RE-EVALUATION

STATE HIGHWAY 121 (SOUTHWEST PARKWAY) FROM IH 30 TO FM 1187

CITY OF FORT WORTH, TARRANT COUNTY, TEXAS

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U.S. DEPARTMENT OF TRANSPORTATION
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1.0 INTRODUCTION

The purpose of this re-evaluation is to assess the implementation of an all electronic toll collection (ETC) system for the proposed State Highway (SH) 121 facility, also known as Southwest Parkway, and to identify and address the design changes to the previously approved project. This re-evaluation specifically addresses the project from Interstate Highway (IH) 30, in the City of Fort Worth, to Farm-to-Market Road (FM) 1187 located in southern Tarrant County (see Appendix A, Exhibit 1). The breakout CSJ 0504-02-022 was added due to funding made available through the American Recovery and Reinvestment Act of 2009.

The project distance is approximately 15 miles. No additional right-of-way or changes to the footprint of the roadway would be required for the proposed electronic tolling and proposed minor design changes of SH 121. The proposed facility design remains as a new location north-south, four/six lane controlled access facility with discontinuous two-lane frontage roads. From the northern terminus at IH 30 to Altamesa Boulevard the facility would be six lanes. From Altamesa Boulevard to the southern limit at FM 1187, the facility would be four lanes. In addition, frontage road access, in limited locations, would be provided where needed for local traffic circulation. Although the main lanes of SH 121 are proposed for electronic tolling, the discontinuous frontage roads would remain as a non-toll alternative to the toll facility.
The average daily traffic on the project, referencing Year 2025 (2004 Update) projections from the North Central Texas Council of Governments' (NCTCOG), ranges from approximately 95,000 vehicles per day (vpd) west of Hulen Street to approximately 65,000 vpd north of FM 1187. The total estimated (not escalated) construction cost for Sections 1, 2, 2B, 3, 4 and 5 as reported in the February 2009 Financial Plan is $888,682,370.

This re-evaluation reviews the findings of the October 2004 Final Environmental Impact Statement (FEIS) prepared for the SH 121 project. A Record of Decision (ROD) approving the selection of the Build Alternative was issued by the Federal Highway Administration (FHWA) on June 13, 2005. These documents are discussed in more detail in Section 3.0 of this document.

2.0 NEED AND PURPOSE

The October 2004 FEIS stated the need for the SH 121 project was due to the continued growth and urbanization in the newly developed and developing areas of southwest Tarrant County. The project's purpose in the October 2004 FEIS was to provide a financially viable, effective, and timely transportation solution which will improve regional mobility, increase people and goods carrying capacity, and alleviate further overburdening of the local transportation system. The need and purpose for SH 121 have not changed from the previously approved FEIS/ROD. The proposed implementation of the ETC system on SH 121 would support the original need and purpose of the SH 121 facility by generating revenue for the operation and maintenance of SH 121. Continued growth and urbanization in the Dallas-Fort Worth region has resulted in the need for more efficient transportation systems to accommodate existing and future traffic demand between the central business district (CBD) of Fort Worth and newly developed and developing areas in southwest Tarrant County with a financially viable, effective, and timely solution.

The North Texas Tollway Authority (NTTA) and the Texas Department of Transportation (TxDOT) propose to construct a controlled access toll road from IH 30 to FM 1187 in Tarrant County, Texas. The purpose of the SH 121 project is to:

- Improve regional mobility.
- Increase people and goods carrying capacity.
- Alleviate further overburdening of the local transportation system.

The proposed action would provide a major link in the regional transportation network. Construction of SH 121 is part of the NCTCOG metropolitan transportation plan (MTP) *Mobility 2030* and the City of Fort Worth's *Comprehensive Plan* (2004 through 2007). The proposed SH 121 would provide a needed alternate route to the already congested urban arterials serving southwest Tarrant County.

3.0 PROJECT HISTORY

The October 2004 FEIS document provides a detailed project history for the SH 121 project from its inception in 1962 through publication of the FEIS. As indicated in the FEIS, the recommended alternative determined to meet the need and purpose of the project after consideration of public input was Build Alternative C/A. On December 13, 2004, a public hearing was held to allow the public to comment on the FEIS and the recommended alternative (Build Alternative C/A).

On June 13, 2005, FHWA issued a ROD for the SH 121 project. The ROD was based on the analysis and evaluation contained in the FEIS, and the consideration of the social, economic, and environmental factors and along with input from the public involvement process. Build Alternative C/A was adopted as the selected alternative by the FHWA in agreement with the City of Fort Worth, TxDOT, and NTTA.

Since issuance of the SH 121 ROD, public involvement (and project support) has been continuous. The following are examples of post-ROD meetings, presentations, and actions.

- October 28, 2005: Fort Worth City Council passed Resolution No. 3266-10-2005 adopting the Corridor Master Plan for the Southwest Parkway (SH 121).
- In January 2006 (as well as January 2007 and June 2007): TxDOT conducted a series of noise workshops for affected property owners, see Section 5.9. As a result of these workshops, adjacent property owners voted to implement all proposed noise barriers.
- February 21, 2006: City of Fort Worth staff gave a Right-of-Way and Relocation Program presentation to Fort Worth City Council, addressing city responsibilities including: requirement to follow federal acquisition process; number of parcels and relocations the city is to acquire/handle; a public involvement plan with the primary goals being to keep the citizens informed and to relocate and retain affected businesses in Fort Worth.
- August 21, 2006: City of Fort Worth staff presented a project update to the Southwest Parkway Citizen Advisory Group.
- 1st Quarter of 2007: In consideration of converting the NTTA System to an all ETC System, the NTTA conducted a series of focus meetings in the Dallas-Fort Worth area, to ascertain the public's concerns, opinions, and questions of this proposal. Meetings with municipal officials also took place.
- July 17, 2007: City of Fort Worth staff presented a Southwest Parkway Project Update to Fort Worth City Council, addressing processes for Council's required approval of the construction plans prior to construction. Council approval is contingent on the design incorporating key elements of the Corridor Master Plan.
- August 2007: The NTTA Board of Directors approved conversion of the existing system to all ETC operations by the first half of 2010. The conversion is intended to improve traffic flow, improve air quality, reduce travel time, and enhance safety. New projects, i.e., SH 121, will be constructed as all ETC facilities.
- December 18, 2007: TxDOT conducted a public meeting on proposed minor design changes, see Section 4.6.
- September 8, 2008: The Fort Worth Citizens Advisory Work Group hosted an open house.
- September 23, 2008: The City of Fort Worth hosted an open house/informational meeting.

4.0 CHANGES TO PROPOSED PROJECT

4.1 Approach

This re-evaluation has been prepared in accordance with 23 Code of Federal Regulations (CFR) 771.129(c), FHWA Technical Advisory T6640.8A, FHWA Texas Division Office policy memorandum, *Policy for Planning, Environment and Project Development for Toll Roads* and TxDOT's *Guidance on the Environmental Process for Toll Roads*.

The re-evaluation is based on the previously approved environmental documents as stated previously in Section 3.0, Project History. The following three steps have been used to analyze the potential impacts to resources based on the proposed ETC and minor design changes.

- Step 1 – Identify changes to the previously approved project resulting from the proposed ETC system and design changes for SH 121. These changes are summarized in Sections 4.3 (Proposed Design Refinements) and 4.4 (Proposed Operational Changes).
- Step 2 – Analyze current environmental conditions to identify changes occurring since issuance of the ROD. Section 5.0, Environmental Issues Studied and Section 6.0, Indirect and Cumulative Impacts, identify the changes since October 2004.
- Step 3 – Analyze the environmental consequences in regard to the proposed ETC and minor design changes. These consequences are provided in Sections 5.0, and 6.0, Environmental Issues Studied and Indirect and Cumulative Impacts, respectively.

Under Step 2, some studies such as environmental justice, air quality, and indirect and cumulative impacts are being re-evaluated due to revised documentation requirements. The findings of these analyses are documented in Sections 5.0 and 6.0 of this re-evaluation. All resource categories addressed within the October 2004 FEIS are discussed. Section 7.0 documents the conclusions drawn from the re-evaluation process.

4.2 Project Design and Operation Presented in the October 2004 FEIS

As described in the October 2004 FEIS, the typical section for SH 121 consists of two to three travel lanes with four-foot inside and outside shoulders in each direction divided by a median from IH 30 to Altamesa Boulevard and 10-foot inside and outside shoulders in each direction divided by a median from Altamesa Boulevard to FM 1187. The median would vary from 48 feet to 100 feet in width. The following paragraphs further describe the SH 121 project (Alternative C/A) as presented in the 2004 FEIS.

At IH 30, SH 121 would tie into the downtown IH 30 improvements, including IH 30 and the connections to Macon Street, Cherry Street, and Lancaster Avenue. This design would connect ramps from SH 121 with Forest Park Boulevard at a signalized intersection south of IH 30 and north of the Union Pacific Railroad (UPRR). A half diamond interchange would serve Forest Park Boulevard with a ramp from eastbound IH 30 to Summit Avenue. A full diamond interchange is proposed at Summit Avenue and IH 30.

Access to Summit Avenue and Forest Park Boulevard would be a split diamond with the ramps from and to the west at Forest Park Boulevard and ramps to and from the east at Summit Avenue, in addition to a ramp from westbound IH 30 to Forest Park Boulevard. IH 30 to the east would have direct access to and from SH 121.

Access from University Drive to northbound SH 121 and eastbound IH 30 would be provided. Traffic from Summit Avenue would be able to access westbound IH 30 and southbound SH 121

via separate ramps off of the frontage road near the St. Paul Lutheran Church. A ramp would be provided from the IH 30-to-SH 121 direct connection to University Drive, utilizing the existing Vickery Boulevard bridge, which would no longer be needed for eastbound traffic. A portion of this bridge is proposed to accommodate pedestrian/bicycle traffic from each side of the river.

Proceeding to the southwest adjacent to the UPRR, SH 121 would cross over the Clear Fork of the Trinity River and University Drive and under the Vickery Boulevard connections to Rosedale Street and the extended Montgomery Street. A split diamond interchange would serve Montgomery Street and University Drive with access to Rosedale Street. Vickery Boulevard would continue to have access to Rosedale Street.

At Hulen Street, SH 121 would pass under the Hulen Street bridge and over the UPRR. The Hulen Street bridge would be rebuilt, widened, and raised as part of this project. Edwards Ranch Road, formerly known as Stonegate Boulevard, is proposed to be extended to the west and cross under SH 121 with a diamond interchange north of the electrical transmission line and south of the UPRR. Edwards Ranch Road would serve as access to and from Hulen Street.

The alignment would curve to the south at this location and would cross over the Clear Fork of the Trinity River. This river crossing would span as much of the river as possible with proper clearances for the existing bike trail and maintenance road. It also would allow for future roads on each side of the river. The median on SH 121 would be widened in this area and 80-foot buffers outside the clear zone are included on each side of SH 121.

SH 121 then would cross under the future Arborlawn Drive with a diamond interchange. A frontage road would run south from Arborlawn Drive past the Fort Worth Country Day School, to Overton Ridge Boulevard. The widened median would end near the Arborlawn Drive extension, but the buffers would continue where possible.

A full directional interchange with IH 20 is planned, including direct connections from SH 121 on the south to SH 183 to the west. SH 121 would cross under the existing SH 183 frontage road and over a lowered SH 183, then over existing IH 20 and the IH 20 eastbound frontage road. A diamond interchange would be included at Overton Ridge Boulevard. Overton Ridge would not be lowered or reconstructed. A frontage road would run northbound from Overton Ridge to the existing SH 183 frontage road. The frontage road would not continue north from the intersection with the SH 183 westbound frontage road.

South of Overton Ridge Boulevard the median would be widened where feasible. Where possible, the landscape buffers would be included except where they would displace current development, such as apartments and homes. At Dutch Branch Road, the existing roadway would not be lowered or reconstructed.

SH 121 would cross under the future Oakbend Trail and existing Oakmont Boulevard as well as under a reconstructed Altamesa Boulevard. SH 121 would pass over the existing Dutch Branch Road. A diamond interchange is planned for Oakmont Boulevard with a full diamond interchange at Altamesa Boulevard.

South of Altamesa Boulevard, SH 121 would cross over the Fort Worth and Western Railroad (FWWRR) and the future Sycamore School Road with a diamond interchange at Sycamore School Road. From this point, SH 121 would continue south and pass under the future Risinger Road and over future McPherson Road with an interchange at McPherson Road. It then would cross under future roads at Stewart-Feltz Road and Cleburne-Crowley Road. After crossing

Stewart-Feltz Road, SH 121 would curve to the southwest and intersect with FM 1187 in accordance with the 2002 *Fort Worth Master Thoroughfare Plan*.

4.3 Proposed Design Refinements

The proposed design refinements are considered minor and would not affect the typical section for SH 121. At the request of the City of Fort Worth, the interchange at Edwards Ranch Road has been shifted approximately 1,000 feet west as a proposed access refinement for the planned development (see Appendix A, Exhibit 2). The shifted interchange location is desired by the owner of the single adjacent property surrounding the proposed interchange location and the City of Fort Worth. The previous interchange location precluded any extension of Edwards Ranch Road to the north or west due to the proximity of the Union Pacific Railroad Yard. The proposed toll gantries would be located in the same location as the previously approved toll plaza locations (both ramp and main lane) described in Section 3.1.1 of the October 2004 FEIS.

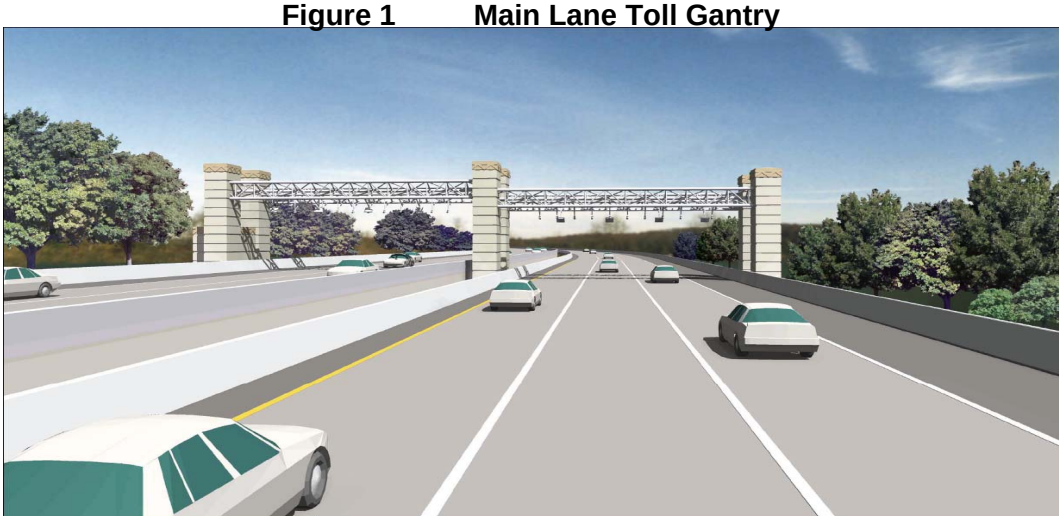
In addition, the interchange at Risinger Road would be modified. As originally planned, Risinger Road would have been constructed over an at-grade SH 121 (see Section 4.2). Because of local development, Risinger Road was constructed at-grade across the SH 121 right-of-way. This construction project included a large drainage structure within the SH 121 right-of-way that would be extraordinarily difficult and expensive to modify if Risinger Road were to be constructed over SH 121. Therefore, TxDOT, NTTA, and the City of Fort Worth agreed to modify the design to construct SH 121 over existing Risinger Road. No other design refinements for the SH 121 project are anticipated.

As indicated in the 2004 FEIS, three noise barriers are proposed to mitigate noise impacts resulting from the SH 121 project. The design and implementation of the noise barriers would be based on community input from the affected property owners in accordance with TxDOT policy and procedures. Additional details are provided in Section 5.9.

4.4 Proposed Operational Changes

An all ETC system is proposed for SH 121. As planned, all tolls would be collected through an ETC system. The ETC equipment would be placed on toll gantries positioned at certain locations along the main lanes and at some ramps. This would eliminate the larger main lane toll and ramp plazas and the option for cash payment of tolls on the facility. Additional details concerning the proposed ETC system are provided in Section 5.25.2. Figure 1 shows a typical main lane toll gantry.

