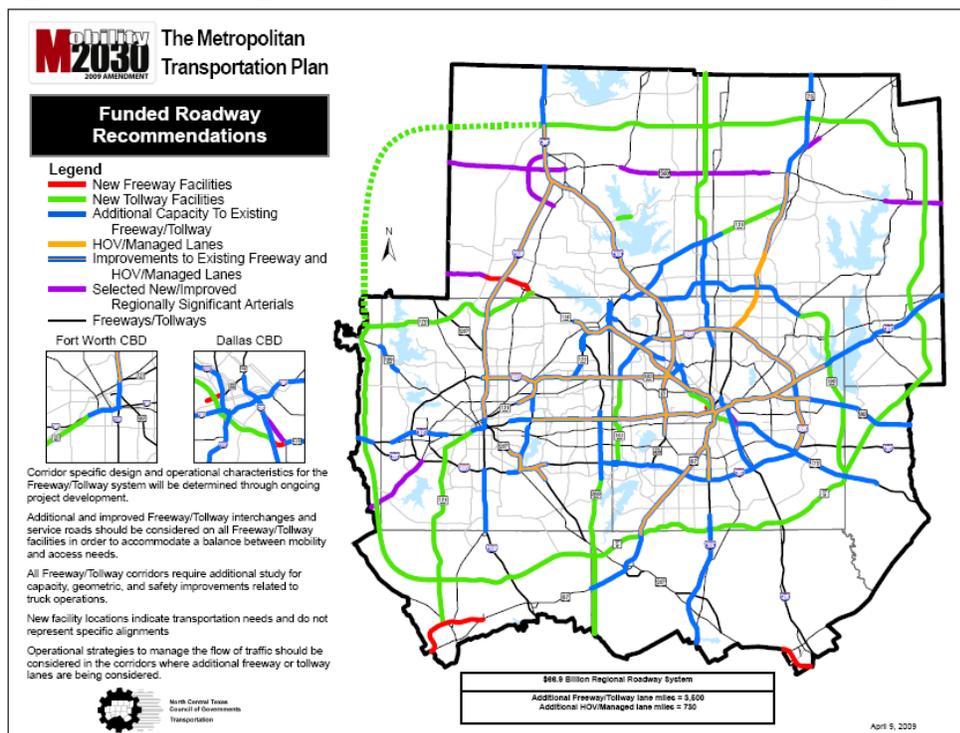


Figure 9 – Mobility Plan 2030 - 2009 Amendment – Roadway Recommendations



The SH 121 project is located along one of the most economically significant corridors in the Dallas-Fort Worth Region. The proposed highway connects the poorest area within five miles of the project to 23 major employers, including Mannatech, Inc., the Best Buy Distribution Center, and Cosmos Cleaning Company, Inc.

The SH 121 project, however, is not in a disadvantaged area. The percentage of households within the study area below the poverty line is 3.62%. The percentage of disabled residents within the study area is 2.68%.

The project area warrants assistance because it possesses resources which are pivotal to the region. The SH 121 project will improve access to the area. Within five miles of the project there are 247 major employers, including Toyota and IBM, and 480 commercial and retail establishments. The area currently employees 90,854 people.

- c. **Livability:** The current level of service during peak hours is F, which is characterized by heavy congested flow, traffic demand that exceeds roadway capacity and forced or breakdown traffic flow. By 2025, this section of roadway is expected to experience an increase in traffic volumes by 84 percent.

Travel model performance report data indicates construction of the SH 121 (Section 13) project in Dallas County will result in a daily travel-time savings of 5,978.3 hours to local commuters as indicated in **Table 3** below.

Table 3 – Traffic Flow Indicators

SH-121 Section 13	Build	No Build	Difference
Vehicle Miles of Travel	1,180,675.10	1,055,863.59	-124,811.51
Traffic Control Delay (hrs)	2,218.86	2,629.56	410.70
Congestion Delay (hrs)	9,367.69	15,345.99	5,978.30

The reduction in the level of congestion provided by the proposed project will increase the availability of goods and services to economically disadvantaged, non-drivers, senior citizens, persons with disabilities population groups. In addition the project will eliminate an “hour glass” constriction point allowing the predominantly residential areas of Collin and Denton Counties to more readily access employment opportunities in Tarrant County.

