FONSI RE-EVALUATION

SH 121/IH 35E INTERCHANGE
FROM EAST OF MACARTHUR BLVD.
TO EAST OF IH 35E
CSJ: 0364-03-065 (Original)
Design & Construction CSJs: 3547-01-008, 3547-01-001 & 002

SH 121 BYPASS
FROM EAST OF IH 35E
TO 0.05 MILE EAST OF FM 423
CSJ: 0364-03-065 (Original)
Design & Construction CSJs: 3547-01-009 & 0364-03-066

SH 121
FROM FM 423
TO U.S. 75
CSJs: 0364-03-067 (Original)
Design Construction CSJs: 0364-03-066 & 0364-04-038

DENTON AND COLLIN COUNTIES

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1.0 INTRODUCTION

This document is a re-evaluation of three previously approved environmental assessments (EA) prepared for State Highway (SH) 121 from east of MacArthur Boulevard to U.S. 75 in Denton and Collin Counties, Texas. This re-evaluation will specifically address the project from East of MacArthur Boulevard to the Dallas North Tollway (DNT) through the cities of Lewisville, Carrollton, The Colony, Hebron, Plano, and Frisco (**Appendix A: Figure 1A**). The project distance is approximately 11 miles. This portion of SH 121 was approved as a non-toll facility by the Federal Highway Administration (FHWA) (see **Appendix B**). The remaining portion of the previously approved EA limits will be re-evaluated under a separate document from the Dallas North Tollway (DNT) to U.S. 75 (CSJ: 3547-01-001, and various).

The intent of this re-evaluation is to assess the implementation of a proposed toll facility on the SH 121 mainlanes currently under construction and identify any changes to the previously approved projects. No additional right-of-way (ROW) is required for the proposed toll facility. The proposed facility design remains as a widening project to a six lane controlled access facility with three lane frontage roads. The frontage roads would remain as a non-toll alternative to the proposed toll facility.

1.1 History and Public Involvement

Appendix A: Figure 1B and **Table 1-1** depict the previously approved environmental documents for the SH 121 corridor from 0.23 mile west of Business SH 121 (BU 121) to U.S. 75.

TABLE 1-1: SH 121 ENVIRONMENTAL HISTORY

Project Number*	Limits	Approval Date	Status
1	Denton Creek to FM 423	State FEIS 04/28/1993 (State ROD)	0.23 mile west of BU 121 to E. of MacArthur Blvd. is currently being evaluated as a stand alone EA. Portion to be considered as a toll facility and to be reviewed/approved by FHWA to Federalize the remaining State funded portion of the State FEIS.
2	East of IH 35E (Hebron Pkwy.) to	*Environmental Assessment* 09/09/2003 (FHWA FONSI)	1 of 3 EAs being re-evaluated to consider SH 121 as a toll facility.

Project Number*	Limits	Approval Date	Status
	0.05 Mile East of FM 423		
3	East of IH 35E to Hebron Parkway	Non-Toll Mainlanes Open to Traffic	Constructed with State funds. Open to traffic and would not be considered as a future toll facility in compliance with current RTC policy.
4	SH 121/IH 35E Interchange: East of MacArthur Blvd. to East of IH 35E	*Environmental Assessment* 04/13/1990 (FHWA FONSI)	1 of 3 EAs being re-evaluated to consider SH 121 as a toll facility.
		FONSI Re-Evaluation 01/09/2003 (FHWA Approval)	
5	FM 423 to U.S. 75	*Environmental Assessment* 11/22/1991 (FHWA FONSI)	1 of 3 EAs being re-evaluated to consider SH 121 as a toll facility.
		Notice of Continuous Activity 05/25/1999 (FHWA Approval)	
		FONSI Re-Evaluation 10/17/2002 (FHWA Approval)	

*see Appendix A: Figure 1B

The western portion of SH 121 (Project 1) was approved as a non-toll facility project by TxDOT under a State Final Environmental Impact Statement (FEIS). The limits of the State FEIS extended from 0.4 mile west of Denton Creek to 0.05 mile east of Farm-to-Market (FM) 423, a distance of approximately ten miles. The Record of Decision (ROD) for the State FEIS was received on April 28, 1993 (**Appendix B**). Due to funding constraints, the original State Final Environmental Impact Statement (FEIS) was divided into several projects in the early 1990s and re-evaluated in order to receive Federal funds. This re-evaluation encompasses the three FHWA approved EAs (Projects 2, 4, & 5 in **Appendix A: Figure 1B** and **Table 2**) and their subsequent re-evaluations between the limits of East of MacArthur Blvd. to DNT. Copies of the FHWA approvals are attached in **Appendix B.**

The eastern portion of SH 121 was originally part of a previously approved non-toll facility EA approved by FHWA (**see Project 5 Appendix A: Figure 1B**). The limits of this EA are from FM 423 to United States (U.S.) 75. This project received a Finding of No Significant Impact (FONSI) on November 22, 1991 (**Appendix B**).

A non-toll portion of mainlanes would occur within the project limits. This segment of SH 121 from east of IH 35E to Hebron within the limits of the Project 1 (**see Figure 1B**) was approved under the State FEIS and constructed without frontage roads utilizing State funds. This

portion of the project is complete, open to traffic, and would not be evaluated as a toll facility. The Regional Transportation Council (RTC) of the North Central Texas Council of Governments (NCTCOG) policy currently states that no existing roadway lanes will be converted to toll facilities. This portion of SH 121 within the project limits; however, is not assessed in this toll re-evaluation.

This FONSI re-evaluation is one of two environmental documents currently being prepared proposing to toll the SH 121 mainlanes currently under construction. The second document assesses a segment of the State FEIS (from 0.23 mile west of BU 121 to East of MacArthur Boulevard) that never was evaluated by FHWA, yet is proposed for tolling. This segment of SH 121 (**part of Project 1, Figure 1B**) is being evaluated as an EA for Federal Highway Administration (FHWA) approval in light of the proposed implementation of tolling along the SH 121 mainlanes currently under construction and the possible incorporation of Federal funds to this state funded project. This EA has been prepared in accordance with FHWA Texas Division Office policy memorandum, *Policy for Planning, Environment and Project Development for Toll Roads* (September 29, 2003). No additional ROW or design changes are required to implement either proposed project.

Public Involvement

TxDOT staff met with city and county officials 45 times during 2004 and developed a consensus to toll SH 121 in Denton County.

Public meetings were held in the cities of Coppell and The Colony to inform the public of the proposed implementation of an electronic toll collection system on the SH 121 mainlanes currently under construction at the following locations:

June 14, 2005
Coppell High School Gymnasium
185 W. Parkway Blvd.
Coppell, Texas 75019

June 16, 2005
The Colony High School
4301 Blair Oaks
The Colony, Texas 75056

Approximately 50 citizens and four elected officials attended the meetings. Drawings of the conceptual toll plan were available for public review during the open house period from 5:00 p.m. to 6:30 p.m. The conceptual toll plan depicted the layout of the proposed facility, toll gantry locations, signage, and proposed noise barriers. The open house was followed by a presentation explaining the proposed toll evaluation approach and process. Eight citizens made

verbal comments. Six written comments were also received. Issues of concern included noise barriers, implementation of a no-cash toll collection facility, alternative non-toll routes, and potential impacts to local economic development. Public meeting summaries are available for review at the TxDOT Dallas District located at 4777 E. U.S. 80, Mesquite, Texas 75150. A public hearing would be held for this project further along in the project development process.

1.2 Purpose and Need

The purpose for the proposed toll facility is in response to new funding legislation. As a result of the new legislation, it is TxDOT's policy to evaluate all controlled-access highway projects as possible candidates for tolling. This includes all controlled access projects, including those under construction and those in the planning stage involving new lane construction.