Figure 1 Main Lane Toll Gantry



Source: HNTB, 2007

As proposed, tolls would be collected using a completely electronic system; the system would not be able to accept cash. Tolls would be collected by reading either stickers or tags as a vehicle passes under a toll gantry that contains an electronic chip linked to a prepaid account. The video tolling system involves recording a photograph of the vehicle's license plate for those users who do not have an active toll account. Based on this video monitoring, an invoice would be mailed monthly to the registered owner of the vehicle for the tolls incurred. Currently, the video tolling method would be more expensive for users of the facility because of the additional fee associated with billing and handling of the periodic billing statements. For TxDOT TxTags, a $1 fee is currently (in 2008) applied to each monthly invoice for non-tag customers. For NTTA TollTags, a $1 fee is currently (in 2008) applied to each monthly invoice for non-tag customers. Additional details concerning the proposed SH 121 ETC system are described in Sections 5.25.2 and 5.25.3.

The main lane toll gantries would be placed where the previously proposed main lane toll plazas were to be constructed as identified in the FEIS. The toll gantries would span both directions of travel on a structure similar to a typical overhead sign bridge (see Figure 1). The gantry would support ETC 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 feet above the roadway surface and would be used to collect electronic toll data. Similar smaller gantries would be needed at some ramps as well; however, these would only span the width of the particular entrance or exit ramp. Ramp gantries would be placed on the same ramps that had previously been proposed as ramp plazas in the FEIS.

The ETC system would not require motorists to stop to pay tolls and would minimize the acceleration and deceleration of traffic that usually accompanies a toll collection location because cash would not be accepted. In addition, last-minute lane changes between toll and cash lanes would not occur, providing smoother traffic conditions at the toll collection locations. Lighting impacts would be minimized because the gantries would not require any lighting beyond typical roadway-specific lighting for the video enforcement cameras.

Tolls would be collected electronically located along the SH 121 corridor. Ramp toll gantries would be included at the interchanges south of Hulen Street, with the exception of the IH 20 interchange. Main lane toll gantries would be included between Cleburne-Crowley Road and FM 1187 and Montgomery Street and Hulen Street.

4.5 Right-of-Way

The changes in design and operation would not increase the right-of-way needed for the SH 121 project. Of the total of 335 parcels identified for the project, the needed right-of-way from 283 parcels (84 percent) has been acquired (as of November 12, 2008). No construction has occurred as of October 2008.

The right-of-way acquisition process follows the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The process provides for fair and equitable treatment of those properties that would be acquired. The process includes initial property appraisal, determination of just compensation, negotiations, payments, and rights under eminent domain.

4.6 Public Involvement for the Proposed Design and Operational Changes

On Tuesday, December 18, 2007, TxDOT conducted a Public Meeting (open house format) for the purpose of soliciting public comment on the proposed full electronic tolling of SH 121 and

changes to Edwards Ranch Road and Risinger Road. The meeting was held at the Will Rogers Events Hall, located at 3400 Burnett Tandy Drive in Fort Worth, Texas. The meeting began at 4:00 p.m. and concluded at approximately 7:00 p.m. The registration of attendance totaled 101.

Viewing of the project exhibits and informal discussion sessions were held throughout the duration of the meeting to provide attendees an opportunity to review the displays and to ask questions regarding the proposed project with project team members present. A court reporter was also available for attendees to make recorded verbal comments if desired. One attendee requested their comments be recorded by the court reporter. The attendee also provided a written comment. Both the verbal and written comments requested that the project use quiet asphalt to reduce noise near residential areas.

Two additional comment forms were received at the public meeting. One comment form expressed support for the project and the other was a request for project mapping showing SH 121 in relation to an adjacent business location.

A 10-day comment period (from December 19th to December 28th) was provided after the meeting to allow comments to be submitted to TxDOT. One comment was received during the comment period from the City of Fort Worth. The City of Fort Worth expressed support for the relocation of the Edwards Ranch Road interchange and the full ETC system. Concerns were expressed about the timing of the public meeting and changes to the Risinger Road crossing. The comment also included a request to review the draft re-evaluation.

5.0 ENVIRONMENTAL ISSUES STUDIED

This section includes the discussion of issues studied with regard to the design and operational changes described in Sections 4.3 and 4.4.

5.1 Land Use Impacts

No substantial changes to land use have occurred in the project area since the October 2004 FEIS. The shift of the Edwards Ranch Road interchange has been proposed as an access refinement for SH 121.

5.2 Prime and Unique Farmlands

The proposed electronic tolling of SH 121 and proposed minor design changes would not require coordination under the Farmland Protection Policy Act. As stated in the October 2004 FEIS, the project requires no coordination with the Natural Resource Conservation Service.

5.3 Social Impacts

No substantial changes concerning social impacts are anticipated as a result of implementing electronic tolling for the SH 121 project or with the proposed minor design changes. As indicated in Section 4.1, new requirements for analyzing environmental justice issues in regards to tolling have occurred since the 2004 FEIS. The analysis indicates implementation of the proposed project would not cause disproportionate adverse impacts to low income or minority populations (see Section 5.25).

5.4 Public Safety Impacts

No substantial changes concerning public safety are anticipated as a result of implementing electronic tolling for the SH 121 project or with the proposed minor design changes. The design changes will meet the same design standards of safety which have been utilized in the design of SH 121.

5.5 Relocation Impacts

The proposed electronic tolling of SH 121 or the proposed design changes would not require additional right-of-way acquisition. No additional displacements or relocations would occur and the same property owner and utility lines will be affected, as in the original design of SH 121.

5.6 Economic Impacts

No substantial changes concerning economic impacts are anticipated as a result of implementing electronic tolling for the SH 121 project or through the design changes, as no changes in access resulted from these revisions. As indicated in Section 4.1, new requirements for analyzing environmental justice issues in regards to tolling have occurred since the 2004 FEIS. The analysis indicates implementation of the proposed project would not cause disproportionate adverse impacts to low income or minority populations (see Section 5.25).

5.7 Pedestrian and Bicycle Impacts

As discussed in the FEIS, an existing bike trail lies along the Clear Fork of the Trinity River. The design changes would meet the proper clearance requirements. In addition, no portion of the bike trail would be retained for long-term use, due to the design changes. No substantial changes concerning pedestrian and bicycle impacts are anticipated as a result of implementing electronic tolling for the SH 121 project.

5.8 Section 4(f) Impacts

The proposed electronic tolling of SH 121 and the proposed minor design changes would not affect any Section 4(f) resources. Temporary impacts to existing bicycle / pedestrian facilities are expected to occur during the construction phase of the project, however, long term impacts would not occur.

5.9 Noise Impacts

The original traffic noise analysis in the 2004 FEIS indicated the SH 121 project would result in traffic noise impacts and noise barriers were proposed at three locations. The proposed minor design changes associated with this re-evaluation would not alter these results; therefore, the original analysis remains valid. Community noise workshops have been conducted for areas along the corridor where noise barriers have been proposed to abate noise impacts to residential areas. Noise workshops were conducted as follows:

- January 5, 2006, at the Fort Worth Zoo: This noise workshop was conducted for the Park Palisades, Hulen Bend Estates, and Oakmont Meadows subdivisions. Approximately 14 homeowners were represented at the workshop. The homeowner representatives agreed to work with their respective neighborhoods to get a majority vote for noise abatement.
- January 23, 2006, at the TxDOT Fort Worth Regional Training Center: This noise workshop was conducted for the Mistletoe Heights subdivision. Approximately 16 homeowners were represented at the noise workshop. The homeowners agreed to work with their neighborhood to get a consensus concerning the texture of the barrier facing the residents.
- January 23, 2007, at the TxDOT Fort Worth Regional Training Center: TxDOT conducted a second noise shop for the Park Palisades, Hulen Bend Estates, and Oakmont Meadows subdivisions. Approximately 16 homeowners were represented at the workshop. The homeowners agreed to work with their neighborhood to get a consensus concerning the texture of the barrier facing the residents.
- June 7, 2007, at Carter & Burgess, Inc., Fort Worth Office: This was a meeting conducted for representatives of the Fort Worth Country Day School. Four school representatives attended the meeting. Cooperation, including additional planned meetings, is ongoing

between TxDOT and Fort Worth Country Day School concerning the location and design of the barrier facing the school.

As a result of these noise workshops, all proposed noise barriers were voted for implementation by the adjacent property owners. TxDOT will continue to work with the affected property owners where noise barriers are proposed. Additional details concerning the proposed noise barrier locations and design are available at the TxDOT–Fort Worth District office for review.

5.10 Water Quality Impacts

Since the October 2004 FEIS, the EPA has approved changes in the Texas Commission on Environmental Quality's (TCEQ) 303(d) list for impaired waters. The current 2008 303(d) list shows only one impaired water is located within the project area. The Clear Fork Trinity River (segment ID 0829) has been listed as impaired due to polychlorinated biphenyls (PCB) in fish tissue. This stream segment crosses the proposed project; therefore, coordination with the TCEQ is required for total maximum daily loads. The proposed electronic tolling of SH 121 and the proposed minor design changes would not warrant additional water quality assessment because no additional right-of-way is associated with the proposed operational and minor design changes. The remaining results of the water quality evaluation discussed in the October 2004 FEIS remain unchanged.

5.11 Permits

No change concerning permits is anticipated as a result of implementing electronic tolling or the proposed minor design changes for the SH 121 project. Since the October 2004 FEIS, the U.S. Army Corps of Engineers (USACE) has authorized two Section 404 nationwide permits (NWP) for the SH 121 project. A NWP 14 was authorized in July 2008 for impacts to waters of the U.S. between Altamesa Boulevard and FM 1187, and a NWP 14 was authorized in November 2008 for impacts between Rogers Road and Arborlawn Drive. In addition, an application for a Section 404 Individual Permit was submitted to the USACE in December 2008 for impacts associated with the proposed SH 121 between Overton Ridge Boulevard and Altamesa Boulevard.

5.12 Jurisdictional Waters of the U.S. and Wetland Impacts

The proposed electronic tolling of SH 121 or proposed minor design changes would not result in any additional impacts to jurisdictional waters of the U.S., including wetlands.

5.13 Water Body Modification and Wildlife Impacts

The proposed electronic tolling of SH 121 or proposed minor design changes would not result in any additional impacts concerning water body modification or wildlife.

5.14 Floodplain and Floodway Impacts

The proposed electronic tolling of SH 121 or proposed minor design changes would not result in any additional impacts to floodplains or floodways.

5.15 Wild and Scenic River Impacts

The proposed electronic tolling of SH 121 or proposed minor design changes would not affect wild and scenic rivers.

5.16 Coastal Barriers and Coastal Zone Impacts

The proposed electronic tolling of SH 121 or proposed minor design changes would not affect coastal barriers or coastal zone resources.

5.17 Threatened or Endangered Species

The proposed electronic tolling of SH 121 or proposed minor design changes would not affect any threatened or endangered species. In the October 2004 FEIS, the U.S. Fish and Wildlife Service (USFWS) requested that an Interior Least Tern survey be conducted in the months from April to August prior to construction. A survey for the Interior Least Tern nesting and habitat occurred on August 8, 2008, by a wildlife biologist certified to conduct Interior Least Tern surveys. The results of the survey concluded that Interior Least Terns may transit the project area, but are unlikely to stay for given periods (i.e., nesting) due to lack of high-quality nesting habitat in proximity to the river within the corridor. There have been no documented sightings of the Interior Least Tern west of the eastern side of Tarrant County, which is outside the proposed project area; therefore, the Interior Least Tern would not be adversely affected by the proposed project.

Since the October 2004 FEIS, several species have been removed or added to the state or federal species list for Tarrant County. Changes to these species are listed in Table 1.

Table 1 State and Federal Listed Species Changes for Tarrant County

Species	Federal Status	State Status	Changes
American Peregrine Falcon (*Falco peregrinus anatum)*	DL	E	Added to Tarrant County list by Texas Parks and Wildlife Department (TPWD)
Bald Eagle (*Haliaeetus leucocephalus*)	DL	T	Federal status changed to delisted
White-faced Ibis (*Plegadis chihi*)	--	--	Removed from Tarrant County list
Black-tailed Prairie Dog (*Cynomus ludovicianus*)	--	--	Removed as a candidate species by the USFWS
Grey Wolf (*Canis lupus*)	LE	E	Added to Tarrant County By TPWD
Red Wolf (*Canis rufus*)	LE	E	Added to Tarrant County
Fawnsfoot (*Truncilla donaciformis*)	--	--	Added to Tarrant County as a state SOC
Little Spectaclecase (*Villosa lienosa*)	--	--	Added to Tarrant County as a state SOC
Louisiana Pigtoe (*Pleurobema riddellii*)	--	--	Added to Tarrant County as a state SOC
Pistolgrip (*Tritogonia verrucosa*)	--	--	Added to Tarrant County as a state SOC
Rock Pocketbook (*Arcidens confragosus*)	--	--	Added to Tarrant County as a state SOC
Texas Heelsplitter (*Potamilus amphichaenus*)	--	--	Added to Tarrant County as a state
Auriculate False Foxglove (*Tomanthera auriculata*)	--	--	Removed from Tarrant County List

DL = Delisted species, LE = Federal Endangered, E = State Endangered, T = State Threatened, SOC = Species of Concern

5.18 Trees, Vegetation, and Wildlife Habitat

The proposed electronic tolling of SH 121 or proposed minor design changes would not result in any additional impacts to trees, vegetation or wildlife habitat.

5.19 Historic Resources Impacts

The proposed electronic tolling of SH 121 or proposed minor design changes would not impact any historic sites, including archeological sites, because no additional right-of-way is proposed. The proposed electronic tolling of SH 121 would not require additional coordination with the Texas Historical Commission (THC).

5.20 Hazardous Waste Sites

The proposed electronic tolling of SH 121 or proposed minor design changes would not warrant additional hazardous waste/material assessments because no additional right-of-way is proposed. Three sites were identified in the October 2004 FEIS (sites H30, H31, and H32) as requiring further investigations. Impacted sites have been investigated and acquisition has been completed. These sites are located along Vickery Boulevard and are not in the vicinity of the proposed design changes.

5.21 Visual Impacts

No substantial changes concerning visual impacts are anticipated as a result of implementing electronic tolling. Relative to the proposed minor design changes at Edwards Ranch Road and Risinger Road, the majority of the parcels in the immediate vicinity of these interchanges are zoned as “Mixed-Use Growth Center” and “Neighborhood Commercial.” As these land-use types typically desire sight-lines between their properties and major transportation facilities, it is not anticipated that the visual changes resulting from the design changes will be viewed as undesirable or adverse.

5.22 Light Impacts

No substantial changes concerning light impacts are anticipated as a result of implementing electronic tolling or the proposed minor design changes for the SH 121 project. As in the original project, the lighting for the design changes would follow the *Highway Illumination Manual.* Safety enhancements would be used to the extent necessary to provide for safety enhancement and orderly movement of traffic.

5.23 Railroad Impacts

No substantial changes concerning railroad impacts are anticipated as a result of implementing electronic tolling or the proposed minor design changes for the SH 121 project.

5.24 Air Quality

The proposed North Central Texas project is located in Tarrant County, which is part of the Environmental Protection Agency’s (EPA) designated nine county non-attainment area for the eight-hour standard for the pollutant ozone; therefore, the transportation conformity rule applies. The proposed project is consistent with the area's financially constrained long-range *Mobility 2030* MTP and the revised *2008-2011 Transportation Improvement Program* (TIP), as proposed by the NCTCOG. The 0504-02-008 and 0504-02-013 project CSJs are listed in the November 2008 STIP. The 0504-02-008 and its breakout CSJ 0504-02-022 are included in the proposed March 6, 2009 out-of-cycle STIP revisions (see Appendix A, Exhibit 3). The United States Department of Transportation (USDOT) [FHWA/Federal Transit Administration (FTA)] found the MTP to conform to the State Implementation Plan (SIP) on October 31, 2007. All projects in the NCTCOG's TIP that are proposed for federal or state funds were initiated in a manner consistent with requirements of amended 23 U.S. Code (USC) 134, 23 USC 135, and Section 176(c) of the Clean Air Act (CAA) (42 USC 5303). Energy, environment, air quality, cost, and mobility considerations are addressed in the programming of the TIP.