According to the NCTCOG’s 2030 Demographic Forecast estimates, the two-mile radius around the project area will include 32,340 persons, 11,044 households and 33,596 jobs in 2010. The NCTCOG’s projections indicate the five mile radius of the project area will include 203,989 persons, 77,881 households and 164,656 jobs in 2010. Various population and employment data are provided in **Table 4** and **Table 5** below.

Table 4 – Household Population and Employment Estimates (2-Mile Radius)

	2000	2010	2015	2030
Population	23,533	32,340	32,974	37,673
Households	7,898	11,044	11,302	13,078
Employment	17,011	33,596	36,838	38,768
Basic	7,289	12,633	13,174	13,326
Retail	5,647	11,317	12,847	14,390
Service	4,075	9,646	10,818	11,052

Table 5 – Household Population and Employment Estimates (5-Mile Radius)

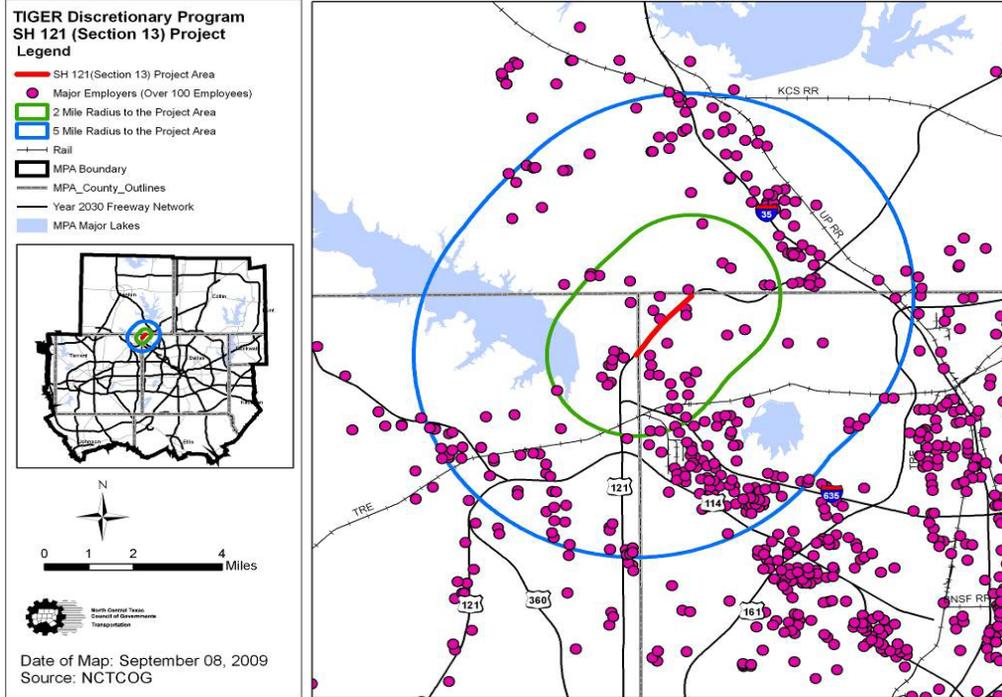
	2000	2010	2015	2030
Population	167,205	203,989	209,268	233,560
Households	64,084	77,881	79,990	89,112
Employment	113,494	164,656	176,952	186,420
Basic	40,683	56,602	59,102	61,357
Retail	32,975	50,869	54,871	58,543
Service	39,836	57,185	62,977	66,519

Source: 2030 Demographic Forecast – North Central Texas Council of Governments

Also according to the NCTCOG’s 2030 Demographic Forecast estimates, the five-mile radius of the project area includes 37,673 population, 13,078 households, and 38,768 jobs in 2030. The NCTCOG’s projections show that the five-mile radius of the

project area will include 233,560 population, 89,112 households, and 186,420 jobs in 2030. Please refer to **Figure 10 – Major Employers (Over 100 Employees)** for additional graphical data.