The need for the proposed toll project is to improve mobility within the region by generating revenue and expediting the construction of the SH 121 and near neighbor/near time frame project within the SH 121 corridor. This toll facility is proposed to be an electronic toll collection system. **Section 3.0** describes the electronic toll collection system in further detail.

Recent Toll Funding Initiatives and Legislative Actions

Statewide Perspective

Texas House Bill (HB) 3588, enacted in the 78th legislative session, relates to the construction, acquisition, financing, maintenance, management, operation, ownership, and control of transportation facilities and the progress, improvement, policing, and safety of transportation in the state. The bill addresses the full scope of transportation issues facing the state by integrating existing transportation policies and providing a means to fund them.

With HB 3588 enacted, TxDOT now has the authority to employ a toll facility option for highway funding. The bill represents some of the most comprehensive mobility legislation ever enacted. HB 3588 provides for a revenue source for the Texas Mobility Fund, a one-time bond program that will infuse up to $3 billion in funding for mobility projects over the next several years.

Proposition 14 passed by Texas voters in the 2003 November election allows TxDOT to sell bonds and pay the debt service with future revenue into the state highway fund also called

Fund 6. Pass-through tolling agreements are an option, as well as advance ROW acquisition, and the ability for TxDOT to contribute equity into a toll project. The statute also expanded the use of comprehensive development agreements.

In December 2003, the Texas Transportation Commission (TTC) approved a policy instructing TxDOT to evaluate all controlled-access highway projects as possible candidates for tolling. On March 24, 2004, the TTC approved Minute Order 109615, which allows TxDOT to issue bonds and other public securities to fund state highway system improvements. It is TxDOT policy to evaluate all controlled-access highway projects as possible candidates for tolling. This includes all controlled access projects, including those under construction and those in the planning stage involving new lane construction.

Regional/Local Perspective

On August 12, 2004, the Regional Transportation Council (RTC) of the North Central Texas Council of Governments (NCTCOG) approved the *Texas Metropolitan Mobility Plan* which recommended SH 121 as a toll facility from 0.23 mile west of BU 121 to the Dallas North Tollway. Copies of the subsequent resolutions are included in **Appendix B**.

On September 9, 2004, the RTC approved a policy regarding excess revenue generated by toll facilities in the Dallas/Fort Worth (DFW) Area. The policy outlines the circumstances under which excess toll revenue would become available and distributed. Under this policy, a Memorandum of Understanding (MOU) was signed by Denton County, Collin County, and the cities of The Colony, Lewisville, Carrollton, Coppell, Grapevine, Plano and Frisco regarding the SH 121 toll facility funding strategy (see **Appendix B**).

By partnering together, state and local officials can leverage additional state transportation funds, freeing existing allocations for critical, but otherwise unbudgeted, safety, capacity and air quality projects. This shift allows new projects that were originally budgeted through gasoline tax revenue to be built or opened as toll facilities to generate revenue. This revenue would be used to build additional transportation facilities with accelerated construction schedules.

Also, in cases where a previously planned tax supported highway is programmed to a toll road, the funds that are released are committed to projects along that same corridor utilizing RTC's near neighbor/near timeframe policy. Under this policy, when a previously planned tax supported highway is shifted into a toll facility, those original gas tax funds are to be reallocated

to projects that serve the same transportation system users, and the newly identified projects are to be completed in comparable timeframes. Projects identified as near neighbor/near timeframe policy for SH 121 are detailed in the MOU.

By tolling SH 121, the entire project could be open to traffic by 2007-2008 and as early as 2007. Additional funding would be then be allocated to support near neighbor/near timeframe projects in the areas identified in the MOU with local communities. By leveraging the capital investment in the proposed SH 121 corridor estimated at approximately $300 million, TxDOT would be able to develop a total program of over $700 million in new construction.

The proposed improvements are needed to handle the present and future traffic demands for this area and would substantially benefit communities in the project area by providing ease of mobility to vital destinations. The proposed toll facility would support the need for the project by generating revenue for the operation and maintenance of SH 121 as well as funding additional near neighbor/near timeframe policy projects. The accelerated construction of additional transportation projects would improve system linkage and mobility in the area.

This proposed project is consistent with the area's financially constrained Metropolitan Transportation Plan (MTP) known as Mobility 2025 Plan-Amended April 2005.

Objectives of the Project

The primary objective of the proposed toll facility is to utilize new funding tools to further expedite the construction of the transportation network in this region by:

- Providing toll revenue as an additional funding source to pay for the capital cost, as well as operation and maintenance of the proposed corridor;
- Creating a revenue source to fund future capacity improvements along the to the SH 121 corridor;
- Allocating future excess toll revenue so that it would be reinvested in future (near timeframe) transportation projects in the local area (near neighbor);
- Accelerate future project construction schedules and help alleviate congestion; and

- Enhancing economic development and even accelerating the local tax-base growth.

2.0 APPROACH

This toll re-evaluation is based on the previously approved EAs (see **Table 1-1**). The statements, studies, and conclusions documented in this re-evaluation have been examined and analyzed in three steps – the findings of each step are documented in this re-evaluation.

Step 1 entailed identifying changes to the proposed project due to the proposed toll facility. These changes are summarized in **Section 3.0**.

During Step 2, current environmental conditions were analyzed to identify changes occurring since issuance of the previous approvals.

Finally during Step 3, the environmental consequences of the proposed action, as described in the previously approved EAs and subsequent re-evaluations, were analyzed in light of the proposed toll facility. The findings of these analyses are documented in **Section 4.0, Issues Studied in Detail** and **Section 5.0, Issues Eliminated from Further Study**. All resource categories addressed within the approved documents are discussed. **Section 6.0** documents the conclusions drawn from the re-evaluation process.

There is no additional ROW required, nor are there any design changes proposed; therefore, previously approved environmental evaluations remain valid except for some studies such as noise, air, and the social and economic environment. Visual effects and lighting are also being evaluated as part of this process. **Table 2-1** summarizes issues in **Sections 4.0 and 5.0** that were re-evaluated, modified or unchanged from the previously approved documents.

TABLE 2-1: SUMMARY OF TOLL RE-EVALUATION

Section	Summary of Assessment
4.1 Traffic Noise	New noise models were developed
4.2 Air Quality	New air models were developed
4.3 Socio-Economic Impacts	Re-evaluated to assess potential impacts to the socio-economic environment from proposed tolling
4.4 Lighting and Visual Impacts	Re-evaluated based on the potential impacts of electronic toll equipment
5.1 Airway-Highway Clearance	Previous findings remain valid
5.2 U.S. Coast Guard Permits	Previous findings remain valid
5.3 Construction Impacts	Previous findings remain valid
5.4 Cultural Resources	Previous findings remain valid
5.5 Essential Fish Habitat	Previous findings remain valid
5.6 Farmlands	Previous findings remain valid
5.7 Floodplains	Previous findings remain valid
5.8 Hazardous Materials	Previous findings remain valid
5.9 Jurisdictional Waters and Wetlands	Previous findings remain valid
5.10 Land Use	Previous findings remain valid
5.11 Public Facilities and Services	Previous findings remain valid
5.12 Relocations and Displacements	Previous findings remain valid
5.13 Section 4(f) Properties	Previous findings remain valid
5.14 Threatened/Endangered Species	Previous findings remain valid
5.15 Vegetation	Previous findings remain valid
5.16 Water Quality	Previous findings remain valid

3.0 CHANGES TO PROPOSED PROJECT

The concept of an electronic toll collection system is proposed for SH 121. With an electronic toll collection concept, tolls would be collected through toll gantries positioned at certain mainlane and ramp locations. As currently conceived, tolls would be collected using a completely electronic system; the system would not be able to accept cash. Proposed mainlane and ramp gantry locations are depicted in **Appendix C: Conceptual Toll Plan**. Each mainlane toll gantry would span both directions of travel on a structure similar to a typical sign bridge. The gantry would support electronic toll collection reader units, video enforcement system cameras, illumination devices, automatic vehicle identification antennae, communications gear, and other necessary equipment. This equipment would be supported approximately 20 ft above the roadway surface and would be used to collect electronic toll data. Ramp gantries would be similar to the mainlane gantries, except that they would only span the width of the particular entrance or exit ramp. The estimated cost of implementing the tolling components is $30 million as calculated on a per mile basis by the Texas Turnpike Authority (TTA).