No substantial changes concerning air quality are anticipated as a result of implementing electronic tolling or the proposed minor design changes for the SH 121 project. The 2004 FEIS included a complete carbon monoxide (CO) analysis [Traffic Air Quality Analysis (TAQA)] using the computer dispersion model CALINE3 and toll traffic numbers. The 2004 FEIS concluded that the one-hour and eight-hour CO concentrations would not exceed the National Ambient Air Quality Standards (NAAQS) for any of the alternatives analyzed. Neither the proposed design refinements, which are limited to two diamond interchange locations, nor the use of ETC along SH 121 would alter this conclusion. Mobile Source Air Toxics (MSAT) analyses were not required in National Environmental Policy Act (NEPA) documents until 2006; therefore, no MSAT analyses were included in the October 2004 FEIS.

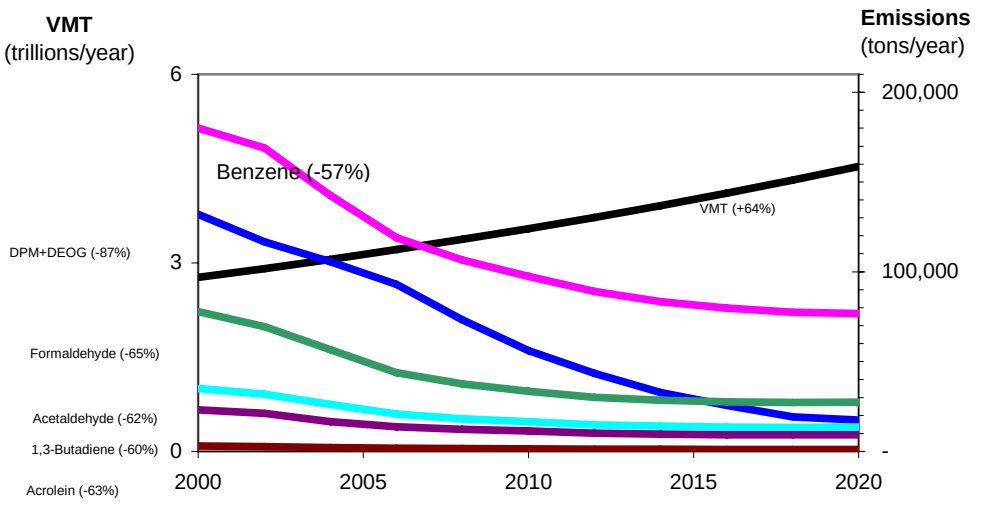
5.24.1 Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries).

MSAT are a subset of the 188 air toxics defined by the CAA. The MSAT are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The EPA is the lead federal agency for administering the CAA and has certain responsibilities regarding the health effects of MSAT. The EPA issued a *Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources*, 66 Federal Register (FR) 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the CAA. In its rule, the EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 2000 and 2020, FHWA projects that even with a 64 percent increase in vehicle miles traveled (VMT), these programs would reduce on-highway emissions of acrolein, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and would reduce on-highway diesel particulate matter (PM) and diesel organic gas emissions by 87 percent, as shown in Figure 2.

Figure 2 U.S. Annual Vehicle Miles Traveled (VMT) vs. Mobile Source Air Toxics Emissions, 2000-2020



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. MTBE proportion of market for oxygenates is held constant, at 50%. Gasoline RVP and oxygenate content are held constant. VMT: *Highway Statistics 2000* , Table VM-2 for 2000, analysis assumes annual growth rate of 2.5%. "DPM + DEOG" is based on MOBILE6.2-generated factors for elemental carbon, organic carbon and SO4 from diesel-powered vehicles, with the particle size cutoff set at 10.0 microns.

In an ongoing review of MSAT, the EPA finalized additional rules under authority of CAA Section 202(l) to further reduce MSAT emissions that are not reflected in Figure 2. The EPA issued *Final Rules on Control of Hazardous Air Pollutants from Mobile Sources* (72 FR 8427, February 26, 2007) under Title 40 CFR Parts 59, 80, 85 and 86. The rule changes were effective April 27, 2007. As a result of this review, the EPA adopted the following new requirements to significantly lower emissions of benzene and other MSAT by: (1) lowering the benzene content in gasoline, (2) emissions from passenger vehicles operated at cold temperatures (under 75 degrees Fahrenheit), and (3) reducing evaporative emissions that permeate through portable fuel containers.

Beginning in 2011, petroleum refiners must meet an annual average gasoline benzene content standard of 0.62 percent by volume, for both reformulated and conventional gasolines, nationwide. Although the national benzene content of gasoline in 2007 is about 1.0 percent per volume, the Dallas-Fort Worth area ozone SIP results in benzene content of 0.48 percent in summer and 0.64 percent in winter. EPA standards to reduce non-methane hydrocarbons (NMHC) exhaust emissions from new gasoline-fueled vehicles would become effective in phases. Standards for light-duty vehicles and trucks (equal to or less than 6,000 pounds) become effective during the period of 2010 to 2013, and standards for heavy light-duty trucks (6,000 to 8,000 pounds) and medium-duty passenger vehicles (up to 10,000 pounds) become effective during the period of 2012 and 2015. Evaporative requirements for portable gas containers become effective with containers manufactures in 2009. Evaporative emissions must be limited to 0.3 grams of hydrocarbons per gallon per day.

The EPA has also adopted more stringent evaporative emission standards (equivalent to current California standards) for new passenger vehicles. The new standards become effective in 2009 for light vehicles and in 2010 for heavy vehicles. In addition to the reductions from the 2001 rule, the new rules will significantly reduce annual national MSAT emissions. The EPA estimates that emissions in the year 2030, when compared to emissions in the base year prior

to the rule, will show a reduction of 330,000 tons of MSAT (including 61,000 tons of benzene), more than one million tons of volatile organic compounds, and more than 19,000 tons of PM 2.5.

5.24.2 Project Specific MSAT Information

Numerous technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects, prevent meaningful or reliable estimates of MSAT emissions and effects of this project (see "Unavailable Information for Project Specific MSAT Impact Analysis" at the end of this section for more information). While a quantitative assessment cannot identify and measure health impacts from MSAT, it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The following quantitative assessment is derived in part from a study conducted by FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at:
www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm.

For both the alternatives in this re-evaluation, the amount of MSAT emitted would be proportional to the VMT assuming that other variables such as fleet mix are the same for each alternative.

Also, regardless of the alternative chosen, emissions would likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures, however, the magnitude of the EPA projected reductions is so great (even accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Because of the specific characteristics of the Build Alternative, there may be localized areas where VMT would increase and other areas where VMT would decrease. Therefore it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the new roadway sections that would be built in southwest Fort Worth. Even if localized increases do occur, they too would be substantially reduced in the future due to implementation of the EPA's vehicle and fuel regulations.

In summary, under the Build Alternative in the design year, it is expected there would be slightly higher MSAT emissions in the immediate area of the project, relative to the No Build Alternative. The slight increase in MSAT emission would be due to the slightly higher VMT associated with The Build Alternative (see Table 5). In comparing various project alternatives, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. It is anticipated that on a regional basis, the EPA's vehicle and fuel regulations, coupled with fleet turnover, would cause region-wide MSAT levels to be lower than today in almost all cases.

5.24.3 Monitored Levels of MSAT near the Project Area

The TCEQ monitors for the criteria pollutants and air toxics. Not all monitors measure for all criteria pollutants and air toxics. The closest monitors are within five miles of SH 121 (Table 2). The closest hazardous air pollutant (HAP) monitor is approximately 0.6 miles from SH 121. The official data from these monitors are found on the EPA's web site. Not all monitors sample for the same pollutants, and various monitors do not have one year of complete data to compile an

annual average. It usually takes several months after a complete year of data is collected for that data to be quality controlled and quality assured.

Table 2 Local Monitor Data

Air Monitor Site	Activation Date	Annual Average - O3 (ppm) 2006 (Standard is a 3 year average which must be 0.080 ppm or below)	Annual Average – PM10 2006	Annual Average – PM2.5 2006	Annual Average – NO 2006	Annual Average – Lead 2006	Annual Average - Acetaldehyde (ppb) 2006	Annual Average – Acrolein (ppb) 2006	Annual Average - Benzene (ppb) 2006	Annual Average - 1,3 Butadiene (ppb) 2006	Annual Average - Formaldehyde (ppb) 2006	Approximate Distance (miles) from SH 121
484391002	1/1/1975	0.095	NA	11.2	0.014	NA	1.7	0.14	1.554	0.092	2.419	3.8
484391006	4/1/2001	NA	NA	11.0	NA	NA	NA	NA	NA	NA	NA	0.6

Source: www.epa.gov/air/data, June 2007.
Note: EPA Disclaimer regarding this data: "Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations."

5.24.4 Sensitive Receptor Analysis

FHWA has completed a review of several studies to address how MSAT concentration levels may behave based on the distance from a roadway. FHWA notes that both models and experimental data predict short-term concentrations of air toxics can be elevated for receptors downwind of and very near roadways. The tendency for pollutant levels to drop off substantially as the distance from the roadway increases is well documented. The distance where the highest decrease in concentration starts to occur is approximately 328 feet (100 meters). By 1,640 feet (500 meters), most studies have found difficulty distinguishing between background levels of a given pollutant and the elevated levels that may have been found directly adjacent to the roadway. Finally, wind direction and speed, vehicle traffic levels, and roadway design can further increase or decrease the distance at which elevated levels of any given pollutant can be distinguished as directly associated with a roadway.

Sensitive receptors are defined as schools both public and private, licensed day care facilities, hospitals, and licensed senior citizen care facilities. Within the SH 121 study area, seventeen sensitive receptors were identified, tabulated (see Tables 3 and 4) and mapped (see Exhibits 4 through 6 in Appendix A). Three sensitive receptors were located within 328 feet (100 meters) from the right-of-way, with the remaining 14 falling within 1,640 feet (500 meters).

Table 3 Sensitive Receptors

Alternative Segment	Length (miles)	Number of Receivers within: 328 feet (100 meters)	Number of Receivers within: 1640 feet (500 meters)
IH 30 to FM 1187	15	3	14

Source: www.google.com (July 2007), www.yahoo.com (July 2007), www.yellowbot.com (July 2007) www.thechildcaresource.com (July 2007), and Texas Education Agency - GIS (2006).

Table 4 Sensitive Receptors Along Project Corridor

MAP ID	Facility	Street Address	City	Zip Code	Distance (meters)
1	Harris Methodist Fort Worth Hospital	1301 Pennsylvania Avenue	Fort Worth	76014	500
2	St. Paul's Lutheran School Day Care	1800 West Freeway	Fort Worth	76012	100
3	Cook Children's Medical Center	801 7th Avenue	Fort Worth	76014	500
4	Kid's Place	901 Southland Avenue	Fort Worth	76104	500
5	Kindred Hospital Fort Worth	815 8th Avenue	Fort Worth	76014	500
6	Plaza Medical Center	900 8th Avenue	Fort Worth	76132	500
7	Fort Worth Surgery Center	2100 West Rosedale Street	Fort Worth	76132	500
8	Kinderplatz of Fine Arts	2701 Riverglen Drive	Fort Worth	76109	500
9	Tot's Haven Christian Academy	5216 Helmick Avenue	Fort Worth	76017	500
10	Fort Worth Country Day School	4200 Country Day Lane	Fort Worth	76109	100
11	Oak Park Retirement Center	4242 Bryant Irvin Road	Fort Worth	76109	500
12	Baylor Southwest of Fort Worth	7100 Oakmont Boulevard	Fort Worth	76109	100
13	Regency Hospital	6801 Oakmont Boulevard	Fort Worth	76132	500
14	La Petite Academy	6050 Harris Parkway	Fort Worth	76132	500
15	Harris Methodist Southwest	6100 Harris Parkway	Fort Worth	76014	500
16	Oakmont Elementary School	6651 Oakmont Trail	Fort Worth	76132	500
17	YMCA-Ryan at Oakmont Elementary	6651 Oakmont Trail	Fort Worth	76132	500

Source: Google Earth (October 2007), www.google.com (October 2007), www.yahoo.com (October 2007), http://directory.classifieds1000.com (October 2007), Texas Department of Family and Protective Services (DFPS) Child Care Licensing (October 2007), and field reconnaissance (October 2007).

5.24.5 MSAT Environmental Consequences

5.24.5.1 MSAT Modeling

A quantitative analysis of the mass of air toxic emissions from the travel study area of the proposed project was completed using the latest version of the EPA's mobile emission factor model (MOBILE6.2). The MOBILE6.2 emission factors are consistent with those used to develop the SIP and conformity determination for the Dallas-Fort Worth region. These factors do not yet reflect the EPA Final Rules on Control of Hazardous Air Pollutants from Mobile Sources (72 *Federal Register* 8427, February 26, 2007) under Title 40 CFR Parts 59, 80, 85, and 86 that when implemented, will significantly reduce emissions of benzene and other MSAT. The rule became effective on April 27, 2007. The MSAT travel area is composed of all roadway segments in the MPA. The affected transportation network used in the MSAT analysis is a network (roadway links) that represents the traffic volumes that are expected to change by greater than or equal to plus or minus five percent. The analysis is based on the existing condition or base case (2007) roadway network in the MPA and future volumes of traffic (2030) that have been projected by the NCTCOG travel model. The MSAT analysis used the results derived from the affected transportation network for the No-Build 2030 (no-build scenario) and the affected transportation network for the Build 2030 (proposed build scenario). The parameters used to characterize the travel activity utilized in the analysis included directional speeds and traffic volumes for the morning peak period. See Appendix A, Exhibit 7 for the affected transportation network maps. For the purpose of this analysis, three scenarios were modeled:

- "Base Case" or existing condition.
- "No-Build 2030" or no-build scenario in 2030.
- "Build 2030" or proposed project in 2030.

5.24.5.2 Total Emission of MSAT for the Build and No-Build Scenarios

Specific data from the travel study area of the NCTCOG's Regional Transportation Model were used to determine the mass of MSAT emissions associated with the build (preferred) and no-build alternatives of the proposed project. In addition, the base case mass of MSAT was also modeled. The mass of MSAT in the year 2007 (base year) was much higher than either the build or no-build cases in the year 2030. This is reflective of the overall national trend in MSAT as previously described. The mass of emissions associated with the base case and design year are shown in Table 5.

Table 5 Daily Mass of MSAT Emissions in Tons

Alternative Case	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Diesel Particulate Matter & Diesel Exhaust Organic Gases (DPM&DEOG) and Diesel Sulfate Portion (SO4) of Exhaust Particulate	Formaldehyde	TOTAL* (tons)	VMT Total (miles)
Base - 2007	0.76	0.05	2.25	0.33	2.01	1.04	6.44	157,681,467
No-Build 2030	0.39	0.03	1.05	0.16	0.35	0.62	2.59	253,909,333
Build 2030	0.39	0.03	1.05	0.16	0.35	0.62	2.60	254,207,867

Note: Values are reported in tons. * Sum may not equal total due to rounding.

Although VMT for the SH 121 Build scenario would increase approximately 60 percent by 2030 when compared to 2007, total MSAT emissions for the same scenario would decrease at least 60 percent by 2030.

5.24.5.3 Discussion

Regardless of the alternative chosen, emissions would likely be lower than present levels in the future year as a result of the EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

When evaluating the future options for upgrading a transportation corridor, the major mitigating factor in reducing MSAT emissions is the implementation of the EPA's new motor vehicle emission control standards. Substantial decreases in MSAT emissions will be realized from a current base year (2007) through the proposed project's design year. Accounting for anticipated increases in VMT and varying degrees of efficiency of vehicle operation, total MSAT emissions were predicted to decline by 60 percent from 2007 to 2030.

5.24.6 Unavailable Information for Project Specific MSAT Impact Analysis

This re-evaluation includes a quantitative analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable us to predict the project-specific

health impacts of the emission changes associated with the alternatives in this document. Due to these limitations, the following discussion is included in accordance with Council on Environmental Quality (CEQ) regulations [40 CFR 1502.22(b)] regarding incomplete or unavailable information.