Figure 10 – Major Employers (Over 100 employees)



The SH 121 (Section 13) project is designed to improve a major state highway connecting the cities of Lewisville, Grapevine, Coppell, Flower Mound, and DFW Airport. This highway is an integral component of the transportation network shown in the 2030 Mobility Plan – 2009 Amendment, and improves transportation connectivity to roadway, transit, and airports.

No permanent water quality impacts are expected as a result of the proposed project. The quality of waters in the project area shall be maintained in accordance with all applicable provisions of the Texas Surface Water Quality Standards, including the general narrative and numerical criteria. To minimize impacts to water quality during construction, the proposed project would utilize temporary erosion and sedimentation control practices outlined in TxDOT's guidance entitled Standard Specifications for the Construction of Highways, Streets, and Bridges. Where appropriate, these temporary erosion and sedimentation control structures would be in place prior to the initiation of construction and would be maintained throughout the duration of construction. Clearing of vegetation will be limited and/or phased to maintain a natural water quality buffer and minimize the amount of erodible earth exposed at any one time. Upon completion of the earthwork operations, disturbed areas would be restored and re-seeded according to TxDOT's Vegetation Management Guidelines and in compliance with the intent of the FHWA Executive Memorandum on Beneficial Landscapes and the FHWA Executive Order on Invasive Species.

There are currently eleven healthcare facilities within five miles of the SH 121 project. These facilities include one hospital, two medical offices, and eight nursing homes. Providing better access to health facilities will reduce the time required for passenger and emergency vehicles to reach key medical facilities.

The SH 121 project will also provide better access to preventative health facilities such as parks and recreation centers. There are seven recreation centers within five miles of the City of Coppell. Access to the recreational facilities is essential to maintaining the health of the rural residents living in the area.

The project was part of a planning process that coordinated transportation and land use decisions with the participation of area stakeholders. The public involvement portion of the project began in 1996 and consisted of six meetings. The final meeting was held on February 23, 2006. Stakeholders from many of the surrounding cities impacted by the project, including the City of Coppell, City of Euless, and the City of Irving, were invited to screen project alternatives, define transportation problems and consider solutions to meet to objectives of the project. The schematic design was presented at a public hearing on February 4, 2009.

- d. Sustainability:** In the Build and No-Build analysis for this project, Vehicle Hours of Travel (VHT), Average Loaded Speed, Congested Delay, and Traffic Delay were analyzed as a performance measure. Fuel Consumption and Carbon Dioxide (CO₂) emissions were estimated from the Vehicle Hours of Travel reduction from the Build and No-Build scenario.

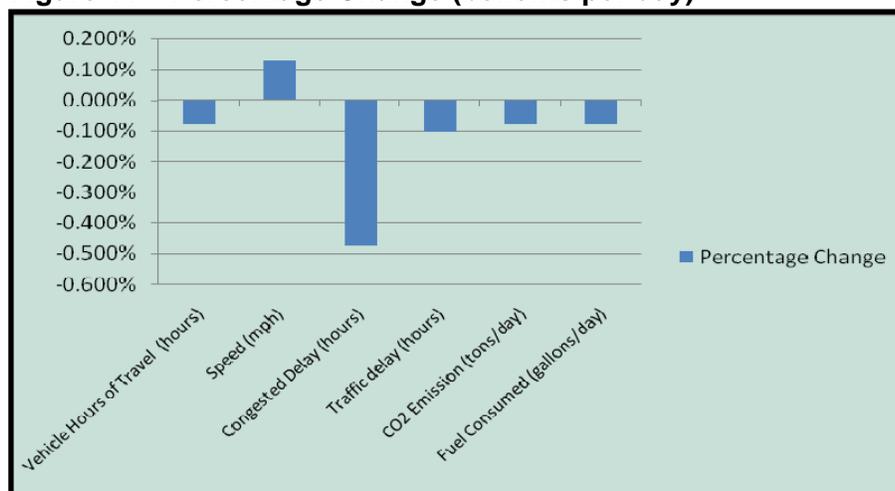
As indicated in the Categorical Exclusion documentation, the project adequately minimizes and avoids impacts to wetlands, endangered species, etc.