There would be no changes to ROW, design or to the footprint of the proposed facility in order to implement an electronic toll collection system. Right-of-way acquisition for the project has been ongoing since the previously approved State FEIS and is now 100 percent complete.

Excess revenue from the toll facility would be allocated to support near neighbor/near timeframe projects and construction schedules would be accelerated, thus expediting the alleviation of traffic congestion in the region. **Table 3-1** lists the current status of construction for the project.

A non-toll portion of mainlanes would occur within the project limits. This segment of SH 121 from east of IH 35E to Hebron is complete, open to traffic, and will not be evaluated as a toll facility (**see Figures 1A and 1B**). This segment does not have frontage roads; therefore, traffic from the non-toll frontage roads would be required to enter the mainlanes within this segment, but would not be required to pay a toll. Guide signs would indicate that use of this segment of mainlanes would not be tolled. Non-toll entrance ramps within this segment would include:

- Westbound entrance ramp at Hebron Parkway
- Westbound entrance ramp at Marchant Boulevard
- Eastbound entrance ramp at Marchant Boulevard

- IH 35E eastbound exit ramp to SH 121
- Eastbound frontage road entrance east of IH 35E

Also within this segment, users would be able to exit without paying a toll. The locations of exit ramps within this segment where users would not be tolled include:

- IH 35E southbound direct connector from SH 121
- Westbound exit to frontage road at IH 35E
- Westbound exit to Marchant Boulevard
- Westbound exit to Hebron Parkway

TABLE 3-1: CONSTRUCTION UPDATE*

CSJ Number	Project Limits	Status	Estimated Percent Work Complete (%)
3547-01-008	**SH 121 Mainlanes and Direct Connectors:** From North of Denton Creek to East of IH 35E	**Under Construction** Bid Amount: $86.94 million Work Began: 05/01/2003	90%
3547-01-009	**SH 121 Mainlanes (Six Lanes):** From 0.26 mile west of Hebron Parkway (FM 544) to 0.17 mile east of FM 2281	**Under Construction** Bid Amount: $31.37 million Work Began: 02/05/2004	91%
0364-03-066 (0364-04-038)**	**SH 121 Mainlanes (Six Lanes)/Frontage Roads (Six Lanes):** From 0.17 mile east of FM 2281 to 0.23 mile west of DNT/Collin County Line	**Under Construction** Bid Amount: $103.41 million Work Began: 08/23/2004	36%
3547-01-001	**SH 121 Frontage Roads:** From Dallas/Denton Co. Line to Lake Vista Dr. (*only a portion of the work under this CSJ is within the project limits*)	Complete	100%
3547-01-002	**Frontage Roads:** Lake Vista Drive to East of IH 35E	Complete	100%

*See Appendix A: Figure 1B
**Original CSJ – Packaged in the same construction contract as this project

4.0 ISSUES STUDIED IN DETAIL

This section includes the discussion of issues studied in detail with regard to new toll traffic projections, such as noise and air. Also, discussed in detail are socio-economic and visual and lighting aspects of the proposed electronic toll collection system.

4.1 Traffic Noise

NCTCOG modeled toll traffic for 2025 (see **Appendix C: 2025 Traffic Volumes**). As a result, a new noise analysis was conducted based on the toll traffic projections. This analysis was accomplished in accordance with TxDOT's (FHWA approved) Guidelines for Analysis and Abatement of Highway Traffic Noise.

Sound from highway traffic is generated primarily from a vehicle's tires, engine and exhaust. It is commonly measured in decibels and is expressed as "dB."

Sound occurs over a wide range of frequencies. However, not all frequencies are detectable by the human ear; therefore, an adjustment is made to the high and low frequencies to approximate the way an average person hears traffic sounds. This adjustment is called A-weighting and is expressed as "dBA."

Also, because traffic sound levels are never constant due to the changing number, type and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as "Leq."

The traffic noise analysis typically includes the following elements:

- Identification of land use activity areas that might be impacted by traffic noise.
- Determination of existing noise levels.
- Prediction of future noise levels.
- Identification of possible noise impacts.
- Consideration and evaluation of measures to reduce noise impacts.

The FHWA has established the following Noise Abatement Criteria (NAC) for various land use activity areas that are used as one of two means to determine when a traffic noise impact would occur (**Table 4.1-1**).

TABLE 4.1-1: FHWA NOISE ABATEMENT CRITERIA

Activity Category	dBA Leq	Description of Land Use Activity Areas
A	**57 (exterior)**	Lands on which serenity and quiet are of extra-ordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	**67 (exterior)**	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	**72 (exterior)**	Developed lands, properties or activities not included in categories A or B above.
D	**--**	Undeveloped lands.
E	**52 (interior)**	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

NOTE: primary consideration is given to exterior areas (Category A, B or C) where frequent human activity occurs. However, interior areas (Category E) are used if exterior areas are physically shielded from the roadway, or if there is little or no human activity in exterior areas adjacent to the roadway.

A noise impact occurs when either the absolute or relative criterion is met:

Absolute criterion: the predicted noise level at a receiver approaches, equals or exceeds the NAC. "Approach" is defined as one dBA below the NAC. For example: a noise impact would occur at a Category B residence if the noise level is predicted to be 66 dBA or above.

Relative criterion: the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach, equal or exceed the NAC. “Substantially exceeds” is defined as more than 10 dBA. For example: a noise impact would occur at a Category B residence if the existing level is 54 dBA and the predicted level is 65 dBA (11 dBA increase).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

The FHWA traffic noise modeling software was used to calculate existing and predicted traffic noise levels. The model primarily considers the number, type and speed of vehicles; highway alignment and grade; cuts, fills and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by the associated traffic noise.

Existing and predicted traffic noise levels were modeled at receiver locations (**Table 4.1-2** and **Appendix C: Conceptual Toll Plan**) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement.

TABLE 4.1-2: TRAFFIC NOISE LEVELS (dBA Leq)

Representative Receiver	NAC Category	NAC Level	Existing 2005	Predicted 2025	Change (+/-)	Noise Impact
R12 Indian Creek Apts.*	E	52	47	50	3	N
R13 Church	E	52	48	50	2	N
R14 Church	E	52	45	47	2	N
R15 Meridian Apts.	E	52	44	47	3	N
R16 Church	E	52	44	47	3	N
R17 Residential	B	67	65	69	4	**Y**
R18 Residential	B	67	64	67	3	**Y**
R19 Residential	B	67	63	66	3	**Y**
R20 Residential	B	67	67	70	3	**Y**
R21 Residential	B	67	66	68	2	**Y**
R22 Residential	B	67	66	67	1	**Y**
R23 Cambina Apts.	E	52	43	45	2	N
R24 Coyote Ridge Sub.	B	67	63	65	2	N
R25 Windance Apts.	E	52	44	46	2	N
R26 Church	E	52	43	45	2	N

***R12**: A playground area is located at this apartment complex; however, there is no indication this area is a "frequently used outdoor activity area" such as a school playground.

As indicated in **Table 4.1-2**, the proposed project would result in a traffic noise impact and the following noise abatement measures were considered: traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone and the construction of noise walls.