5.24.6.1 Information that is Unavailable or Incomplete

Evaluating the environmental and health impacts from MSAT on a proposed highway project would involve several key elements including emissions modeling, dispersion modeling to estimate ambient concentrations resulting from the estimated emissions, exposure modeling to estimate human exposure to the estimated concentrations, and final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

1. Emissions – The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSAT in the context of highway projects. While MOBILE6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE6.2 is a trip-based model--emission factors are projected based on a typical trip of 7.5 miles and on average speeds for this typical trip. This means that MOBILE6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE6.2 for both particulate matter and MSAT are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, the EPA has identified problems with MOBILE6.2 as an obstacle to quantitative analysis. These deficiencies compromise the capability of MOBILE6.2 to estimate MSAT emissions. MOBILE6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations. However, MOBILE6.2 is currently the only available tool for use by FHWA/TxDOT and may function adequately for larger scale projects for comparison of alternatives.

2. Dispersion – The tools to predict how MSAT disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of CO to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

3. Exposure Levels and Health Effects – Finally, even if emission levels and concentrations of MSAT could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to

accurately calculate annual concentrations of MSAT near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts.

5.24.7 Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSAT

Research into the health impacts of MSAT is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of the EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or state level.

The EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSAT was taken from the IRIS database Weight of Evidence Characterization summaries and represents the Agency's most current evaluations of the potential hazardous and toxicology of these chemicals or mixtures.

- Benzene is characterized as a known human carcinogen.
- The potential carcinogenicity of Acrolein cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- Formaldehyde is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- 1,3-Butadiene is characterized as carcinogenic to humans by inhalation.
- Acetaldehyde is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- Diesel exhaust is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases. Diesel exhaust also could contribute to chronic respiratory effects, possibly the primary non-cancer hazard from MSAT. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by the EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes -- particularly respiratory problems. Much of this research is not specific to MSAT, instead surveying the full spectrum of other pollutants. As mentioned previously, the EPA has not developed a health based standard for MSAT. In the preamble to the 2007 MSAT rule, the EPA summarized recent studies by stating, “Significant scientific uncertainties remain in our understanding of the relationship between adverse health effects and near-road exposure, including the exposures of greater concern, the importance of chronic versus acute exposures, the role of fuel type (e.g., diesel or gasoline) and composition (e.g., percent aromatics), relevant traffic patterns, the role of co-stressors including noise and socioeconomic status, and the role of differential susceptibility within the “exposed” populations (February 26, 2007, Volume 72 Federal Register Control of Hazardous Air Pollutants from Mobile Sources, page 8441). Given these limitations, the FHWA cannot evaluate the validity of these studies, nor provide information to alleviate the uncertainties previously listed that would enable a more comprehensive evaluation of the health impacts specific to this project.

5.24.8 Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of Impacts Based Upon Theoretical Approaches or Research Methods Generally Accepted in the Scientific Community

Because of the uncertainties previously outlined, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment.”

This document provided a quantitative analysis of MSAT emissions relative to the various alternatives and acknowledged that the project alternatives may result in increased exposure to MSAT emissions in certain locations. As the concentrations and duration of exposures are uncertain, the health effects from these emissions cannot be estimated.

The MSAT from mobile sources, especially benzene, have dropped dramatically since 1995 and are expected to continue dropping. The introduction of RFG has led to a substantial part of this improvement. In addition, Tier 2 automobiles introduced in model year 2004 will continue to help reduce MSAT. Diesel exhaust emissions have been falling since the early 1990s with the passage of the CAA. The CAA provided for improvement in diesel fuel through reductions in sulfur and other diesel fuel improvements. In addition, the EPA has further reduced the sulfur level in diesel fuel, effective in 2006. The EPA also has called for dramatic reductions in NOx emissions, and PM from on-road and off-road diesel engines.

MSAT decreases from the base year to design year are substantial even with the associated increase in VMT in the travel study area. Some sensitive receptors do exist but their exposure would decrease from the build year to the design year and beyond.

Along proposed SH 121, the localized increases in MSAT concentrations would likely be most pronounced along highly developed residential areas and major intersections. In summary, when a highway is constructed closer to receptors, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No-Build Alternative. This relative increase in localized MSAT emissions could be offset due to reductions in congestion (which are associated with lower MSAT emissions for some pollutants) from the surrounding roadway infrastructure. On a regional basis and over time, it is anticipated the EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause reductions that, in almost all cases, will cause region-wide MSAT levels to be lower than today.

5.25 Environmental Justice

The potential effects of full electronic tolling SH 121 and proposed minor design changes have been evaluated in accordance with the requirements of Executive Order 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Executive Order 12898 states that "each federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The FHWA implements the requirements of Executive Order 12898 through FHWA Order 6640.23 *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Guidance on how to implement Executive Order 12898 and conduct an environmental justice analysis has also been issued by the CEQ. FHWA Order 6640.23 applies the following definitions for minority and low-income populations, which are consistent with the definitions for Executive Order 12898 issued by the CEQ and the EPA.

- Low-income means a household income at or below the U.S. Department of Health and Human Services (HHS) poverty guideline. The 2009 HHS poverty guideline for a family of four persons is $22,050.
- Minority means a person who is: Black, Hispanic, Asian-American, and/or American Indian and Alaskan Native.
- Minority population means any readily identifiable group of minority persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity.

Minority populations were identified based on the CEQ guidance document *Environmental Justice: Guidance Under the National Environmental Policy Act*. Based on this guidance

> "Minority populations should be identified either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis..."

- Low-income population means any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient

persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity.

For this environmental justice analysis, the primary source of demographic data was the 2000 U.S. Census because it is the most comprehensive, complete, and detailed data source currently available. Population and ethnicity are available at the block level, while income is only available at the block group level. The results of the analysis of minority and low-income conditions within the affected census areas and corresponding reference areas are shown in Table 6.

Table 6 Minority and Low-Income Characteristics

Census Geography[1]				Racial Distribution				
Census Tract	Block Group	Block	Total Population	Percent Black	Percent American Indian/ Alaskan Native	Percent Asian-American	Percent Hispanic or Latino[2]	Median Household Income[3]
1019.00	---	---	1,084	4.3	0.2	1.7	8.2	$38,869
1019.00	1	---	1,084	4.3	0.2	1.7	8.2	$38,869
1019.00	1	1089	38	5.3	0.0	0.0	0.0	---
1019.00	1	1093	4	75.0	0.0	0.0	0.0	---
1019.00	1	1097	0	0.0	0.0	0.0	0.0	---
1019.00	1	1098	0	0.0	0.0	0.0	0.0	---
1019.00	1	1099	0	0.0	0.0	0.0	0.0	---
1019.00	1	1101	0	0.0	0.0	0.0	0.0	---
1019.00	1	1102	15	6.7	0.0	0.0	80.0	---
1019.00	1	1103	0	0.0	0.0	0.0	0.0	---
1019.00	1	1104	0	0.0	0.0	0.0	0.0	---
1019.00	1	1105	0	0.0	0.0	0.0	0.0	---
1019.00	1	1106	0	0.0	0.0	0.0	0.0	---
1019.00	1	1107	0	0.0	0.0	0.0	0.0	---
1019.00	1	1108	0	0.0	0.0	0.0	0.0	---
1019.00	1	1109	0	0.0	0.0	0.0	0.0	---
1019.00	1	1110	0	0.0	0.0	0.0	0.0	---
1019.00	1	1111	0	0.0	0.0	0.0	0.0	---
1019.00	1	1112	0	0.0	0.0	0.0	0.0	---
1019.00	1	1113	0	0.0	0.0	0.0	0.0	---
1019.00	1	1114	0	0.0	0.0	0.0	0.0	---
1019.00	1	1121	0	0.0	0.0	0.0	0.0	---
1019.00	1	1122	0	0.0	0.0	0.0	0.0	---
1019.00	1	1123	0	0.0	0.0	0.0	0.0	---
1019.00	1	1124	0	0.0	0.0	0.0	0.0	---
1019.00	1	1125	0	0.0	0.0	0.0	0.0	---
1019.00	1	1126	0	0.0	0.0	0.0	0.0	---
1019.00	1	1127	0	0.0	0.0	0.0	0.0	---
1019.00	1	1997	0	0.0	0.0	0.0	0.0	---
1019.00	1	1998	0	0.0	0.0	0.0	0.0	---
1019.00	1	1999	0	0.0	0.0	0.0	0.0	---
1020.00	---	---	926	2.1	1.0	0.4	82.5	$25,714

Census Geography[1]				Racial Distribution				
Census Tract	Block Group	Block	Total Population	Percent Black	Percent American Indian/ Alaskan Native	Percent Asian-American	Percent Hispanic or Latino[2]	Median Household Income[3]
1020.00	1	---	926	2.1	1.0	0.4	82.5	$25,714
1020.00	1	199	0	0.0	0.0	0.0	0.0	---
1026.00	---	---	7,053	9.6	0.9	0.8	34.1	$31,313
1026.00	5	---	1,079	3.3	1.5	0.3	56.1	$30,677
1026.00	5	5023	58	0.0	0.0	0.0	79.3	---
1026.00	5	5026	13	30.8	0.0	7.7	15.4	---
1028.00	---	---	1,271	5.8	0.3	0.3	6.4	$61,750
1028.00	2	---	656	2.0	0.3	0.3	3.2	$76,286
1028.00	2	2001	0	0.0	0.0	0.0	0.0	---
1029.00	---	---	1,475	25.3	0.9	0.8	10.8	$17,650
1029.00	2	---	917	21.2	0.5	1.2	9.8	$18,400
1029.00	2	2013	98	24.5	5.1	10.2	14.3	---
1053.00	---	---	885	3.1	1.9	0.7	75.9	$36,538
1053.00	1	---	885	3.1	1.9	0.7	75.9	$36,538
1053.00	1	1000	0	0.0	0.0	0.0	0.0	---
1053.00	1	1001	0	0.0	0.0	0.0	0.0	---
1053.00	1	1002	1	0.0	0.0	0.0	0.0	---
1053.00	1	1016	2	0.0	0.0	0.0	100.0	---
1053.00	1	1017	0	0.0	0.0	0.0	0.0	---
1053.00	1	1018	0	0.0	0.0	0.0	0.0	---
1053.00	1	1019	4	0.0	0.0	0.0	0.0	---
1053.00	1	1020	0	0.0	0.0	0.0	0.0	---
1053.00	1	1021	0	0.0	0.0	0.0	0.0	---
1053.00	1	1022	0	0.0	0.0	0.0	0.0	---
1053.00	1	1024	0	0.0	0.0	0.0	0.0	---
1053.00	1	1028	0	0.0	0.0	0.0	0.0	---
1053.00	1	1030	0	0.0	0.0	0.0	0.0	---
1053.00	1	1031	0	0.0	0.0	0.0	0.0	---
1053.00	1	1032	0	0.0	0.0	0.0	0.0	---
1053.00	1	1033	0	0.0	0.0	0.0	0.0	---
1053.00	1	1034	0	0.0	0.0	0.0	0.0	---
1053.00	1	1035	0	0.0	0.0	0.0	0.0	---
1053.00	1	1036	0	0.0	0.0	0.0	0.0	---
1053.00	1	1037	0	0.0	0.0	0.0	0.0	---
1053.00	1	1038	1	0.0	0.0	0.0	100.0	---
1053.00	1	1048	39	0.0	0.0	0.0	89.7	---
1053.00	1	1049	8	0.0	0.0	0.0	100.0	---
1053.00	1	1050	0	0.0	0.0	0.0	0.0	---
1053.00	1	1051	0	0.0	0.0	0.0	0.0	---
1053.00	1	1052	25	12.0	0.0	0.0	72.0	---
1053.00	1	1056	0	0.0	0.0	0.0	0.0	---

Census Geography[1]				Racial Distribution				
Census Tract	Block Group	Block	Total Population	Percent Black	Percent American Indian/ Alaskan Native	Percent Asian-American	Percent Hispanic or Latino[2]	Median Household Income[3]
1053.00	1	1057	0	0.0	0.0	0.0	0.0	---
1053.00	1	1059	0	0.0	0.0	0.0	0.0	---
1053.00	1	1060	0	0.0	0.0	0.0	0.0	---
1053.00	1	1061	0	0.0	0.0	0.0	0.0	---
1053.00	1	1999	0	0.0	0.0	0.0	0.0	---
1054.05	---	---	4,124	10.0	0.3	2.4	8.0	$40,710
1054.05	1	---	1,090	2.4	0.4	1.6	4.5	$72,614
1054.05	1	1000	170	1.2	0.6	2.4	1.2	---
1054.05	1	1001	0					---
1054.05	1	1002	149	4.0	2.0	2.0	1.3	---
1054.05	1	1003	21	4.8	0.0	0.0	14.3	---
1054.05	1	1004	19	0.0	0.0	0.0	5.3	---
1054.05	1	1005	0	0.0	0.0	0.0	0.0	---
1054.05	1	1006	26	15.4	0.0	0.0	0.0	---
1054.05	1	1007	34	11.8	0.0	0.0	0.0	----
1054.05	1	1008	15	0.0	0.0	0.0	0.0	---
1054.05	1	1009	272	0.0	0.0	2.2	1.8	---
1054.05	1	1010	0	0.0	0.0	0.0	0.0	---
1054.05	1	1011	145	6.2	0.0	2.8	15.2	---
1054.05	1	1012	0	0.0	0.0	0.0	0.0	---
1054.05	1	1013	5	0.0	0.0	0.0	0.0	---
1054.05	1	1014	58	0.0	0.0	0.0	1.7	---
1054.05	1	1015	71	0.0	0.0	0.0	0.0	---
1054.05	1	1016	54	0.0	0.0	0.0	11.1	---
1054.05	1	1017	10	0.0	0.0	0.0	0.0	---
1054.05	1	1018	41	0.0	0.0	0.0	7.3	---
1054.05	3	---	513	0.2	0.2	1.0	0.6	$109,473
1054.05	3	3014	0	0.0	0.0	0.0	0.0	---
1054.05	3	3015	0	0.0	0.0	0.0	0.0	---
1054.05	3	3016	0	0.0	0.0	0.0	0.0	---
1055.06	---	---	4,998	10.9	0.6	3.5	11.6	$31,030
1055.06	1	---	753	14.2	0.5	4.4	12.5	$35,403
1055.06	1	1002	0	0.0	0.0	0.0	0.0	---
1055.06	1	1003	1	0.0	0.0	0.0	0.0	---
1055.06	1	1004	3	0.0	0.0	0.0	33.3	---
1055.06	1	1006	36	13.9	0.0	0.0	11.1	---
1055.06	1	1007	119	17.6	0.0	4.2	16.8	---
1055.06	1	1013	324	14.2	0.6	4.0	12.0	---
1055.06	2	---	1,753	13.6	0.6	3.0	16.4	$30,255
1055.06	2	2001	450	10.9	1.1	2.4	21.6	---
1055.06	2	2002	379	14.5	0.5	5.5	15.0	---

Census Geography[1]				Racial Distribution				
Census Tract	Block Group	Block	Total Population	Percent Black	Percent American Indian/ Alaskan Native	Percent Asian-American	Percent Hispanic or Latino[2]	Median Household Income[3]
1055.06	2	2003	132	12.9	0.0	1.5	15.2	---
1055.06	2	2004	205	12.2	0.0	3.9	12.7	---
1055.06	2	2005	136	8.1	0.7	2.2	14.0	---
1055.06	2	2006	0	0.0	0.0	0.0	0.0	---
1055.06	3	---	2,492	8.1	0.6	3.6	8.1	$31,384
1055.06	3	3000	489	2.0	0.0	0.4	1.4	---
1055.06	3	3001	0	0.0	0.0	0.0	0.0	---
1055.08	---	---	4,937	12.8	0.6	4.2	10.2	$42,815
1055.08	1	---	4,380	13.7	0.6	4.3	10.9	$38,989
1055.08	1	1001	328	22.6	0.3	0.9	5.2	---
1055.08	1	1008	573	10.8	1.0	3.0	11.2	---
1055.10	---	---	3,722	21.2	0.7	6.4	8.8	$45,882
1055.10	1	---	1,519	24.6	0.7	5.6	12.2	$35,560
1055.10	1	1009	1	0.0	0.0	0.0	100.0	---
1055.10	1	1019	0	0.0	0.0	0.0	0.0	---
1109.03	---	---	1,771	3.5	0.2	4.3	3.7	$49,698
1109.03	2	---	689	0.7	0.1	3.9	2.0	$82,771
1109.03	2	2001	0	0.0	0.0	0.0	0.0	---
1109.03	2	2002	0	0.0	0.0	0.0	0.0	---
1109.03	2	2022	0	0.0	0.0	0.0	0.0	---
1109.03	2	2023	0	0.0	0.0	0.0	0.0	---
1110.09	---	---	3,112	4.2	0.4	4.3	5.5	$82,785
1110.09	1	---	3,112	4.2	0.4	4.3	5.5	$82,785
1110.09	1	1000	364	1.4	0.3	11.0	1.6	---
1110.09	1	1028	0	0.0	0.0	0.0	0.0	---
1110.09	1	1029	1	0.0	0.0	0.0	0.0	---
1110.09	1	1035	0	0.0	0.0	0.0	0.0	---
1110.09	1	1037	11	0.0	0.0	0.0	0.0	---
1110.09	1	1038	0	0.0	0.0	0.0	0.0	---
1110.10	---	---	1,354	1.1	0.2	0.2	3.8	$33,571
1110.10	1	---	460	0.4	0.0	0.0	1.5	$18,750
1110.10	1	1000	0	0.0	0.0	0.0	0.0	---

Source: 2000 U.S. Census and FHWA Order 6640.23

Notes:

1. Census tracts, block groups, and blocks within and/or adjacent to the project area were used to represent the population potentially affected by the proposed project.
2. Total of persons reporting as Hispanic or Latino ethnic origin. As race and ethnic origin are two separate and distinct concepts, these persons may be of any race.
3. 1999 median household income as reported in the 2000 Census (most recent available). The U.S. Department of HHS 2008 poverty guideline for a family of four persons is $21,200.