Performance Analysis: Table 6 below shows the net reduction and percent change from the preferred Build alternative to No-Build alternative. At the regional-level analysis, this project reduces travel time by 51 million hours, CO₂ emissions by 338,000 tons and fuel usage by 35 million gallons, with a CO₂ Global Benefit of 10 million dollars over the project life. Figure 11 graphically represents the percent changes on all the analysis parameters.

Table 6 – Change Between Build and No-Build in 2030

Parameter	Change Between Build to No-Build (benefits per day)	Percentage Change (benefits per day)	Change Between Build to No-Build (benefits per project life)
Vehicle Hours of Travel (VHT)	-4,902.65	-0.078%	50,987,560.00
Speed (mph)	0.05	0.130%	
Congested Delay (hours)	-5,076.63	-0.473%	
Traffic Delay (hours)	-620.91	-0.104%	
CO ₂ Emissions (tons per day)	-32.53	-0.078%	338,330.32
Fuel Consumed (gallons per day)	-3358.31	-0.078%	34,926,407.36
Cost Benefit (dollars)	973.71		10,126,564.86

Figure 11 – Percentage Change (benefits per day)



Fuel consumption and travel time reduction suggests other criteria pollutants, such as Carbon Monoxides (CO), Volatile Organic Compounds (VOC), Nitrogen Oxides (NOx), Particle Matters (PM), will also be reduced.

Methodology:

- Fuel Consumption: 0.685 gallons/hour factor was utilized to calculate the Fuel Consumption from Vehicle Hours of Travel. ¹
- CO2 Emission: 8788grams/gallon of gasoline emission factor was used to calculate the CO2 Emissions from Fuel Consumption. ²
- Project Life: 40 years is used as project life for all highway projects.
- Global CO2 Emission Benefits: \$33/Metric Tons of CO2 emission was used to calculate the Global CO2 Emission Benefits. ³

Sources:

1. "2009 URBAN MOBILITY REPORT" July 2009, report published by Texas Transportation Institute.
2. EPA, "Emission Facts: Greenhouse Gas Emissions from a Typical Passenger Vehicle" <<http://www.epa.gov/otaq/climate/420f05004.htm>>, September 3, 2009.
3. Tiger Grant Application requirements.

The project does not anticipate using any identified alternative energy sources.

- e. **Safety:** Within the SH 121 (Section 13) project limits there were 313 total crashes from 2003-2008 including four fatalities. This location is not a designated HazMat route and data gathered from 2003-2008 indicates that no hazardous material spills occurred. Capacity improvements in the form of additional traffic lanes have demonstrated safety benefits by increasing gap availability for weaving, merging and diverging. The Colorado Department of Transportation report "Exploratory Analysis of Relationship between the Number of Lanes and Safety on Urban Freeways", indicates a 25% reduction in overall collisions and 20% reduction in overall severe injury and fatal accidents can be expected with the additional lanes. The safety data indicate construction of Section 13 of the SH-121 project in Dallas County will result

in 13 fewer crashes per year and over 500 fewer crashes over the 40 year life of the project. The project will eliminate a center, traffic flow separating “Jersey” barrier and add appropriate inside and outside safety shoulders. The combination of removing a concrete center barrier and adding safety shoulders is expected to reduce crashes even further.