Before any abatement measure can be proposed for incorporation into the project, it must be both feasible and reasonable. In order to be "feasible," the abatement measure must be able to reduce the noise level at an impacted receiver by at least five dBA; and to be "reasonable," it

must not exceed the cost-effectiveness criterion of $25,000 for each receiver that would benefit by a reduction of at least five dBA.

Traffic management: control devices could be used to reduce the speed of the traffic; however, the minor benefit of one dBA per five mph reduction in speed does not outweigh the associated increase in congestion and air pollution. Other measures such as time or use restrictions for certain vehicles are prohibited on state highways.

Alteration of horizontal and/or vertical alignments: any alteration of the existing alignment would displace existing businesses and residences, require additional ROW and not be cost effective/reasonable.

Buffer zone: the acquisition of undeveloped property to act as a buffer zone is designed to avoid rather than abate traffic noise impacts and, therefore, is not feasible.

Noise Barriers: this is the most commonly used noise abatement measure. Noise walls were evaluated for each of the impacted receiver locations with the following results:

As indicated in **Table 4.1-3**, noise walls would be feasible and reasonable for the following impacted receivers and, therefore, are proposed for incorporation into the project:

TABLE 4.1-3: NOISE WALL PROPOSAL (preliminary)

WALL	Representative Receivers	Total # Benefited	Length (feet)	Height (feet)	Total Cost	$/Benefited Receiver
4	R17, 18, 19	3	297	14 ft. Exit Ramp Noise Wall	$74,844	$24,948
5	R20, 21, 22	3	297	14 ft. Entrance Ramp Noise Wall	$74,844	$24,948

Any subsequent project design changes may require a re-evaluation of this preliminary noise barrier proposal. The final decision to construct the proposed noise barrier will not be made until completion of the project design, utility evaluation and polling of adjacent property owners.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs should ensure, to the

maximum extent possible, no new activities are planned or constructed along or within the following predicted (2025) noise impact contours.

LAND USE	IMPACT CONTOUR	DISTANCE from RIGHT of WAY
Residential	66 dBA	400 feet
Commercial	71 dBA	200 feet

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers is expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

A copy of this traffic noise analysis will be available to local officials. On the date of approval of this document (Date of Public Knowledge), FHWA and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

4.2 Air Quality

NCTCOG modeled toll traffic for 2025 (see **Appendix C: 2025 Traffic Volumes**). As a result, a new air analysis was conducted based on the toll traffic projections.

The construction of the proposed project as a non-toll facility is consistent with the area's financially constrained, long-range metropolitan transportation plan (MTP) known as Mobility 2025: the Metropolitan Transportation Plan-Amended April 2005. On June 16, 2005, the MTP and 2004-2006 Transportation Improvement Program (TIP) were found to conform to the Clean Air Act as amended. The proposed action, construction of SH 121, is currently included in the 2006-2008 STIP. Due to the proposed tolling, the funding source will need to be revised in the 2006-2008 STIP before the project can let as a toll facility. Additionally, the project comes from an operational congestion management system that meets all requirements of 23 CFR Highways, Parts 450 and 500.

The primary pollutants from motor vehicles are volatile organic compounds (VOCs), carbon monoxide (CO) and nitrogen oxides. VOCs and nitrogen oxides can combine under the right conditions in a series of photochemical reactions to form ozone (O_3). Because these reactions take place over a period of several hours, maximum concentrations of ozone are often found far downwind of the precursor sources. Thus, ozone is a regional problem and not a localized condition.

The modeling procedures of ozone require long term meteorological data and detailed area wide emission rates for all potential sources (industry, business, and transportation) and are normally too complex to be performed within the scope of an environmental analysis for a highway project. Accordingly, concentrations of ozone for this purpose of comparing the results of the National Ambient Air Quality Standards (NAAQS) are modeled by the regional air quality planning agency for the State Implementation Plan (SIP). However, concentrations for carbon monoxide are readily modeled for highway projects and are required by federal regulations.

The topography and meteorological conditions of the area in which the project is located would not seriously restrict dispersion of the air pollutants. The air quality was modeled at eight locations along the corridor. Exhibits in **Appendix C: Conceptual Toll Plan,** display the air receiver locations. The traffic data used in the analysis was obtained from NCTCOG.

The traffic volumes resulting in the highest CO emission readings are 99,349 vehicles per day (vpd) along the eastbound main lanes and 105, 302 vpd along the westbound main lanes for 2008, the estimated time of completion (ETC). The traffic volumes resulting in the highest CO emission readings for 2028 are 108,560 vpd along the eastbound main lanes and 115,070 vpd along the southbound main lanes for the design year or ETC+20.

Using the CALINE3/MOBILE6 computer program and the aforementioned traffic data, CO concentrations were determined in accordance with the TxDOT Air Quality Guidelines. CO concentrations for the proposed action were modeled using the worst-case scenario (adverse meteorological conditions and sensitive receptors at the ROW line) in accordance with the TxDOT Air Quality Guidelines. Local concentrations of CO are not expected to exceed national standards at any time.

Analysis Findings

CO background ambient concentrations of 3.7 parts per million (PPM) for a one hour average and 2.3 ppm for an eight hour average were used in all alternatives analyzed. The

NAAQS for CO is 35.0 ppm for one hour and 9.0 ppm for eight hours. CO concentrations for this segment of SH 121 were modeled under the worst meteorological conditions (wind speed of 1 m/s, wind bearing of 90°, stability class of F, surface roughness of 100 cm, and mixing height of 1000m). Station number 2275+00 had the highest percent NAAQS for the existing year (2008) conditions and the projected year (2023) conditions as shown in **Table 4.2-1**.

TABLE 4.2-1: CARBON MONOXIDE CONCENTRATIONS

Year	Station Number	1HR CO (ppm) *	1 HR % NAAQS	8 HR CO (ppm) *	8 HR % NAAQS	Schematic Sheet No.
2008	2275+00	9.90	28.29%	6.02	66.89%	2
2028	2275+00	10.00	28.57%	6.08	67.56%	2

*The National Ambient Air Quality Standard (NAAQS) for CO is 35 ppm for one hour and 9 ppm for eight hours. Analysis includes a one hour background concentration of 3.7 ppm and an eight hour background concentration of 2.3 ppm.

Congestion Management System (CMS)

The Congestion Management System (CMS) is a systematic process for managing traffic congestion. The CMS provides information on transportation system performance, alternative strategies for alleviating congestion, and enhancing the mobility of persons and goods to levels that meet state and local needs. The SH 121 proposed roadway expansion project was developed from the NCTCOG operational CMS, which meets all requirements of CFR500.109.

Operational improvements and travel demand reduction strategies are commitments made by the region at two levels: the program level and the project implementation level. Program level commitments are inventoried in the regional CMS and are included in the financially constrained MTP.

The CMS element of the plan carries an inventory of all project commitments detailing the type of strategy, implementation responsibilities, schedules, and expected costs. At the project implementation level, travel demand reduction strategies and commitments would be added to the regional TIP or included in the construction plans. The regional TIP provides for programming of these projects at the appropriate time with respect to the Single Occupancy Vehicle (SOV) facility implementation and project specific elements.

Committed congestion reduction strategies and operational improvements considered to be beneficial to the SH 121 study area would consist of additional lanes, HOV, new roadway, signalization and intersection improvements. TxDOT, under the Congestion Mitigation and Air

Quality Improvement Plan (CMAQ) program, would manage these projects, which are included in the regional CMS. Individual projects are listed in **Table 4.2-2**.