Although some block groups and blocks have a high percentage minority and/or low-income population, displacements and other project impacts would not be isolated within these areas, but would be distributed throughout the project corridor. The proposed project would not restrict

access to any existing public or community services, businesses, commercial areas, or employment centers. In the long-term, the entire community would benefit from the proposed project, including improved mobility and reduced traffic congestion.

5.25.1 Toll Pricing

Consideration is also given to whether there is a disproportionate effect resulting from operation of SH 121 as a toll road. Generally speaking, because all motorists pay the same toll regardless of their income, the toll for using SH 121 may constitute a greater burden on lower-income motorists. However, considering the roadway does not exist today and alternate toll-free roads are available now and would continue to be available in the future, SH 121 would not force persons to use the new toll way, with added expense. The actual toll to be charged on opening day and beyond has not yet been established and is subject to ongoing consideration by NTTA and TxDOT. Tolls would be established in accordance with toll policies defined by the Regional Transportation Council (RTC).

The RTC is the independent transportation policy body of the NCTCOG and is responsible for overseeing the MTP planning process, including development and implementation of regional toll policies. For example, toll policies set by the RTC include rules concerning maximum allowable toll charge rates, timeframes for toll rate adjustments, and payment procedures.

It is anticipated the majority of vehicles using the toll facility would be equipped with devices (e.g., electronic readers) that permit automatic ETC. License plate recognition by video would be installed to permit out-of-town and occasional users without the electronic devices to be billed for using the facility.

Also, individual low-income persons may choose to utilize the non-toll alternatives specifically for cost saving measures. Low-income individuals may be impacted as a result of difference in travel time associated with utilizing non-toll alternatives. The economic impact of tolling would be higher for low-income residents because the cost of paying tolls would represent a higher percentage of household income than for non-low income households.

The following is an estimated example of the cost that may be incurred by using SH 121. If the average rate of 14.5 cents a mile is used, the potential cost can be illustrated using the following scenario. For this example, it is assumed the user would make 250 round-trips per year through the project length (from IH 30 to FM 1187). Under this scenario, the annual cost within the 15-mile project limits (30 miles per round trip) would be approximately $1,088 per year. A driver using SH 121 with an annual household income equal to the median household income of the City of Fort Worth ($37,074) would spend 2.9 percent of the household income on tolls. Those households living at the HHS poverty guideline level of $22,050 would spend 4.9 percent of household income on tolls. Those households living below the HHS poverty level would spend a proportionately higher percentage of household income on tolls.

5.25.2 Electronic Toll Collection Systems

Operation of the toll collection system for SH 121 would be all electronic. Vehicles would not have to stop to pay a toll, rather vehicles would pass through electronic readers and be assessed a toll charge. This is known as an ETC system. Recent advances have allowed another possible ETC method that would accommodate vehicles without electronic readers or transponders. In this method, license plates are photographed and scanned by computers or read by the toll operator. The registered vehicle owners are then sent a periodic billing statement based on activity, with an additional fee included for billing and handling. This video tolling program allows motorists to travel the tolled lanes without needing a transponder and

without needing to stop and pay. However, it should be noted the video tolling method would be more expensive for users of the facility because of the additional fee associated with billing and handling of the periodic billing statements. As indicated in Section 4.4, the video tolling method would be more expensive for users of the facility because of the additional fee associated with billing and handling of the periodic billing statements. For TxDOT TxTag® a $1 fee is currently (in 2008) applied to each monthly invoice for non-tag customers. For NTTA TollTags, a $1 fee is currently (in 2008) applied to each monthly invoice for non-tag customers.

Prior to the conversion of existing facilities to all ETC, NTTA plans to conduct a public information campaign to inform and instruct the general public about utilizing an ETC system.

TxDOT's objective is to establish interoperable toll accounts. Any ETC account set up with a toll facility operator in Fort Worth, Dallas, Austin, or Houston or other city would be able to access toll roads or managed lanes in any of toll authority areas while having the tolls charged to the user's home account. Each toll authority would be capable of registering toll transactions to the user's home toll account. Users from other states or international drivers would be billed similarly to users without toll tags.

5.25.3 Methods of Toll Charge Collection

TxDOT TxTag® stickers, the NTTA TollTag® (Dallas-Fort Worth area), and the Harris County Toll Road Authority (HCTRA) EZ TAG® (Houston area) would be accepted on the SH 121 ETC facility. Toll charges could be automatically deducted from a prepaid credit account or would be mailed as a monthly statement to the driver if the video billing method is utilized. If the driver has a TxTag® or other toll transponder account, the tolls would automatically be deducted from the account when the facility is used. The account would be a prepay account which means the driver must maintain sufficient funds in his/her account to cover incurred toll charges, such as for accounts currently in use for existing toll road.

NTTA also offers a "ZipCash®" billing option. The ZipCash® (cash paying) option is a drive through now, pay later method. With this option, a camera would take a photograph of the vehicle license plate. The license plate information would then be used to identify the registered owner who would then be sent an invoice for incurred tolls. This system allows for use of the facility by those that do not have an active toll account. The charges for the ZipCash® method are as follows:

- Within one and 30 days after use of the facility: 21 cents per mile toll rate only, no additional charge.
- Within 30 days and 45 days after use of the facility: 21 cents per mile toll rate plus $1.50 one time administrative fee.
- After 45 days of use of the facility: 21 cents per mile toll rate plus $25 per gantry utilized.

With the NTTA TollTag, for example, a prepaid credit card toll account user would pay a minimum amount of $40 dollars as an initial deposit and receive a tag. The account would be reduced each time the user opts to pass through an operating ETC gantry. Currently, when the user's account reaches $10 or less, the user's credit card or debit card would be charged $40 to automatically increase the available balance.

With a cash toll account, in addition to the initial $40 minimum payment and replenishing the account when the balance reaches $10 or less, cash users must pay a deposit of $25 per tag. Depending on the type of tag, to add funds to respectively either an NTTA or TxDOT account, cash users would need to visit a TollTag store in the Dallas-Fort Worth area or the TxTag

Customer Service Center in Austin. NTTA and TxDOT cash accounts allow a check or money order to be mailed in to maintain the account balance. The cash user deposit would be refunded without interest if the user returns the tag (by mail or in person) in good condition or if the user converts the cash account to a credit card account.

Bilingual (English and Spanish) information on payment methods is available on TxDOT (www.TxTag.org) and the NTTA (www.ntta.org) websites and over the phone (Customer Service Centers).

5.25.4 Origin-Destination Analysis

Origin-destination data secured from the NCTCOG for the north central Texas Metropolitan Planning Area (MPA) was used for further analysis of user impact of the SH 121 facility on low-income and minority populations. The MPA is defined as that portion of the north central Texas region expected to be contiguously urbanized during the 20-year planning horizon. This area includes all of Collin, Dallas, Denton, Rockwall, and Tarrant Counties, and contiguous portions of Ellis, Johnson, Kaufman, and Parker Counties.

Origin-destination data can determine travel patterns of traffic along a transportation facility during a typical day. This form of analysis is useful in assessing user impact as the number of trips associated with specific population characteristics can be studied to provide general travel assumptions of those specific populations. Trips are defined as a one-way movement from where a person starts (origin) to where the person is going (destination).

Assessing user impact in the form of an origin-destination analysis is an integral component of the environmental justice analysis for the proposed project. As funding mechanisms evolve, the trend towards utilization of toll facilities in this region would create “user impacts” as access to highway systems becomes an issue to the economically disadvantaged. The origin-destination analysis revealed anticipated users and associated traffic patterns of the proposed project in 2030 and identified environmental justice populations to assess the intensity of use by those protected populations.

The information associated with the origin-destination analysis is organized by traffic survey zones (TSZs) which are small geographic units of area that are developed as a basis for estimation of travel. TSZs may vary in size, are determined by roadway network and homogeneity of development, and directly reflect demographic data generated by the U.S. Census Bureau. Delineated by state and/or transportation offices for tabulating traffic-related data, TSZs usually consist of one or more census blocks, block groups, or census tracts. A total of 4,813 TSZs comprise the origin-destination study area. Of the total number of TSZs located within the MPA, 1,805 TSZs are anticipated to regularly utilize SH 121 in 2030 (originating at least one trip per day). This represents 38 percent of the total study area TSZs.

TransCAD®, a GIS-based transportation planning software, was utilized by the NCTCOG to generate the traffic data analyzed during the origin-destination analysis. The NCTCOG conducted a “select-link analysis” based on 2030 morning peak period traffic to generate origin-destination data associated with the proposed project. “Morning peak period traffic” represents the vehicles that pass a point on a highway during the time period of 6:30 a.m. and 8:59 a.m. Morning peak traffic is the preferred form of traffic data for origin-destination analysis because it is the most effective means to convey daily trips linked to TSZs. Traffic data exported directly from TransCAD® select-link matrices was correlated with U.S. Census Bureau data to provide a demographic profile of users anticipated to utilize the proposed SH 121 facility in 2030.

To clarify the intent of the origin-destination analysis, the analysis does not attempt to identify specific users (low-income or minority populations) but instead compares the origins and intensity origins of trips based on collective socio-economic characteristics at the TSZ level for both the toll and non-toll scenarios. In other words, the origin-destination analysis predicts the potential users of the SH 121 corridor in 2030 by correlating the general socio-economic characteristics of the future users based on Census 2000 data to the intensity of use quantified by the number of trips per TSZ generated by TransCAD®. The NCTCOG conducted a "select-link analysis" based on 2030 morning peak period traffic. The model distinguishes between toll and non-toll scenarios by identifying the "toll links." These "toll links" are assigned a cost per mile for the toll scenario and no cost per mile for the non-toll scenario. The model then assigns vehicle trips based on user cost, trip distance, time of day, and other factors to achieve system equilibrium in the network. The correlation of Census 2000 and TransCAD® data is the best available method to identify which TSZs would originate trips anticipated to utilize the SH 121 facility and general demographics of the population associated with those TSZs. However, the vehicle trip assignment process does not consider relative income differences or the differences in relative cost to potential users in the population when making trip assignments. Because no definitive data exists on the future users of SH 121, the origin-destination analysis cannot predict the specific race, ethnicity, or economic status associated with the predicted trips on toll or non-toll facilities. However, the origin-destination analysis can identify a potential difference in trip intensity by comparing toll and non-toll scenario TSZ trip percentages.

Analysis of the origin-destination trip was concentrated on those TSZs with high proportions of low-income and/or minority populations within the study area that are anticipated to utilize the proposed managed lane portion of the facility in 2030. The threshold for an environmental justice TSZ was defined as a TSZ with an environmental justice population (specifically low-income and minority populations) equal to or greater than 51 percent of the total TSZ population. A total of 1,542 environmental justice TSZs were identified within the NCTCOG study area. Of the identified environmental justice TSZs, a total of 465 are anticipated to regularly utilize SH 121 (originating at least one trip per day). Data analysis indicates that of approximately 32,005 total trips which originated from the TSZs anticipated to utilize SH 121, approximately 14.1 percent (4,506 trips) of the total trips originate from environmental justice TSZs. Exhibit 8 in Appendix A shows the environmental justice TSZs that would utilize the SH 121 facility per number of trips. Exhibit 9 in Appendix A breaks out each environmental justice TSZ that would utilize SH 121 facility (originating at least one trip per day) by environmental justice type (i.e., minority, low-income).

Based on the origin-destination information, it is not anticipated there would be any disproportionate impacts to low-income or minority populations with the implementation of the proposed project due to the low distribution of trips between identified low-income and/or minority populations and the low percentage of these populations within the proposed project study area. In addition, non-toll alternatives would be available for use. The SH 121 project would benefit users and adjacent populations as a result of the improved system linkage and mobility within the study area and region.

Proactive public involvement, including public meetings and surveys, and coordination with local planning officials can help avoid disproportionate impacts by allowing these populations to voice their concerns and be a part of the planning process. Therefore, no environmental justice populations in the study area would be disproportionately affected as the entire study area non-minority population would be equally impacted. However, individual low-income persons may choose to utilize adjacent non-toll alternatives specifically for cost saving measures. Low-income individuals may be impacted as a result of difference in time travel associated with

utilizing non-toll alternatives. The economic impact of the tolled facility would be higher for low-income residents because the cost of paying tolls would represent a higher percentage of household income than for non-low-income households. The toll rates for SH 121 would be consistent with other toll rates in the region.

5.26 Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The proposed electronic tolling of SH 121 or the proposed minor design changes do not change the findings indicated in the October 2004 FEIS with regard to relationship between local short-term use of man's environment and the maintenance and enhancement of long-term productivity.

5.27 Irreversible and Irretrievable Commitments on Resources Which Would Be Involved in the Proposed Action

The resources used in highway construction (land, materials, capital, labor, energy, and productivity) may all be considered irreversibly and irretrievably committed because of the long-term nature of a transportation project. Implementation of the proposed SH 121 electronic toll facility and proposed minor design changes would not increase the resources irreversibly and irretrievably committed to the highway because no additional right-of-way is required.

5.28 Summary

Table 7 provides a summary of the direct impacts associated with Build Alternative C/A as presented in the October 2004 FEIS and this re-evaluation document (Section 5.0). The words "No change" in the April 2009 Re-Evaluation column of Table 7 indicate that the project impacts identified in the October 2004 FEIS (summarized in the middle column of Table 7) are still valid. An analysis of potential indirect and cumulative impacts is presented in Section 6.0.