Estimated 25% reduction
313 Total Crashes from 2003-2008
52.16 average per year
 $52.16 \times 25\% = 13.04$ fewer crashes per year
13.04 fewer crashes per year * 40 years = 521.6 fewer crashes for a project life of 40 years

**Sources: Crash data – TxDOTs Crash Records Information System (CRIS)
HazMat data – National Response Center

- 2. Job Creation and Economic Stimulus:** The project is expected to create 292 new jobs primarily by relieving congestion. It is difficult to predict how many additional jobs will move to the area. The congestion issues with the corridor have discouraged development of warehouse and office space along the corridor in the past. After completion, the corridor is likely to receive a larger share of the millions of square feet of warehouse space likely to be built in the region, as well as encourage high value “just in time production” operations to move into the immediate area.

The estimated cost of construction is \$85,000,000. The estimated engineering and contingencies to manage the construction contract is \$10,572,640.

It is estimated approximately 50 construction related jobs would be created or preserved when construction commences in November 2010. Businesses benefiting from the project are expected to be primarily construction-related enterprises. Construction will also preserve jobs and increase hours worked within construction and related services that have seen a softening in demand since the local, regional and national economies weakened. The project is predicted to create 346 jobs each year during construction. After construction is complete, lower levels of congestion will improve access to the airport for the rapidly growing areas to the north and northeast of the DFW Airport. The cost-benefit model predicts that this project will create 292 permanent jobs nationally, though it will be much higher in the region and the immediate area. These jobs will mainly be related to the airport, spread across retail, hospitality, services, and time-sensitive manufacturing and distribution services.

The populations most likely to benefit from the proposed project are not considered economically distressed as shown in **Figures 1** through **5** above.

It is anticipated local or regional manufacturers and supplies would provide construction related materials. Additional economic benefits would be received for the duration of the construction project.

As outlined in TxDOT’s guidance entitled Standard Specifications for the Construction of Highways, Streets, and Bridges, the following policies are established as a requirement for construction contracts:

- On-the-job training programs
- Disadvantaged Businesses programs
- Highly Under-Utilized Business programs
- Subcontracting programs
- Documentation of minimum labor wages programs

Secondary Criteria:

1. **Innovation:** The current level of service during peak hours is F, which is characterized by heavy congested flow, traffic demand that exceeds roadway capacity and forced or breakdown traffic flow. By 2025, this section of roadway is expected to experience an increase in traffic volumes by 84 percent. To combat the projected volume increase and congestion level, the North Central Texas Council of Governments and the Dallas/Fort Worth region have instituted several innovative strategies.

The goal of the Freeway Incident Management (FIM) training course is to initiate a common, coordinated response to traffic incidents that will build partnerships, enhance safety for emergency personnel, reduce upstream traffic accidents, improve the efficiency of the transportation system, and improve air quality in the Dallas-Fort Worth region. An essential element of the region's FIM program is the Mobility Assistance Patrol (MAP) Program, which provides assistance to motorists by helping them to move disabled vehicles from the main lanes of regional highway/freeway facilities and ultimately getting the vehicles operating or off the facility completely. The assistance is provided free of charge to the motorist and includes services like assisting with flat tires, stalled vehicles, and minor accidents. The MAP coverage is focused on congested roadway systems.

The goal of the Employer Trip Reduction Program is to plan and implement trip reduction and transportation demand management strategies such as subsidized transit pass programs; walking, bicycling, ridesharing programs; alternative work schedule arrangements; telecommuting programs; parking management and other transportation incentive programs. The regional Try Parking It website is a commuter tracking application.

The SH 121 (Section 13) project is located within a jurisdiction which actively participates in the Freeway Incident Management (FIM) Training Program. Although the project area is located within a city that has MAP coverage, the coverage ends in advance of the project area. Additionally there are 11 large employers located within the limits of this project area, one of which is registered on the Try Parking It website.

In addition, two innovative funding strategies are in place for the roadway sections north and south of the proposed project. The proposed DFW Connector (SH 121 (Section 13) southern terminus) will be funded, constructed and managed by an agreement with a private partnership group under a Comprehensive Development Agreement (CDA). This innovative funding mechanism has allowed the project to move forward expeditiously to better serve the region's travelers.