TABLE 4.2-2: OPERATIONAL IMPROVEMENTS IN THE TRAVEL CORRIDOR

Location	Type	Implementation Year	Funding Source	TIP #	Cost
Coit Rd from Parker Rd. to SH 121	Addition of Lanes	2000	Plano	2003.0000	$6,513,899
SH 121 from Denton Creek to DNT	Addition of Lanes	2004	TxDOT-Dallas	11239.0000	$150,402,000
FM 1171 from IH 35E to SH 121	Addition of Lanes	2002	TxDOT-Dallas	0196-04-011	$7,300,000
FM 423 from SH 121 to Stewarts Creek Rd.	Addition of Lanes	2007	TxDOT-Dallas	1567-02-020	$12,425,600
Sandy Lake Rd. from Denton Tap to SH 121	Addition of Lanes	2006	Coppell	DAC 208	$8,275,000
SH 121 at SH 289	Grade Separation	2004	Collin County	11008.0000	$7,713,170
IH 35E (Stemmons) from SH 121/Trinity Mills to IH 635	HOV	2000	TxDOT-Dallas / DART	2808.0000	$14,301,000
SH 121 from DNT to SH 289	New Roadway	2004	TxDOT-Dallas	11222.0000	$21,627,586
SH 121 from Dallas/Denton County Line to east of MacArthur Blvd.	New Roadway	2003	TxDOT-Dallas	3547-01-005	$7,548,427
SH 121 from east of MacArthur Blvd. to east of IH 35E	New Roadway	2003	TxDOT-Dallas	3547-01-008	$45,352,175
SH 121 from 0.26 miles west of Hebron Pkwy to 0.17 miles east of FM 2281	New Roadway	2004	TxDOT-Dallas	3547-01-009	$37,400,000
SH 121 from FM 544 to Collin County Line	New Roadway	2004	TxDOT-Dallas	0364-03-066	$74,800,000
SH 121 from Denton County Line to DNT	New Roadway	2004	TxDOT-Dallas	0364-04-038	$14,200,000
SH 121 at Valley View Dr.	Traffic Signal Improvements	1997	Lewisville	1820.0000	$79,750
SH 121 at Blair Oaks	Traffic Signal Improvements	1994	TxDOT-Dallas	2935.0000	$64,000
SH 121 at Bellaire/Bennett, SH 121 at Corporate Dr, SH 121 at SW Pkwy.	Traffic Signal Improvements	1994	TxDOT-Dallas	2936.0000	$175,000
SH 121 at Cider Rd., SH 121 at FM 423, SH 121 at FM 544, SH 121 at Holfords Prairie, SH 121 at Paige Rd/Plano Pkwy.	Traffic Signal Improvements	1994	TxDOT-Dallas	2937.0000	$163,000
SH 121	Traffic Signal Improvements	1995	TxDOT-Dallas	2941.0000	$198,000
Hebron Pkwy at east & west	Traffic Signal	2005	Carrollton	11007.0000	$859,396

Location	Type	Implementation Year	Funding Source	TIP #	Cost
service roads of SH 121	Improvements				
Signals Region wide (Phase 2 – Optimization)	Traffic Signal Improvements	2002	Lewisville	11082.0000	$700,594
New Signal and Intersection Improvement Modifications	Traffic Signal Improvements	2003	Lewisville	11083.0000	$761,903
Hebron Pkwy at east & west service roads of SH 121	Traffic Signal Improvements	2007	Carrollton	11428.0000	$1,100,000

*Source: North Central Texas Council of Governments

In an effort to reduce congestion and the need for SOV lanes in the region, TxDOT and NCTCOG would continue to promote appropriate congestion reduction strategies through the CMAQ program, the CMS, and MTP.

4.3 Socio-Economic Impacts

This re-evaluation utilizes 2000 census information and best available data. The evaluation addresses the requirements of Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations; EO 13166, Improving Access to Services for Limited English Proficiency (LEP); Title VI, Civil Rights Act of 1964; Civil Rights Restoration Act of 1987; and the Federal Aid Highway Act of 1970.

Based on the data gathered and analysis presented in this section, there does not appear to be disproportionate adverse impacts to any minority and/or low-income populations as a result of the implementation of the proposed project. Although some minimal effects of tolling the SH 121 mainlanes currently under construction may occur for roadway users within the corridor, it is unlikely that tolling the SH 121 mainlanes currently under construction would result in adverse socio-economic impacts to those roadway users or residents of the study area.

Constructing the proposed improvements as a toll facility allows construction to occur substantially earlier than would be possible with conventional highway funding. This would allow the improvements to better keep abreast of traffic growth, thereby minimizing congestion.

It is anticipated that opening year tolls for automobiles using this facility would be consistent with the national average of 12 to 16 cents per mile. An investment grade traffic and revenue study is under development to determine a more detailed, appropriate pricing structure.

Alternative non-toll routes include the SH 121 frontage roads, which would include a total of six travel lanes (three in each direction), as well as local arterial roadways (i.e. Business SH 121, Hebron Parkway, Memorial Drive Expansion project). The use of frontage roads would provide non-tolled alternatives for motorists not wanting or able to afford to travel the tolled mainlanes. A portion of the project that does not have frontage roads, from west of IH 35E to Hebron Parkway, and is currently open to traffic. This portion of the mainlanes would not be converted to toll. Appropriate overhead guide signs would indicate to motorist that this portion would be non-tolled. Motorists using the frontage road may experience slightly longer travel times than motorists using the tolled mainlanes. This difference in travel times between the tolled mainlanes and the non-tolled frontage roads would be the highest during peak hours of travel when traffic congestion within the SH 121 corridor would be greatest. However, overall, the added capacity the proposed project offers would provide mobility and relieve traffic congestion for all motorists using the SH 121 corridor whether they use the tolled mainlanes or non- tolled frontage roads.

Population and Demographic Characteristics

The project study area for SH 121 is comprised of portions of the cities of Lewisville, Carrollton, Hebron, The Colony, Frisco, and Plano. These cities are located in Denton and Collin Counties. There have been no changes to the analysis provided in previous re-evaluations.

Implementation of the proposed toll facility, presented in this re-evaluation, would not significantly alter population growth trends within the study area. The study area's relatively dynamic growth trends are expected to continue as the study area is projected to sustain development after a decade of unprecedented population and economic growth (1990 – 2000).

An indirect impact of SH 121 would be an increase of population in areas adjacent to the study area. SH 121 would improve access and help to better manage congestion within the cities of Lewisville, Carrollton, Hebron, The Colony, Frisco, and Plano. As access and mobility improve within the study area, the area becomes more attractive for development; thus, stimulating future housing and commercial development and, in turn, generating or dispersing additional population in and adjacent to the study area.

Income

The median household income within the study area ranged from $46,043 to $87,220. For 2005, the weighted average poverty threshold for a four-person family is $19,350. A total of 3.9 percent (3,267 persons) within the study area exhibited 1999 incomes below the poverty level. It is not anticipated that there would be any disproportionate impacts to low income populations.

Community Cohesion

The proposed project would not adversely affect community cohesion. Community cohesion refers to the aggregate quality of a residential area. The proposed improvements to SH 121 may actually enhance the interaction of communities and neighborhoods in the study area by providing improvements or modifications which will enable residents to travel between communities more efficiently and safely.

Economic Impacts

In addition to time savings, enhanced safety, and reduced vehicle operating costs attributed to highway investment, construction and related activities financed through the Federal-aid program are important sources of employment for persons in many industries throughout the economy. A number of employment estimation models have been developed over the years. A new and improved employment estimation model called JOBMOD was recently developed for the FHWA by the Boston University Center for Transportation Studies and the Battelle Memorial Institute. The model is based on a statistical analysis of labor and material requirements information for the different types of completed Federal-aid highway projects included in the *Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds (Form-47)* database.[1] The FHWA *Fiscal Management Information System* was a source of financial and improvement type details for completed projects. While the employment and material density coefficients for highway improvement types used in JOBMOD are average values derived from a large number of Federal-aid projects, and thus subject to a wide variety of conditions, the model provides a general magnitude of the anticipated impacts expected to result during the construction phase of the project.