Table 7 Summary of Direct Impacts (Build Alternative C/A)

Environmental Issue	October 2004 FEIS	April 2009 Re-Evaluation
Land Use Impacts	Compatible with local land use plans/policies	No change
Prime and Unique Farmlands	No impacts to prime and unique farmlands	No change
Environmental Justice Impacts	No disproportionate adverse impacts to minority or low-income populations	Re-evaluated to assess potential EJ impacts because of electronic tolling.
Social Impacts	No adverse community cohesion impacts	No change
Public Safety Impacts	No adverse public safety impacts	No change
Relocation Impacts	A total of 85 displacements. Three residential properties and 82 commercial business properties	No change
Economic Impacts	Long-term, beneficial economic impacts anticipated	No change
Pedestrian and Bicycle Impacts	No adverse pedestrian/bicycle impacts	No change
Section 4(f) Impacts	No impact to Section 4(f) resources	No change
Air Quality Impacts	No CO NAAQS exceedances. The proposed project is in conformity with the CAA in relation to ozone non-attainment	MSAT were evaluated for the proposed project. Three sensitive receptors were located within 328 feet (100 meters) and 14 within 1,640 feet (500 meters) of the proposed project. A long-term decrease in MSAT emissions is expected to occur because of federal vehicle emission standards and control measures

Environmental Issue	October 2004 FEIS	April 2009 Re-Evaluation
Noise Impacts	Noise Abatement Criteria (NAC) approached, equaled, or exceeded at 16 receivers. Noise barriers proposed at three locations	No change. Noise barriers would be implemented based on public involvement completed since the June 2005 ROD
Water Quality Impacts	Minor, short-term effects during construction. No long-term effects to water quality	No change
Permits	Clean Water Act (CWA) permits required for construction phase	No change. Texas Pollution Discharge Elimination System (TPDES), Stormwater Pollution Prevention Plan (SW3P), and Best Management Practices (BMPs) would be required during construction.
Jurisdictional Waters of the U.S. and Wetland Impacts	Approximately 8.1 acres affected	No change. Some Section 404 permits in process; all permits would be acquired before construction in waters of the U.S. would occur.
Water Body Modification and Wildlife Impacts	Minor, short-term effects during construction. No long-term, adverse effects would occur	No change
Floodplain and Floodway Impacts	Stream and 100-year floodplain crossings would occur at 12 locations. No major changes to streams and floodplain elevations are anticipated	No change
Wild and Scenic River Impacts	No wild and scenic rivers present in the study area	No change
Coastal Barriers and Coastal Zone Impacts	No coastal barrier or coastal zone resources present in the study area	No change
Threatened or Endangered Species	No effect would occur to threatened or endangered species	No change. Surveys for the Interior Least Tern concluded no suitable habitat.
Trees, Vegetation and Wildlife Habitat	Approximately 37 acres of trees may be removed. No special habitat present	No change
Historic Resources Impacts	Two archeological sites would be impacted. Formal testing of one site is on hold pending right-of-way acquisition or right of entry permission. No adverse effects would occur to historic structures	No change. Archeological investigations have been completed.
Hazardous Waste Sites	Further investigation may be required for potential sites located within the proposed right-of-way. It is not anticipated that any of the sites would effect development of the SH121 project	No change. Further investigations would need to occur for three identified potential hazardous materials sites prior to construction.
Visual Impacts	Implementation of NTTA *System-Wide Design Guidelines* would minimize visual impacts	No change
Light Impacts	Project design would follow the *Highway Illumination Manual* to minimize light intrusion and *Traffic Operations Manual* to enhance safety lighting	No change
Railroad Impacts	Main lane crossovers would occur at two railroad areas	No change

Environmental Issue	October 2004 FEIS	April 2009 Re-Evaluation
Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity	Project implementation, including local short-term impacts and use of resources, is consistent with the maintenance and enhancement of long-term productivity for the local area and state	No change
Irreversible and Irretrievable Commitments on Resources Which Would Be Involved in the Proposed Action	Commitment of resources would benefit the local community, region, and state by the improved quality of the transportation system	No change

6.0 INDIRECT AND CUMULATIVE IMPACTS

The indirect and cumulative impacts (ICI) analysis [called "Secondary and Cumulative Effects Analysis" in the October 2004 FEIS] was updated to conform to TxDOT's *Guidance on Preparing Indirect and Cumulative Impact Analyses*, December, 2006, the *Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects*, NCHRP Report 466, 2002, and the indirect effects analysis for land use was conducted according to the *Forecasting Indirect Land Use Effects of Transportation Projects*, NCHRP Report 25-25 (22), 2002.

Table 8 summarizes the indirect and cumulative impacts reported in the October 2004 FEIS. These results were not separated into indirect or cumulative for their effects in the original October 2004 FEIS, but were studied as one impact per resource.

Table 8 Summary of Indirect and Cumulative Impacts from October 2004 FEIS

Resource	Impacts
Economic	Benefits from increased housing, employment and taxes. Impacts from increased infrastructure needs and loss of habitat from increased growth.
Social	Additional housing and businesses closer to SH 121 to current neighborhoods.
Land Use	No indirect or cumulative impacts; all land use growth has occurred or is occurring under the knowledge of the placement of SH 121 and was taken into consideration to avoid impacts.
Historical	Potential impacts to NRHP-eligible resources could occur from light intrusion from the roadway or new developments.
Archaeological	No indirect or cumulative effects to archaeological resources.
Transportation	Roadway development would occur with or without SH 121; therefore no indirect or cumulative impacts.
Water Resources	Indirect and cumulative impacts to Waters of the U.S. would not occur because the surrounding area is currently developing and would continue to develop with or without the proposed SH 121. This result plus USACE permitting regulations would prevent indirect and cumulative impacts.
Biological	Given the nature of the habitat (human-altered and urban environments) and the infrequent use (i.e., feeding and resting), the proposed SH 121 would not constitute a negative indirect or cumulative effect on migratory birds. The project is not expected to jeopardize the continued existence or habitat of any threatened or endangered species.
Parks, Open Space, and Recreation	ROW for SH 121 would not be required from publicly owned parks, open space or recreation areas. Parks in the study area with trails are protected from development; therefore no indirect or cumulative impacts.
Air Quality	Beneficial new roadway effects help the region obtain NAAQS attainment.
Noise	The roadway would create the dominate source of noise for the study area and the resulting increase in noise from other sources would be 3 dB or less; therefore no indirect or cumulative impacts.

6.1 Indirect Impacts

As stated previously, indirect impacts were addressed in the October 2004 FEIS, but did not address all issues outlined in the NCHRP 466 and NCHRP 25-25 (22). The following analysis includes the information contained in the October 2004 FEIS and updates the changes to land use between the October 2004 FEIS and the re-evaluation as well as addressing the changes for an all ETC system and the minor design changes.

The NCHRP Report 466 specifies an eight-step process for determining indirect effects (Table 9).

Table 9 Eight Step Approach to Estimate Indirect Impacts

Step 1 – Scoping: The basic approach, effort required, and geographical boundaries of the study are determined.
Step 2 – Identify the Study Area's Direction and Goals: Information regarding the study area is compiled with the goal of defining the context for assessment.
Step 3 – Inventory the Study Area's Notable Features: Additional data on environmental features are gathered and synthesized with a goal of identifying specific environmental issues by which to assess the project.
Step 4 – Identify Impact-Causing Activities of Proposed Action and Alternatives: Fully describe the component activities of each project alternative
Step 5 – Identify Potentially Significant Indirect Effects for Analysis: Indirect effects associated with project activities and alternatives are cataloged, and potentially significant effects meriting further analysis are identified.
Step 6 – Analyze Indirect Effects: Qualitative and quantitative techniques are employed to estimate the magnitude of the potentially significant effects identified in Step 5 and describe future conditions with and without the proposed transportation improvement.
Step 7 – Evaluate Analysis Results: The uncertainty of the results of the indirect effects analysis is evaluated for its ramification on the overall assessment.
Step 8 – Assess Consequences and Develop Mitigation: The consequences of indirect effects are evaluated in the context of the full range of project effects. Strategies to avoid or lessen any effects found to be unacceptable are developed. Effects are reevaluated in the context of those mitigation strategies.

All indirect effects would occur outside of the right-of-way. As to the cause and effect relationship between the proposed project and the indirect impact, the CEQ states that indirect effects may include induced changes to land use resulting in resource impacts (40 CFR 1508.8). Indirect effects can be linked to direct effects in a causal chain (NCHRP Report 466). The chain can be extended as indirect effects produce further consequences.

6.1.1 Step 1 - Scoping

Approach

This step involves conducting an inventory of notable environmental features, including land use features, to identify specific environmental issues by which to assess the project. The indirect impact-causing activities of the proposed action and alternatives are then detailed. The outcome is identification of potentially significant indirect effects for further analysis and could occur even in the absence of direct effects. Qualitative and quantitative techniques including analysis of GIS data, aerial photography, and other reports would be employed to estimate the magnitude of the potentially significant effects. Finally, strategies that would avoid or mitigate the impacts or effects found are reported.

Geographic Boundaries of the Study Area

An indirect impacts study area boundary is formed by natural features, adjacent major roadways (expressways or arterial roadways), and political boundaries. Because of the similarity of their respective indirect effects, it is reasonable to assume that the indirect effects of one major roadway would largely become eclipsed by other major roadways in proximity to the project. Defining the study area in this manner is one of the several acceptable methods identified in the NCHRP Report 466.

As defined in Section 5.27.1 of the 2004 FEIS, the study area for the indirect effects to land use was Southwest Tarrant County and Northwest Johnson County.

6.1.2 Step 2 – Identify the Study Area's Direction and Goals

The proposed study area is Southwest Tarrant County and Northwest Johnson County and includes the City of Fort Worth. The corridor is primarily urban and suburban. The demographic data presented in Tables 10 and 11 indicate considerable population growth is anticipated in the study area.

Table 10 1990 and 2000 Census Populations

City	1990 Population	2000 Population	Percent Change
Tarrant County	1,170,103	1,446,219	23.6
Johnson County	97,165	126,811	30.5
City of Fort Worth	447,619	564,694	26.2

Source: U.S. Census Bureau, http://www.census.gov/

Table 11 2030 Demographic Forecast

Area	2000		2030		% Change 2000-2030	
	Population	Employment	Population	Employment	Population	Employment
10-County NCTCOG Area	5,067,400*	3,158,200	9,107,900	5,416,700	79.7	71.5
Tarrant County	1,435,186*	864,360	2,184,869	1,388,247	52.2	60.6
Johnson County	124,319*	45,071	444,151	142,544	257.3	216.3
City of Fort Worth	534,619*	449,793	823,665	701,524	54.1	56.0

Source: North Central Texas 2030 Forecast, www.nctcog.org
NCTCOG estimate adjusted from 2000 Census count. Does not include group quarters.

The study area has experienced, and sustained, substantial land-use change. Tables 12 through 14 present 'snap-shots' between two points in time, to illustrate the changes in current land use types (Table 12). In particular, the vacant land use has decreased over 10 percent from 2000 to 2005. Within the study area, changes in residential land use (Table 13) are predominately in the development of multi-family units. Table 14 shows the changes in residential land use with respect to single-family units at the geographic level.

Table 12 Indirect Impacts Study Area – Land Use (2000 and 2005)

Land Use Type*	2000 Land Use (acres)	2000 Land Use (percent)	2005 Land Use (acres)	2005 Land Use (percent)	Percent Change in acres from 2000 to 2005
Residential	40,392	23.9	40,911	24.2	1.3
Commercial	6,088	3.6	7,102	4.2	16.7
Industrial	10,576	6.3	10,335	6.1	-2.3
Vacant	85,633	50.7	76,476	45.2	-10.7
Water**	7,118	4.2	6,124	3.6	-14.0

Source: NCTCOG, www.nctcog.org
* Land use types not included: institutional, infrastructure, parks, floodplains, and uses under development.
** Water includes areas of land whose primary classified use is water and water related activities and mostly includes open water.

Table 13 Area of Effect – 2000 and 2005 Residential Land Use

Land Use Type	2000 Land Use (acres)	2000 Land Use (percent)	2005 Land Use (acres)	2005 Land Use (percent)	Percent Change in acres from 2000 to 2005
Single-Family	36,811	91.1	36,880	90.1	0.2
Multi-Family	2,409	6.0	2,793	6.8	15.9
Mobile Homes and Group Quarters	1,171	2.9	1,237	3.0	5.7

Source: NCTCOG, www.nctcog.org

Table 14 Single-Family Units

City	2000		Estimated 2008	
	Number	Percent*	Number	Percent*
Tarrant County	381,553	67.4	476,538	69.0
Johnson County	30,548	66.0	36,784	59.6
City of Fort Worth	139,200	66.0	195,224	70.0

Source: NCTCOG
* Percentage of single-family housing units in each city in comparison to other residential housing.

As reflected in the data in this section, the indirect effects area is experiencing a moderately faster growth pattern in comparison to the surrounding areas. This direction of growth is consistent with the goals and objectives of local municipalities and is expected to continue well into the foreseeable future.

6.1.3 Step 3 – Notable Features

Notable features that could be indirectly impacted within the study area mirror the list of features evaluated for direct impacts in Section 5. For the purposes of this indirect effects analysis, potential impacts have been categorized as either: natural resources impacts, land use impacts, community impacts, or other resources. Table 15 identifies the resources evaluated under each category.

Table 15 Notable Features for Indirect Impact Analysis

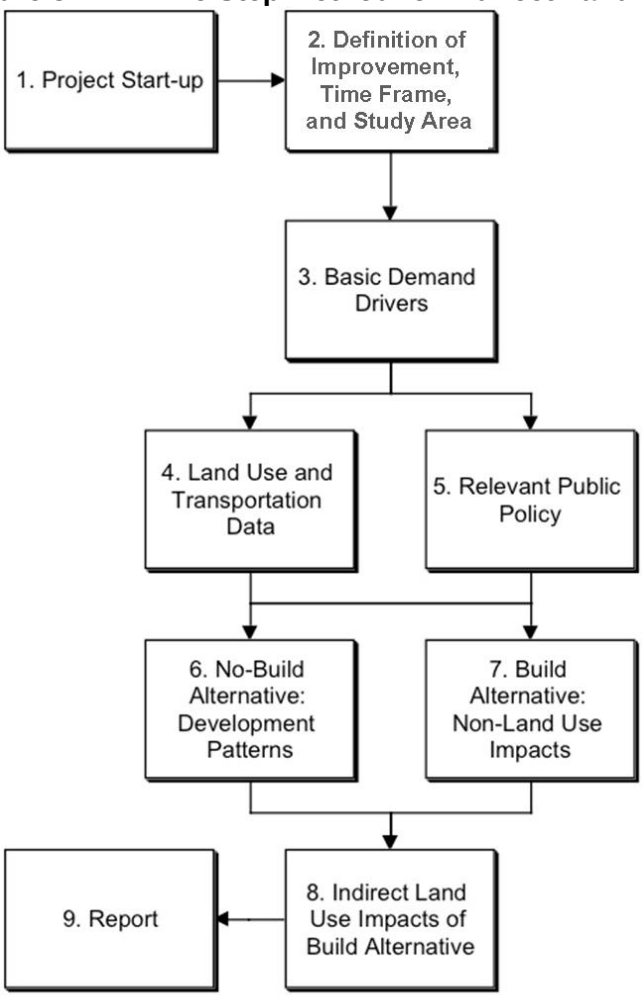
Resource Category	Issue/Resource Evaluated
Natural Resources	Threatened/Endangered Species Prime and Unique Farmlands Water Quality Waters of the U.S. Wildlife Trees, Vegetation, and Wildlife Habitat
Land Use	Land use types (commercial, residential, industrial, and transportation) Section 4(f) properties Floodplain and Floodways
Community Impacts	Traffic Operations Relocations and Displacements Air Quality Social Economics Environmental Justice

6.1.4 Step 4 – Impact-Causing Activities of the Proposed Improvements

Three changes to the design from the October 2004 FEIS were identified as impact-causing activities which include the changing of SH 121 to an all ETC system, the shift in Edwards Ranch Road, and the vertical change at Risinger Road. Indirect effects are commonly related to land use changes. For example, when a transportation project is constructed, the enhanced access to the project area may attract new development or accelerate already planned development in the area. The development may occur in the form of residential developments or in the form of restaurants, gas stations, and other commercial establishments. This “induced development” would be an indirect impact of the proposed project. Generally, it would be reasonable to expect that projects on new locations or larger scale projects (e.g. upgrading an existing facility to a controlled-access freeway) would have more potential to cause indirect effects than smaller scale projects or projects being constructed in already developed areas. In summary, any indirect impacts associated with a project (natural resource, etc.) are directly tied to effects of land use changes.

Therefore, Step 4 of this evaluation for indirect impacts addresses indirect effects to land use and follows the NCHRP Report 25-25, Task 22. Of the six land use forecasting tools provided in the NCHRP Report 25-25, Task 22, the “Planning Judgment” forecasting tool was utilized as the framework for this analysis. The steps provided for this specific methodology follow the nine step method outlined in the NCHRP Report 25-25, Task 22. This nine step method is the recommended evaluation that will be followed in this report and is depicted in Figure 3.