The Sam Rayburn Tollway (SH 121 (Section 13) northern terminus) was originally constructed by TxDOT. Under an agreement between the TxDOT and the North Texas Tollway Authority (NTTA) for NTTA to complete construction and operate the facility, the NTTA agreed to provide the region with additional transportation funds. The Sam Rayburn Tollway is an open road tolling facility. All tolls are collected electronically using equipment mounted on gantries to scan tolling identification or license plates. No monies are collected on the roadway which eliminates congestion causing toll booths. In addition, the open road tolling concept improves air quality over more conventional toll booth collection systems. The open road tolling system has the ability to incorporate dynamic pricing strategies for the road's users.

3. Partnership:

a. Jurisdictional and stakeholder collaboration: The SH 121 (Section 13) project is a component of the DFW Connector project which has received a Finding of No Significant Impact (FONSI) through the National Environmental Policy Act (NEPA) process. As part of a larger project navigating the NEPA process, substantial public and stakeholder involvement occurred. During the project development process community consensus was achieved leading to the recommended alternative, including the proposed SH 121 (Section 13) project.

Prior to commencing the Environmental Assessment for the DFW Connector project, the project navigated the Metropolitan Planning Organization long range transportation planning process. Through this process, local and regional leaders, stakeholders and the public were a large part of determining the proposed improvements. As part of the Mobility 2030 - 2009 Amendment plan, the proposed SH 121 (Section 13) project has undergone intense multi-jurisdictional scrutiny to achieve consensus.

b. Disciplinary Integration: The cities of Coppell and Grapevine and Dallas County are looking forward to the congestion relief, improved quality of life, improved housing-to-jobs access and safety-related opportunities provided by the SH 121 (Section 13) project. Summarily, Collin and Denton Counties welcome the improved access to DFW Airport and other employment opportunities. The belief is the project will benefit existing residents, specifically through job creation, enhanced business opportunity, retail availability, and reduced emergency response time.

Performance Monitoring:

Based on the primary and secondary criteria presented in this application, **Table 7** below lists performance measures for evaluating the success of this project.

Table 7 – Performance Monitoring

	Short-Term (2 to 5 years) Performance Measure	Long-Term (5 to 40 years) Performance Measure
Primary		
Long-Term Outcome:		
State of Good Repair		<ul style="list-style-type: none"> • PMIS rating above 70 • Lower maintenance costs
Economic Competitiveness	Decrease in unemployment in the region and project area during construction	Within the project area: <ul style="list-style-type: none"> • Increased median income compared to 2010 census data • Decrease in the poverty rate • Lower unemployment rate compared to 2009
Livability	<ul style="list-style-type: none"> • Stabilization of the community conditions and character • Increased accessibility of disabled persons and pedestrians 	<ul style="list-style-type: none"> • Increased community retail and commercial development • Increased community cohesion
Sustainability	<ul style="list-style-type: none"> • Decreased VHT, traffic delay, fuel consumption, CO₂ emissions • Increased travel speeds 	<ul style="list-style-type: none"> • Decreased VHT, traffic delay, fuel consumption, CO₂ emissions • Increased travel speeds
Safety	<ul style="list-style-type: none"> • Decrease in the number and severity of accidents • Decrease in the number of fatalities 	<ul style="list-style-type: none"> • Decrease in the number and severity of accidents • Decrease in the number of fatalities
Job Creation and Economic Stimulus	Decrease in unemployment in the region and project area during construction	<ul style="list-style-type: none"> • Decrease in unemployment • Creation of new retail and commercial employment opportunities within the project area
Secondary		
Innovation		Implementation of the master plan for SM Wright Freeway
Partnership	<ul style="list-style-type: none"> • Elimination of a major barrier that divide a community • Continued partnership in the redevelopment of the area 	Continued partnership in the redevelopment of the area

Supporting Documentation

[Letters of Support](#)

[Method of Calculating Economic Impact](#)