[1] *Users manual – JOBMOD Estimation Model.* Presented to the U.S. Department of Transportation Federal Highway Administration Office of Transportation Studies and the Battelle Memorial Institute March 28, 2002.

JOBMOD presents results for three rounds of spending. The proposed project is expected to cost an estimated $182,780,000 to construct. The first round includes all those jobs that are created either directly by the firms actually constructing the project or by the firms that provide direct inputs to the construction project. Based on the estimated construction cost, first round employment would be approximately 2,705 person-years, resulting in approximately $79,034,830 of first round employment income.

Second round employment impacts include jobs in firms that provide inputs to the industries that directly provide materials and equipment used in highway construction. An example of a second round employment impact is a firm that provides sheet steel (second round) to the firm that makes the guard rail (first round). Second round employment generated by the proposed SH 121 project could be expected to add additional 1,043 person-years of employment, resulting in approximately $32,336,300 of second round employment income.

Third round employment includes all jobs generated by consumer expenditures resulting from the wages paid for first and second round employment. It is equivalent to the standard input-output definition of "induced" employment, and reflects producers' response to an increase in demand for all types of goods and services. Third round employment would add approximately 2,980 person-years of employment during the SH 121 construction period, resulting in approximately $74,780,820 of third round employment income. The dollar value of goods and services produced across all sectors of the economy as a result of the expenditure of $182,780,000 to construct the improvements to the proposed project would be an estimated $884,641,600.

Improvements to an existing roadway often result in adverse economic impacts as well. Firms that depend on passing traffic for their business, such as service stations, fast food restaurants, and convenience stores, are particularly susceptible to the impacts of highway construction activities. Restricted access to business sites during the construction process is often a major concern. The construction related restrictions include closed driveways, temporarily reduced capacity of driveways or the roadway, intermittent blockage of roadways, and the uncertainty of customers about how to reach the business site during construction. Construction phasing would allow for new lanes to be constructed while traffic continues to utilize the current facility. As additional main lanes are constructed traffic can be shifted and should provide for the current number of lanes to continue throughout construction. Access to businesses can continue to be provided with temporary driveways across areas under construction with minimal

interruptions. Controlling the turning movements, however, would result in safer access for customers of adjacent businesses.

Environmental Justice

As discussed in previous re-evaluations, the potential effects of the proposed action have been evaluated in accordance with the requirements of EO 12898. The *Census 2000* data for census tracts was used for the analysis. Census tract (CT) data provides the appropriate level of detail for an area that is sufficiently small to characterize the area of impact. The proposed SH 121 project is located within eight census tracts (see **Appendix A: Figure 3**).

The project area is primarily Anglo and Hispanic. Overall, the minority population of the project area represents 24.3 percent of the total population. Pacific Islanders represent the smallest racial minority, at 0.01 percent of the total project area population. Hispanics constitute 11.2 percent of the project area population. **Table 4.3-1** contains the racial and ethnic population for the project area.

TABLE 4-3.1: RACIAL AND ETHNIC COMPOSITION OF THE POPULATION

Area/ Census Tract	Total Population	Population of One Race / Not Hispanic or Latino					Hispanic or Latino of Any Race	Total Minority Population
		White	Black or African American	American Indian/ Alaska Native	Asian	Pacific Islander		
Collin County	491,675	400,481 81.4%	22,811 4.6%	2,521 0.5%	33,606 6.8%	248 0.05%	50,262 10.2%	109,448 22.2%
Denton County	432,976	353,699 81.6%	25,126 5.8%	2,825 0.6%	17,110 3.9%	202 0.04%	52,365 12.0%	97,628 22.5
CT 215.09	8,541	7,268 85.0%	479 5.6%	64 0.7%	141 1.6%	0 0.0%	983 11.5%	1,667 19.5%
CT 216.05	7,613	5,727 75.2%	709 9.3%	54 0.7%	515 6.7%	0 0.0%	815 10.7%	2,093 27.4%
CT 217.11	8,844	6,638 75.0%	830 9.3%	37 0.4%	318 3.5%	0 0.0%	1,696 19.1%	2,881 32.5%
CT 305.01	9,614	8,673 90.2%	287 2.9%	50 0.5%	352 3.6%	0 0.0%	457 4.7%	1,146 11.9%
CT 316.44	3,043	2,461 80.8%	162 5.3%	0 0.0%	346 11.3%	0 0.0%	96 3.1%	604 19.8%
CT 215.06	10,647	9,025 84.7%	378 3.5%	39 0.3%	266 2.4%	0 0.0%	1,476 13.8%	2,159 20.2%
CT 215.08	5,842	4,805 82.2%	266 4.5%	49 0.8%	186 3.1%	0 0.0%	934 15.9%	1,435 24.5%
CT 216.01	7,884	5,617 71.2%	575 7.2%	11 0.1%	205 2.6%	0 0.0%	2,214 28.0%	3,005 38.1%
CT 216.03	14,247	10,120 71.0%	795 5.5%	51 0.3%	2,306 16.1%	7 0.04%	1,587 11.1%	4,746 33.3%
CT 216.04	10,376	8,597 82.8%	566 5.4%	39 0.3%	784 7.5%	2 0.01%	631 6.0%	2,022 19.4%
CT 217.10	22,230	17,838 80.2%	1,702 7.6%	121 0.5%	1,432 6.4%	0 0.0%	2,064 9.2%	5,319 23.9%
Total Study Area	**83,883**	**67,136 80.0%**	**4,731 5.6%**	**360 0.4%**	**5,877 7.0%**	**9 0.01%**	**9,459 11.2%**	**20,436 24.3%**

Source: U.S. Census Bureau. *Census 2000.* http://factfinder.census.gov

The median household income of all census tracts in the study area is comparable to Collin and Denton Counties. As mentioned previously, the percentage of the population below the poverty level for the study area is 3.9 percent. It is not anticipated that there would be any disproportionate impacts to low-income populations.

Non-toll facilities would be available to low-income populations via frontage roads and arterial roadways (i.e. Business SH 121, Hebron Parkway, Memorial Drive Expansion project). The use of frontage roads may result in a difference in time travel due to a lower posted speed

limit and signalization. Travel time data would not be available until further traffic and revenue studies are completed.

No displacements would be required due to the proposed design changes. There does not appear to be disproportionate adverse impacts to any minority and/or low-income populations as a result of the implementation of the proposed project.

While individual minority and/or low-income persons may be adversely affected by the proposed project, implementation of the proposed project would not result in disproportionately high and adverse impacts to minority or low-income populations. Over the long term, the entire corridor would benefit from the proposed project as a result of improved mobility and reduced traffic congestion.

4.4 Lighting and Visual Impacts

The toll gantries are an additional visual element associated with the proposed toll facility. The gantries would include various components of video enforcement equipment such as cameras, appropriate lighting and an interface with the electronic toll transponders. Although additional lighting would be incorporated as part of the violation enforcement system, these additional lighting components would add minimal lighting in comparison to the lighting structures currently planned for the roadway currently under construction. Toll lighting impacts on adjacent neighborhoods are not anticipated as minimal residential land use exists adjacent to the proposed toll gantries. Existing land use adjacent to the proposed toll gantries primarily consists of commercial development and undeveloped land. The gantry lighting design, although not complete at this time, has the potential to be designed to eliminate glare and ambient lighting for future adjacent residential development.