Figure 3 Nine Step Method for Indirect Land Use



Source: NCHRP Report 25-25 (22)

1. Project Start-Up
This step provides a basic description of the proposed project and the methodology used to evaluate the indirect land use effects. The proposed project description is located in Sections 1 through 5 of this re-evaluation. The methodology to analyze the data for indirect land use effects has been discussed in the previous paragraphs.

2. Definition of Improvement, Time Frame and Study Area
The definitions of improvements are discussed in Section 4.0. The current project time frame is 2004 to 2030. As defined in Section 5.27.1 of the 2004 FEIS, the study area for the indirect effects to land use was Southwest Tarrant County and Northwest Johnson County.

3. Basic Drivers
Past changes, current uses, and future changes in employment and population are the basic drivers for indirect changes in land use. Demographic data was obtained from the NCTCOG and the U.S. Census Bureau. These items have been discussed in Section 6.1.2.

4. Land Use and Transportation Data
This data includes the current land use, previous land use, and changes in land use through vacant land, residential (single-family, multi-family, and mobile homes/group quarters), industrial, commercial, water, and other. This data is located in Section 6.1.2

5. Relevant Plans and Policy Documents in the Study Area
Various plans and policies exist in the study area to promote, guide, and monitor various development activities. At the regional level, a discussion of transportation plans, development monitoring and the Dallas-Fort Worth regional toll revenue funding initiative, which may influence development of transportation infrastructure, is presented. Following the regional discussion, those plans by entities which have the greatest potential to influence the SH 121 study corridor are examined. Specifically, the plans of the City of Fort Worth and the Fort Worth Transportation Authority (the T) are reviewed. In the aggregate, all of these plans, to a larger or lesser degree, will influence and impact the land use in the SH 121 study area.

Mobility 2030: The Metropolitan Transportation Plan
This fiscally constrained plan defines transportation systems and services in the Dallas-Fort Worth metropolitan area. It serves as a guide for the expenditure of state and federal funds through the year 2030. The plan addresses regional transportation needs that are identified through forecasting current and future travel demand, developing and evaluating system alternatives, and selecting those options which best meet the mobility needs of the region. The proposed SH 121 project is included in this plan.

NCTCOG Development Monitoring
Within the NCTCOG Metropolitan Planning Area, the NCTCOG maintains a development monitoring database that tracks over 8,000 major developments which are either existing, under construction, announced, or in the conceptual development stages. Major developments are those over 100,000 square feet in size and/or employ 100 or more employees. A total of 159 major developments within the City of Fort Worth are either under construction or announced. To support these new developments, as well as the projected regional growth in population and employment, NCTCOG coordinates the regional planning of park-and-ride facilities and bicycle and pedestrian facilities.

Park-and-Ride Facilities
Four proposed and four existing park-and-ride facilities are located in southwest Tarrant County. These facilities lie between existing SH 121 and IH 35W; the majority of these are located north of IH 820.

Bicycle and Pedestrian Facilities
The purpose of the veloweb routes is to provide regional routes, as well as connectivity to interregional routes, which would encourage the use of bicycles for utilitarian trip purposes. The veloweb is also designed to encourage concurrent pedestrian transportation use. *Mobility 2030* includes one veloweb candidate route that roughly parallels SH 121 to the west.

Excess Toll Revenue Sharing Policy and 2007 Regional Toll Revenue Funding Initiative Update
In accordance with the RTC's Regional Toll Revenue Funding Initiative policy, any up-front payment would be placed in county specific accounts and pro-rated based on the residential county of the toll payer (i.e., based on the county in which the vehicle is registered) on all toll roads (e.g. Tarrant County drivers who use a toll road in another county would still contribute to the Tarrant County specific fund for future improvements). Under this policy, participating counties and associated municipalities would submit to the RTC the locally significant projects

suggested to be funded through the up-front payment. Based on the suggested listing of projects, the RTC selects and identifies projects for funding.

Regional Toll Revenue Funding Initiative projects anticipated from the excess toll revenue were approved unanimously on August 21, 2008 (see Appendix A, Exhibit 10). This project list will assist with the identification of additional projects to be funded by SH 121 if there is excess. This allows the state and local officials to leverage additional state transportation funds, freeing existing allocations for critical, but otherwise unbudgeted, safety, capacity, and air quality projects. This shift allows new projects, which were originally budgeted through gasoline tax revenue, to be built or opened as toll facilities with accelerated construction schedules. The gasoline tax revenue would then be used to build additional transportation facilities with accelerated construction schedules. The potential for excess toll revenues has not been assessed for the SH 121 facility.

Regional Rail and The Fort Worth Transportation Authority

During the last quarter of 2004, the NCTCOG completed the Regional Rail Corridor Study (RRCS) and Regional Transit Initiative (RTI). The intent of the RRCS was to assess the feasibility of implementing passenger rail service along existing Metroplex rail corridors. The RTI was to develop a financial, legislative and institutional framework to optimally deliver these services. The proposed framework would include the continued growth of the Dallas Area Rapid Transit (DART), Denton County Transportation Authority (DCTA), and the T, along with a new Regional Rail Authority. This rail system would ultimately provide over 350 miles of rail service, reaching communities outside current transportation authority service boundaries. All rail corridors are consistent with the NCTCOG *Mobility 2030* Plan.

In addition*, Mobility 2030* has identified additional rail corridors for further evaluation, which represent transportation needs above and beyond those of the financially constrained recommendations. A need for interregional passenger rail connectivity through the Trans Texas Corridor (TTC) high speed rail was identified in *Mobility 2030*. Per *Mobility 2030,* a section of the TTC high speed rail would allow access to the DFW International Airport from the south and also connect to the regional light and commuter rail systems to facilitate movement to other destinations in the region.

City Comprehensive, Master Transportation/Thoroughfare, and Future Land Use Plans

City of Fort Worth

The City of Fort Worth employs the *Comprehensive Plan* to consolidate current land uses and specify future land uses. The plan is the city's official guide for making decisions about growth and development.

As quoted from the 2009 Comprehensive Plan, "The Comprehensive Plan is a general guide for making decision about growth and development. It sets forth the city's vision for the future and describes the basic policies, programs, and projects by which we seek to realize that vision."

In developing the plan, five major themes emerged:

(i) Promote economic growth – example projects: the Alliance Airport and Alliance Corridor represents nearly $6.5 billion in public / private investments, resulting in the creation of over 28,000 new jobs. The city is working with the North Texas Tollway Authority to implement SH 121, a transportation investment totaling approximately $1 billion.

(ii) Accommodate an expanding population – example policies and strategies: encourage new development adjacent to developed or platted areas so as to utilize existing infrastructure and services, and so discourage leapfrog development.
(iii) Revitalize the central city – example policies and strategies: require infill development, use of Neighborhood Empowerment Zones
(iv) Develop multiple growth centers – much of the city's planning strategy is based on the concept of multiple growth center development. It is the city's intent that development pattern will accommodate city growth, minimize environmental impacts, consume less land, and generate less traffic than a dispersed development pattern. Key to the growth center concept is the ability to provide a variety of transportation modes within and between growth centers. As outlined in the FEIS, and for the southwest sector, SH 121 will function as one of the modes used to facilitate the development of multiple growth centers.
(v) Celebrate the Trinity River –calls for the development of an urban waterfront Downtown.

The following development regulations, strategies, and plans tacitly or explicitly seek to support and implement these themes through the Comprehensive Plan. These illustrate both Fort Worth's awareness of considerable land use changes, and the city's effort to find / utilize appropriate tools to manage them effectively.

- Financial Incentives - Guiding principles entail promoting development that conforms to the Comprehensive Plan, providing preference for those projects in targeted areas, multiple growth centers, transit-oriented developments, capitalizing on near and mid-term market opportunities. The incentives include: tax incentives, financing incentives, real estate, regulatory, and infrastructure incentives and a relocation incentive policy.
- Development Regulations - Fort Worth's first zoning ordinance was adopted in 1940. Currently, approximately 18 percent of the city's land area is zoned in ways that are not consistent with the Comprehensive Plan. To address this inconsistency, the city employs these processes to bring instances of non-conforming land use into compliance: petition-based rezoning, council-initiated rezoning, zoning, and subdivision ordinances.
- Existing Conditions & Trends - Land use data was first available from the City of Fort Worth in 1960. At that time, the city was 145 square miles and 37 percent of the land was vacant. Today, Fort Worth has grown to 348 square miles, 27 percent of which is vacant. The predominant existing land use is single-family. Projected land use is based on land annexation trends over the past 14 years. It is expected that the city limits will expand at a rate of approximately 1.2 square miles per year, expanding from 348 square miles in 2008 to 372 square miles by 2028.

  Table 16 contrasts the percentages of existing land use versus zoned land use; comparing the existing and zoned land uses underscores the extensive land use changes proposed by Fort Worth. The City of Fort Worth's Comprehensive Plan states that in 2005, 27 percent of the land in Fort Worth was undeveloped (70,842 acres) and approximately one-third of this amount is not developable, due to environmental constraints (floodplain, excessively steep slopes, adjacent development which may inhibit the vacant parcels development potential – wastewater treatment plants, landfills, rail yards, etc.) Therefore, the amount of available, developable, vacant acreage yields approximately 47,000 acres. To put the potential indirect land use impacts of SH 121 in perspective relative to the 47,000 acres available to the city, information was used from the economic impact analysis in the October 2004 FEIS.

Table 16 Existing Land Use versus Current Zoning

Category	Existing Land Use in Fort Worth, 2005 (percent)	Current Zoning in Fort Worth, 2008 (percent)
Vacant Land		
Developable	41	7
Undevelopable (floodplains, except parks, recreation)	8	1
Residential		
Single-Family	21	52
Multi-Family	2	6
Recreation / Open Space	10	2
Non-residential Uses		
Commercial	5	13
Institutional	4	
Industrial	6	19
Transportation	3	
Total	100	100

Source: 2005 Existing Land Use Fort Worth: NCTCOG, 2006; Current Zoning, Fort Worth, 2008: Planning and Development Dept, 2008

The economic impact analysis study area was defined as a quarter-mile on either side of the proposed right-of-way. This amounted to 4,560 acres of development or changes in land use character clearly attributable to SH 121. This acreage represents roughly one-tenth of the development potential of vacant developable land available to the city. Between 2000 and 2028, the population is expected to increase by approximately 50 percent. The City of Fort Worth anticipates the amount of developed land to increase by approximately the same percentage.

The city's *Transportation Plan* supports multi-modal transportation solutions with a resultant goal of sustainable development. Two factors will contribute to an increasingly complex set of travel patterns within the City of Fort Worth and Tarrant County: 1) over 90 percent of population growth will take place outside of IH 820 and 2) the majority of employment growth will occur within existing activity centers and long major transportation corridors. As previously discussed, the city will employ multiple growth centers to mitigate the effect of these travel patterns.

The policies of the *Future Land Use Plan* for the City of Fort Worth are to promote orderly and sustainable development by: supporting single-family residential development near mixed-use growth centers, where the city seeks to concentrate employment and public services; support zoning changes that reduce the amount of vacant land zoned for multi-family residential development outside of designated growth centers and transit-oriented developments; link growth centers with major thoroughfares, public transportation, and linear parks.

Mixed-use growth centers for the Far Southwest planning sector (the vicinity of SH 121 and FM 1187) and the Wedgwood sector (roughly between SH 183 and Altamesa Boulevard), were referenced in the 2004 FEIS. These centers still serve as anchors to SH 121 in the city's 2009 Comprehensive Plan and meet, or will meet, three or more of the following criteria:

- High concentration of employees (10,000 / square mile)
- High concentration of residents (10,000+ / square mile)
- One or more major transportation facilities
- Existing or planned Transit Oriented Development
- Major institutions (government offices, hospitals or universities)
- Tourist destination (100,000+ / year)

Contact with the City of Fort Worth

In late October 2008, a series of contacts with senior Fort Worth planning staff confirmed that:

- The intervening Comprehensive Plans and the 2009 Comprehensive Plan do not differ materially in direction, intent or focus from the 2004 Comprehensive Plan referenced in the 2004 FEIS.
- Proposed SH 121 remains an integral part of the city's comprehensive plans, to manage, and direct the city's foreseen growth.

6. No Build Alternative: Development Patterns
Development and redevelopment would likely to continue and land use changes would occur in the indirect effects study area with population and employment growth the driving forces for development in the City of Fort Worth, and Tarrant and Johnson Counties. In anticipation of the projected growth, the City of Fort Worth has taken a very aggressive stance to managing growth. Given the amount of developable land available, it is anticipated that the rate of land use change and the type of developments occurring would be moderated if SH 121 were not constructed. A constrained transportation network, with rising congestion levels would not be "selling points" for employers or families looking to move into the area. Both the rate and type of development are sensitive to market conditions and the ability to secure long-term debt. A major economic down-turn may substantially slow or suspend developments, whether privately and/or publicly funded.

7. Build Alternative: Non-Land Use Impacts
Travel time and traffic volumes (and perceived/real economic impact) are key transportation measures for estimating impacts on residential and commercial development. Larger volumes that result from transportation improvements could support an increase of demand and prices bid for retail properties along a corridor, which in turn contributes to the potential for land use changes. Key questions are whether (1) that potential is sufficient to cause property owners and developers to build faster and differently than they would have and (2) whether the comprehensive plan would have to be changed significantly (e.g. zoning, comprehensive plan designations, city limits, urban growth boundaries) to allow that change in development. Key transportation variables of interest for land use analysis are change in travel time, traffic volumes, and mobility.

Changes in accessibility are most readily understood by comparing differences in travel time, congestion delay, levels of service, or average speed along a particular facility or study area. For SH 121, changes in accessibility were analyzed for the Build versus the No Build scenarios. In lieu of NCTCOG *Mobility 2030* traffic data, it was assumed that the trends implied by *Mobility 2025 – 2004 Update* are representative of *Mobility 2030*, traffic summary data from the FEIS is presented (Traffic Screenline Analysis). Increased or decreased accessibility may be inferred by comparing the changes in travel time and average speed when traveling via either existing routes or proposed SH 121, see Table 17.

Again, in lieu of *Mobility 2030* traffic data from NCTCOG and assuming similar demographic location and densities in *Mobility 2025 – 2004 Update*, the redistribution of traffic along north-south and east-west facilities is summarized in Table 3-5 of the SH 121 FEIS, October 2004. Decreases in traffic on facilities paralleling the proposed project (i.e., Bryant Irvin Boulevard, Hulen Street, and McCart Avenue) ranged from 6.4 percent to 24 percent. The decreases on parallel facilities are more pronounced south of IH 20, where the existing network is less developed. The redistribution of traffic on the east-west facilities, while larger in magnitude with increases of up to 45 percent, were more site specific and did not occur over a substantial distance on these facilities. Travel patterns would change as a result of new access and demographic shifts in population and employment.

Table 17 Travel – Distance Comparison Peak Period (Traffic Screenline Analysis)

Origin	Destination	Facility Used	Percent Change In Distance (mi)	Percent Change In Time (min)	Percent Change in Speed (mph)
Fort Worth CBD (IH 30 and IH 35W)	**Southwest Fort Worth** (Granbury Road and Columbus Trail)	**Existing Route** using IH 35W, Frontage Roads, Sycamore School Road and Columbus Trail			
		SH 121	**-6.62**	**-36.2**	**+48.7**
Fort Worth CBD (IH 30 and IH 35W)	**Benbrook** (US 377 and Lakeside Drive)	**Existing Route** using IH 30 and US 377			
		SH 121	**+5.8**	**-25.4**	**+41.0**
Fort Worth CBD (IH 30 and IH 35W)	**Southwest Fort Worth** (Bryan Irvin Road and Oakmont Boulevard)	**Existing Route** using IH 35W, IH 20 and Bryant Irvin Road			
		SH 121	**-20.4**	**-34.2**	**+22.0**
Fort Worth CBD (IH 30 and IH 35W)	**Southwest Fort Worth** (Bryan Irvin Road and Oakmont Boulevard)	**Existing Route** using IH 30 and Bryant Irvin Road			
		SH 121	**-7.9**	**-31.6**	**+35.6**

Source: SH 121 FEIS, October 2004, Table 3-4, presentation re-formatted

8. Indirect Land Use Impacts of the Build Alternative

A summary of potential land use impacts for indirect effects is included in Table 18. These changes are graded on a qualitative scale of comparison (none, very weak, weak, moderate, strong, very strong). The none comparison would mean the proposed action would not affect land use changes. Very weak means there would be little change to land use by the proposed action and would be associated with rebuilding existing facilities for more modern facilities and revitalizing the existing areas; small changes in land use could occur from closely related land use types (industrial to commercial and vice versa). A moderate score would include changes in land use that would occur at a even pace level for the region; changes expected would be conversions from older land use types to new areas (i.e. old industrial parks to mixed use facilities, multi-family areas converted to single family homes). Some land use changes from vacant to more developed would occur. A score rating of strong would indicate the area is changing more rapidly than the general region. Land use changes from vacant to developed would occur in greater amounts and complete changes in land use are expected (i.e. industrial to parks or residential and commercial). Very strong land use changes would occur at an

extremely high rate compared to regional development. Multiple projects and land use changes would be occurring throughout. Drastic changes in land use types (i.e., vacant to development) would account for the majority of all changes.