5.0 ISSUES ELIMINATED FROM FURTHER STUDY

The following issues were eliminated from further since the proposed toll facility would not change the footprint of the roadway, additional ROW is not required, and there are no design changes. The previously approved assessment of these issues remains valid.

5.1 Construction Impacts

Construction of the SH 121 facility would continue to be constructed in stages so travel lanes would remain open during construction. Construction of a detour would not be required.

5.2 Cultural Resources

The previous environmental assessments included cultural resources surveys of the area of potential effects (APE) for the proposed project to determine if structures or buildings listed or eligible for listing on the National Register of Historic Places (NRHP) would be affected. For this project, the APE related to structures and buildings was determined to be 150 feet from either side of the proposed ROW. The proposed SH 121 toll facility does not warrant additional coordination with THC, since there is no change to the footprint or alignment of the proposed roadway. Previous coordination remains valid. The following outlines the previous coordination with the Texas Historical Commission (THC).

The THC concurred on January 5, 1996, that the proposed SH 121 project would have no effect on NRHP eligible or listed properties or State Archeological Landmarks. Additional coordination occurred in 2002 as the result of additional ROW acquisition at that time. On November 20, 2002, the THC concurred that the proposed project would have no effect on NRHP eligible or listed properties or State Archeological Landmarks on SH 121 at IH 35E from east of MacArthur Blvd. to east of IH 35E. Also, tribal coordination was completed on October 28, 2002.

There are no cemeteries within or adjacent to the proposed project that would be affected by the construction of the proposed project.

In the unlikely event that archeological deposits are encountered during construction, work in the immediate area will cease and TxDOT archeological staff will be contacted to initiate accidental discovery procedures under the provisions of the Programmatic Agreement

(PA) between TxDOT, THC, FHWA, and the Advisory Council on Historic Preservation and MOU between TxDOT and the THC.

5.3 Farmlands

No additional ROW is required; therefore, the proposed project is exempt from the requirements of the Farmland Protection Policy Act (FPPA) and requires no coordination with the Natural Resources Conservation Service (NRCS).

5.4 Floodplains

The project lies within the 100-year floodplain of Elm Fork of the Trinity River. The hydraulic design of the proposed roadway improvements would be in accordance with the current TxDOT and FHWA policy standards. The proposed project would not increase the base flood elevation to a level that would violate applicable floodplain regulations and ordinances.

No changes have been made to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) flood zone designations within the project area since the previous EAs were approved. No additional floodplain impacts would occur as a result of proposed toll facility. As a reference, the FEMA floodplains mapped for this project are listed in **Appendix A: Figure 2**).

A portion of this project is within the Trinity River Corridor Development Certificate Regulatory Zone. Compliance with all applicable regulations is occurring as appropriate, since the project is currently under construction. No coordination or Trinity River Corridor Development Certificate is required during this re-evaluation for proposed tolling.

5.5 Hazardous Materials

Under the previous EAs, a thorough investigation of public records and initial site assessments were performed for the project ROW to identify possible hazardous materials within the project limits. Based on the results received from the data base search and site assessments, there were no properties found within the proposed project limits that were considered "at risk".

There are no hazardous material impacts from the proposed project that were not identified in previously approved EAs and subsequent re-evaluations.

5.6 Jurisdictional Waters and Wetlands

There are no additional waters of the U.S. including wetlands impacted by the proposed project that were not identified in the previously approved EAs and subsequent re-evaluations. The following summarizes the results of these evaluations and coordination with the U.S. Army Corps of Engineers (USACE).

SH 121/IH 35E Interchange

A substantial portion of the area located north and east of IH 35E is within the 100-year floodplain of the Elm Fork Trinity River. TxDOT evaluated a variety of alternatives that would serve to minimize impacts to the aquatic system, yet still satisfy the transportation needs of the DFW area. TxDOT proposes the use of on-site wetland creation to mitigate for unavoidable loses to 0.31 acres of low quality wetlands in the project area. Approximately one (1) acre of bottomland hardwood will be created in an area adjacent to the IH 35E crossing of Timber Creek. Approximately 0.5 acres of mitigation land is located within TxDOT ROW and the remaining 0.5 acres is located on the city of Carrollton ROW. A 13 acre/foot flood storage space will also be provided for this project. The mitigation will provide a riparian zone for a portion of Timber Creek and will connect to an existing wooded ephemeral channel in the proposed Sports Complex. The plants and trees in the mitigation area will provide habitat as well as enhanced wetland function for this area.

Crossings of jurisdictional waters have been minimized to impact less than 0.1 acres in each case and will not be mitigated. TxDOT personnel initiated USACE coordination on October 10, 2002. The project will be authorized under Nationwide Permit (NWP) 14 - *Linear Transportation Crossings.*

SH 121 From East of IH 35E to 0.05 mile East of FM 423

This section crosses a small ephemeral stream; however to stream will be spanned and no lost of waters of the U.S. would occur. Coordination with USACE is not required.

SH 121 From FM 423 to DNT

This section of SH 121 crosses four jurisdictional waters and will require the filling of a 0.67 acre on-channel stock pond. An individual permit was required due to impacts at the pond which exceed the 0.5 acre threshold for NWP 14. The individual permit application was submitted to the USACE Fort Worth District on April 15, 2002. The project was assigned #200200254 and the public notice published June 11, 2002. No comments were received that required modification to the application.

The proposed project will meet the Clean Water Act Section 401 Water Quality Certification requirements by using one best management practice (BMPs) from each of the three Tier I categories. These will include block sod for erosion control, detention basins for sedimentation control, and vegetative filter strips for total suspended solids (TSS) controls. Previous Texas Commission on Environmental Quality (TCEQ) commitments on water quality certification remains valid. The proposed toll facility does not warrant additional commitments for Section 401 certification under Tier I guidelines.

5.7 Land Use

The project area has been subjected to previous disturbances associated with commercial and residential development, and previous and on-going construction of the SH 121 facility. Existing commercial and industrial land uses are likely to continue developing within the proposed toll facility.

5.8 Navigable Waters of the U.S.

The proposed project does not cross any navigable lakes, rivers, or streams. A navigational clearance under Section 9 (administered by the U.S. Coast Guard) and Section 10 (administered by the USACE) of the Rivers and Harbors Act of 1899 is not applicable. Coordination with the U.S. Coast Guard (for Section 9) and USACE (for Section 10) would not be required.

5.9 Public Facilities and Services

The proposed alignment would not impact any public facilities or services. In essence, the construction of the toll facility would enhance access to these facilities and services once construction is complete.

5.10 Relocations and Displacements

The proposed tolling of SH 121 requires no additional ROW acquisition; therefore, no displacement or relocations are anticipated.

5.11 Section 4(f) Properties

The proposed project will not require the use of any publicly owned land from a public park, recreation area or wildlife and waterfowl refuge or historic sites of national, state or local significance; therefore, a Section 4(f) statement will not be required. There are no Section 4(f) properties impacted by the proposed toll facility.

5.12 Threatened/Endangered Species

The approved EAs addressed species that were historically found within Denton and Collin Counties. It was noted that Denton and Collin Counties fall within the migration route of the whooping crane; however, because of the nature of the project, no effects are anticipated. The current status of federal and state listed and candidate species has not changed since available information at the time of the approved EAs. The project is currently under construction and U.S. Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD) coordination was previously completed. This assessment remains valid and no further coordination with USFWS or TPWD is necessary for the proposed tolling of the SH 121 mainlanes currently under construction.

5.13 Vegetation

There are no additional impacts to habitat that would be mitigated for in accordance with the MOU between TxDOT and the TPWD that were not identified in the previously approved EAs and subsequent re-evaluations. The following summarizes the results of these evaluations and coordination with the TPWD. No change to the footprint of the roadway is proposed; therefore, no additional impacts to woody vegetation are anticipated. No additional coordination with TPWD is required.

SH 121/IH 35E Interchange

This project is adjacent to the floodplain of the Elm Fork of the Trinity River. In an effort to minimize impacts to the adjacent habitat, retaining walls were used to reduce the needed ROW. In addition, an area of trees will be avoided near the southern terminus of the project. Overall, approximately 3 acres of habitat will be disturbed, of which less than 0.5 acres consist of mature trees. In accordance with the MOU between TxDOT and TPWD, TxDOT will consider compensatory mitigation for certain types of habitats (habitat for Federal candidate species, rare vegetative species, bottomland hardwoods, native prairies, riparian sites, and locally significant habitat). In addition to the aforementioned avoidance and minimization, compensatory mitigation will be provided by planting approximately one (1) acre of bottomland hardwood in an area adjacent to the IH 35E crossing of Timber Creek and will connect to an existing wooded ephemeral channel in the proposed Sports Complex. The plants and trees in the mitigation area will provide habitat as well as enhanced wetland function for this area. There is no additional compensatory mitigation warranted by the proposed SH 121 toll facility project.

SH 121 From East of IH 35E to 0.05 mile East of FM 423

No significant plant communities are located within the right-of-way. No removal of trees would be required in this segment.

SH 121 From FM 423 to DNT

Surveys in the early 1990's estimated that this project would disturb approximately eleven (11) acres of riparian habitat. As per the MOA between TxDOT and TPWD, planting eleven acres of trees at a nearby USACE Lake (Lake Lewisville or Lake Lavon) will make compensatory mitigation for the impacts. The trees to be planted will consist of the standard TxDOT Dallas District mix and ratio. It should be noted that in recent years development has greatly reduced the actual acreage of riparian habitat adjacent to the proposed ROW.

In accordance with EO 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping, seeding and replanting with TxDOT approved seeding specifications that is in compliance with EO 13112 would be done where possible.

5.14 Water Quality

No surface or subsurface waters would be impacted by the proposed tolling of the mainlanes currently under construction. The Elm Fork of the Trinity River (Segment 0822) is not listed as either threatened or impaired in the 2002 Clean Water Act Section 303(d) list, and the project is not within 5 miles upstream of a threatened or impaired water segment. Therefore, coordination with Texas Commission on Environmental Quality (TCEQ) is not required for total maximum daily loads.

Because this project will disturb more than one acre, TxDOT will be required to comply with the TCEQs Texas Pollutant Discharge Elimination System (TPDES) General Permit for Industrial Activity. The project will disturb more than five acres; therefore, a Notice of Intent (NOI) would be filed to comply with TCEQ stating that TxDOT will have a Storm Water Pollution Prevention Plan (SW3P) in place during construction of the proposed project. The SW3P utilizes the temporary control measures as outlined in TxDOT's manual *Standard Specification for the Construction of Highways, Streets, and Bridges*. Impacts will be minimized by avoiding work by construction equipment directly in the stream channels and/or adjacent areas. No long-term water quality impacts are expected as a result of the proposed project.

5.15 Items of a Special Nature

Airway-Highway Clearance

The project corridor does not come within 20,000 ft of any airport property. Aircraft Clearance issues are not associated with this project.

Coastal Zone Management Plan

The proposed project is not located within the Texas Coastal Zone Management Program boundary; therefore, this project is not subject to the guidelines of the associated plan.

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act, as amended on October 11, 1996, directs that all Federal agencies, whose actions would impact fish habitat, must consult with the National Marine Fisheries Service regarding potential adverse effects. This requires any project that receives Federal funding must address potential impacts to essential fish habitat. Due to the nature and location of this project, essential fish habitat would not be impacted.

Wild and Scenic Rivers

There are no wild and scenic rivers in the project area; therefore there would be no impacts to a river designated as a component or proposed for inclusion in the national system of Wild and Scenic Rivers.

5.16 Indirect and Cumulative Impacts

The Council on Environmental Quality (CEQ) defines indirect or secondary effects as those which are caused by the action and are later in time and farther removed in distance, but are still reasonably foreseeable. They may include growth induced effects and changes in the pattern of land use, population densities, or growth rates and related changes in air, water, or other natural resources and ecosystems. These effects may not necessarily be restricted to just the study area.

The CEQ defines cumulative effects as those which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. As such, it may be difficult to understand the role that a proposed action may have in contributing to the overall or cumulative impacts to an area or resource.

Potential indirect and cumulative impacts from the proposed project may include:

- Land use changes due to increased desirability of land. Changes would primarily consist of residential and commercial development;

- Stimulation of local economies due to construction and potential and realized development opportunities;

- Potential increases in population and need for additional utilities;

- Runoff increase due to changes in land use and potential increases in sedimentation in areas receiving runoff; and

- Further fragmentation and decreased wildlife habitat in areas of increased development.

Indirect Impacts

Tolling the proposed roadway may create some secondary social and economic impacts that result indirectly from the proposed improvements to the existing roadway. It is anticipated that development opportunities would increase within the study area. Generally, as access to the study area becomes more convenient, more areas would become practical and economically feasible for development and land use changes to occur. This corridor was previously planned and is currently under construction and any anticipated land use changes would occur regardless of the proposed tolling.

The overall construction of facilities within this larger transportation system would result in the continued residential and commercial development. Undeveloped areas within the project area would likely be developed for residential and commercial use.

Cumulative Impacts

Cumulative impacts from roadway projects are usually associated with areas of land that may change from their previous land use. The extent that the proposed project may contribute to these cumulative land use change impacts in an area is dependent upon many factors: distance from the project, real estate speculation, other anticipated and planned projects in the area, development zones, municipal planning, size and closeness of the nearest metropolitan area, local and state regulations and the extent to which they are enforced, to mention a few.

Cumulative impacts of tolling on low-income and minority populations is difficult to predict; however, tolling of the mainlanes would be unlikely to result in disproportionately high and adverse effects on minority and/or low-income populations. The SH 121 frontage roads would

be non-tolled and would function similarly as they do today. Although the imposition of tolls within the project limits would alter the proportion of traffic volumes carried by the roadway mainlanes and frontage roads, this effect would be minimal.

As future transportation projects within the surrounding area are considered for tolling, an increased use of non-tolled local arterial roadways (i.e. Business SH 121, Hebron Parkway, Memorial Drive Expansion project) may result. The non-tolled frontage roads and local arterial roadways would continue to provide access to highway systems in the region; however, motorists using these non-tolled alternatives may experience slightly longer travel times than motorists using the tolled mainlanes.

Some beneficial cumulative impacts may include the addition of infrastructure improvements constructed to support the increased development and commerce associated with the proposed roadway and economic growth in the immediate area. The added capacity the proposed project offers would provide mobility and relieve traffic congestion for all motorists using the SH 121 corridor whether they use the tolled mainlanes or non- tolled frontage roads.

5.17 Evaluation of Regulatory Changes

No environmental regulatory changes have occurred since approval of the EAs and subsequent re-evaluations. All coordination with regulatory agencies remains valid.

6.0 CONCLUSION

Since the time of the last environmental documentation for this project, there have been no changes in design or ROW requirements. The previously approved environmental assessments and subsequent re-evaluations were completed without the consideration of tolling. Two public meetings were held to inform the public about the proposed changes in order to implement an electronic toll collection system along the SH 121 mainlanes currently under construction. There have been no changes in condition that have resulted in significant social, economic, secondary, or cumulative consequences not previously addressed. This re-evaluation details that project modifications assessed in this re-evaluation (tolling the proposed facility) would not result in impacts substantially different than those considered in the previously approved studies. Implementation of these changes would not appreciably increase the potential for impacts beyond those considered in these assessments. No further environmental documentation would be required.