The indirect land use impacts outlined in Table 18 have a moderate to very strong potential for land use changes. The 2009 Comprehensive Plan of the City of Fort Worth assumes the SH 121 facility to support the achievement of the development patterns the plan outlines. The proposed improvements, deemed necessary to accommodate forecasted growth, are implicit in the planned land use forecast for the study area. The proposed SH 121 facility should not alter the future land use patterns in the study area as none of the change indicators portrayed (changes in accessibility, changes in property value, expected growth, the relationship between land supply and demand, and public policy) indicate any significant changes.

Table 18 Indirect Land Use Impact Assessment

Change	Data Source	Anticipated Indirect Impacts	Potential for Land Use Changes
Change in accessibility *Measured as change in travel time or delay if available. Otherwise assessment of v/c or change in access*	October 2004 FEIS Traffic Screen Line Analysis	As SH 121 is a proposed new location facility, it would change accessibility and mobility in the area. The current highway network, and especially that section located south of IH 20, is disjointed and discontinuous. Traffic would most likely divert to the new facility, given the proposed higher geometric standards and posted speeds. Anticipate the development of highway dependent business (gas stations, hotels, restaurants, etc.) The project would provide a series of access ramps to planned commercial and residential developments. NOTE: As presented at the December 18, 2007, Public Meeting and in Section 4.3 of this Re-evaluation, design changes were made at Edwards Ranch Road (a shift of approximately 1,000 feet west of its original position) and at Risinger Road (SH 121 will be constructed over existing Risinger Road, as opposed to Risinger being constructed over SH 121). No additional right-of-way is required, so no indirect land-use impacts anticipated for these changes.	Very Strong
Change in property value (Measured in Dollars)	Consultation with planning departments Various Public & Private Economic Development studies	An economic analysis was conducted for the EIS, to assess the potential market-drive development opportunities created by SH 121. The economic impact of public and private investments over 27 year time period (2004 – 2030) was measured in terms of cumulative employment impact, cumulative direct and indirect taxes, net public benefit-cost. Tax benefits to the state and local jurisdictions are anticipated to increase as a result of SH 121.	Strong

Change	Data Source	Anticipated Indirect Impacts	Potential for Land Use Changes
Forecasted growth Measured as population, employment, land development: for region, city, or sub-area.	NCTCOG 2030 Forecast	Approximately 27% of the developable land in Fort Worth is undeveloped. The study area's population and employment are both anticipated to increase by at least 50%. Failure to construct SH 121 may decrease growth rate.	Strong
Relationship between supply and demand Measured as land development, population, employment	NCTCOG Land Use City of Fort Worth's *2009 (September 2008) Comprehensive Plan – (D-2009CP)* Land Use Capacity Analysis	As stated in the 2009 Comprehensive Plan, "based on land annexation trends over the last 14 years, the city limits are expected to expand from 348 square miles in 2008 to 372 square miles by approx 2030, or approximately 1.1 square miles per year. During this same time period, "…the population is anticipated to grow by approximately 50%, and the amount of developed land is anticipated to increase by the same percentage from 163 square miles to 245 square miles."	Very Strong
Regional Transportation Policy	Regional Plans (Mobility 2030, etc.) 2008-2011 TIP	The current project is included in various, publicly approved, regional growth documents for transportation improvements.	Strong
Availability of transportation & non-transportation services - Measured as amount budgeted in Capital Improvement Program	City of Fort Worth - 2004 Capital Improvement Bond Program Tarrant County 2006 CIP	This bond program is on a six year implementation schedule (2004 – 2009). Major program areas and associated budgetary improvements are: - Street & Storm Sewer - $232.9 million - Community Services and Parks & Rec - $21.6 million These two line items comprise 93% of the 2004 CIP program and indicate the city's commitment to accommodate its expanding growth. Budgeted: $233 million for building facility improvements and expansions.	Strong
Other factors that impact the market for development	State Comptroller job growth predictions, per *D-2009CP* NCTCOG job	The State Comptroller expects job growth in the State of Texas to slow from 2.1 percent annually from 1990 to 2004, to 1.6 percent annually from 2004 through 2025, due to slowing of the national economy, increasing global competition, tightening labor markets, rising costs of energy (gasoline). NCTCOG anticipates that job growth in Fort Worth will increase at the rate of 1.5 percent	Moderate

Change	Data Source	Anticipated Indirect Impacts	Potential for Land Use Changes
	forecasts for Fort Worth	annually through 2030.	
Public Policy	Development Regulations 2009 Comprehensive Plan, September 2008 (D-2009CP) Financial Incentives Interlocal Agreements	As outlined in the D-2009CP, and as part of its Development Regulations, the city has four strategies to assist in implementing the city's development goals. The fourth strategy pertains to managing growth and discouraging suburban sprawl. Under this strategy the city will seek: (i) more authority to enact an adequate public facilities ordinance. This ordinance requires that public facilities such as roadways, water and sewer lines, etc., be concurrently developed with new development, to more efficiently accommodate growth and (ii) greater municipal control over special infrastructure districts (municipal utility districts, water control and improvement districts). Financial Incentives – to promote and manage development the city has an array of financial incentives. A sampling of these incentives include: Tax incentives (tax abatement TIFs), Financing incentives (Industrial revenue bonds designed to provide taxable and tax-exempt bond financing for land and depreciable property for industrial and manufacturing projects), and Real estate, regulatory, and infrastructure incentives (mixed-use zoning assistance or land transactions to assist developers with acquisition and assemblage for meritorious projects in targeted infill areas). The initial Inter-local Agreement (ILA) between Fort Worth and the NTTA was executed November 28, 2000. It acknowledged that SH 121, the Southwest Parkway has been on the city's Thoroughfare plan since the 1960's. Subsequent amendments to the ILA have maintained the city's support of the project, while refining various design aesthetic elements, or clarifying the delineation of design, operation, maintenance, or funding responsibilities between the city and NTTA.	Very Strong

9. Report

The indirect land use impacts analysis for the construction of SH 121 presented in Table 18 results in a moderate to very strong potential for land use change. However, the changes due to the proposed project are an integral element of the regional transportation plans and local comprehensive land use and zoning plans for this area. The No-Build Alternative would be

inconsistent with the comprehensive plan, resulting in development which is less than optimal, relative to improved tax base, and the development of residential, commercial, office, retail, and the other land uses.

Local and County Control - The authority to mitigate (i.e., manage and control) land use impacts associated with SH 121 resides with municipal and county governments. Development codes, zoning, and ordinances are a few of the instruments available to enact this control. The City of Fort Worth, whose immediate and long-term impact on SH 121 is greater than Tarrant or Johnson Counties, employs a number of other controls. Ideally, TxDOT and the local and regional transportation providers work in concert with local governments to implement a transportation system which complements land-use and thoroughfare plans.

6.1.5 Step 5 – Indentify Potential Significant Indirect Effects

The following discusses the potential significant indirect effects to each resource identified for indirect effects.

Socioeconomics
The resulting changes discussed in the re-evaluation would not have an indirect effect to socioeconomics. Impacts related to the tolling of SH 121 and the use of electronic toll collections are considered direct effects and have been addressed in Section 5.25. The regional impacts from the growth of the toll road and managed lane system to environmental justice populations are discussed in the regional toll and managed/high Occupancy Vehicle (HOV) lanes cumulative impacts, Section 6.2.8.

Land Use
As stated previously, SH 121 has moderate to very strong potential for indirect land use effects.

Cultural Resources
The right-of-way footprint and cultural resource study areas did not expand; therefore, the resulting changes discussed in the re-evaluation would not have an indirect effect to cultural resources.

Transportation
The proposed changes in the re-evaluation would not indirectly affect transportation in the indirect affects study area.

Water Resources
The proposed changes in the re-evaluation would not indirectly cause additional impacts to waters of the U.S. or affect water quality; therefore there would be no indirect affects to water resources.

Biological Resources
The proposed changes in the re-evaluation would not cause additional indirect impacts to biological resources.

Park, Open Space, and Recreation Resources
The proposed changes in the re-evaluation would not cause additional indirect impacts to parks, open spaces, and recreational resources.

Air Quality
The direct benefits for air quality as a result from the proposed changes in the re-evaluation could result in indirect benefits to the air quality in the indirect affects study area.

Noise
The proposed design changes would not cause indirect impacts from noise to indirect effects area.

6.1.6 Steps 6 – 8 – Analyze Indirect Effects, Evaluate Analysis Results, and Assess Consequences/Develop Mitigation

These final steps address those resources that were identified to have potential indirect effects identified in Step 5 (Section 6.1.5).

Land Use
As stated previously, the changes due to the proposed project are an integral element of the regional transportation plans and local comprehensive land use and zoning plans for this area. The No-Build Alternative would be inconsistent with the comprehensive plan, resulting in development which is less than optimal, relative to improved tax base, and the development of residential, commercial, office, retail, and the other land uses.

The authority to mitigate (i.e., manage and control) land use impacts associated with SH 121 resides with municipal and county governments. Development codes, zoning, and ordinances are a few of the instruments available to enact this control. The City of Fort Worth, whose immediate and long-term impact on SH 121 is greater than Tarrant or Johnson Counties, employs a number of other controls. Ideally, TxDOT, local and regional transportation providers work in concert with local governments to implement a transportation system which complements land-use and thoroughfare plans.

Air Quality
The potential benefits from the indirect affects could result in improved air quality in the indirect effects study area and potentially help the region obtain (or keep) attainment for all NAAQS.

6.1.7 Indirect Regional Toll and Managed/HOV System

The current regional network for roadways, priced facilities [i.e., toll, managed/HOV], and passenger rail is expected to increase by 2030. Appendix A, Exhibits 11 through 13, obtained from the 2030 MTP show the proposed roadway, priced facilities, and passenger rail for the region in 2030. For the roadway system, the 2007 transportation network for Dallas-Fort Worth (calculated in mainlane lane-miles) consist of 4,397 lane-miles. Of the total system, 434 of the lane-miles are tolled (approximately 11 percent). The anticipated 2030 transportation network for Dallas-Fort Worth would consist of approximately 8,569 mainlane lane-miles, which 30 percent (approximately 2,542 lane-miles) are tolled. Table 19 lists the priced facilities included in the 2030 MTP and when they are expected to be open to traffic. These projects include the construction of new location toll roads, the addition of managed/HOV lanes, and the expansion of existing toll facilities. Appendix A, Exhibits 14 through 16, show the priced facility system listed in Table 19 for the projected years of 2015, 2025, and 2030.

Table 19 Future Toll Road and Managed/HOV lane Projects

Roadway	Location	Responsible Agency	Work Planned
Open to Traffic by 2015			
Dallas North Tollway	Parker Road to Royal Lane	NTTA	Expand existing toll road
IH 30 – Dallas County	SH 161 to IH 35E	TxDOT-Dallas	Add managed/ HOV lanes
IH 30 – Tarrant County	Cooper Street to Ballpark Way	TxDOT-Fort Worth	Add managed/ HOV lanes
IH 35E	IH 635 to Loop 12	TxDOT-Dallas	Add managed/ HOV lanes
IH 35E – "Northern Link"	FM 407 to PGBT	TxDOT-Dallas	Add managed/ HOV lanes
IH 35W	SH 170 to IH 30	TxDOT-Fort Worth	Add managed/ HOV lanes
IH 635	Luna Road to U.S. 75	TxDOT-Dallas	Add managed/ HOV lanes
IH 820	SH 121/SH 183 to SH 121/SH 10	TxDOT-Fort Worth	Add managed/ HOV lanes
Loop 9	U.S. 287/Outer Loop to IH 20/SH 190	TxDOT-Dallas	New toll road
Loop 12	IH 35E to SH 183	TxDOT-Dallas	Add managed/ HOV lanes
President George Bush Turnpike	IH 35E to SH 78	NTTA	Expand existing toll road
President George Bush Turnpike (Eastern Extension)	SH 78 to IH 30	NTTA	New toll road
SH 114	SH 121 (West) to International Parkway	TxDOT-Fort Worth	Add managed/ HOV lanes
SH 121	IH 820 to Minnis Road	TxDOT-Fort Worth	Add managed/ HOV lanes
SH 121	SH 183 to IH 820	TxDOT-Fort Worth	Add managed/ HOV lanes
SH 121 (Chisholm Trail Parkway)	FM 1187 to U.S. 67	NTTA-Fort Worth	New toll road
SH 121 – Collin County	U.S. 75 to Hillcrest Road	TxDOT-Dallas	New toll road
SH 161	SH 183 to IH 20	TxDOT-Dallas	New toll road
SH 161/SH 360 Toll Connector	SH 161 to Sublett Road (SH 360)	TxDOT-Dallas & TxDOT-Fort Worth	New toll road
SH 170	SH 114 to U.S. 81/U.S. 287	NTTA	New toll road
SH 183	SH 121 to SH 161	TxDOT-Fort Worth	Add managed/ HOV lanes
SH 360 (toll road)	Sublett Road to U.S. 287	NTTA	New toll road
Trinity Parkway	IH 35E to IH 45/U.S. 175	NTTA	New toll road
U.S. 75 – Collin/Dallas County	SH 121 (South) to Exchange Parkway	TxDOT-Dallas	Add managed/ HOV lanes
U.S. 75 – North Collin County	SH 121 (North) to SH 121 (South)	TxDOT-Dallas	Add managed/ HOV lanes

Open to Traffic by 2025			
Dallas North Tollway	FM 121 to U.S. 380	NTTA	New toll road
IH 20/U.S. 287	IH 820 to Sublett Road (U.S. 287)	TxDOT-Fort Worth	Add managed/ HOV lanes
IH 30	IH 35E to Bobtown Road	TxDOT-Dallas	Add managed/ HOV lanes
IH 30 – Tarrant County	IH 820 to Cooper Street	TxDOT-Fort Worth	Add managed/ HOV lanes
IH 30 – Tarrant County	Ballpark Way to SH 161	TxDOT-Fort Worth	Add managed/ HOV lanes
IH 35	Outer Loop (FM 156) to IH 35E/IH 35W	TxDOT-Dallas	Add managed/ HOV lanes
IH 35E	SH 183 to IH 20	TxDOT-Dallas	Add managed/ HOV lanes
IH 35E “Northern Link”	FM 2181 to FM 407	TxDOT-Dallas	Add managed/ HOV lanes
IH 35E “Northern Link”	PGBT to IH 635	TxDOT-Dallas	Add managed/ HOV lanes
IH 35W	IH 35/IH 35E to SH 170	TxDOT-Dallas	Add managed/ HOV lanes
IH 635	U.S. 75 to IH 30	TxDOT-Dallas	Add managed/ HOV lanes
IH 820/U.S. 287	U.S. 287 to IH 820 (U.S. 287)	TxDOT-Fort Worth	Add managed/ HOV lanes
Loop 12	SH 183 to Spur 408	TxDOT-Dallas	Add managed/ HOV lanes
Outer Loop (Eastern Subregion)	IH 20/Loop 9 to IH 30	TxDOT-Dallas	New toll road
Outer Loop (Eastern Subregion)	U.S. 75 to IH 35	TxDOT-Dallas	New toll road
President George Bush Turnpike	Belt Line Road to IH 635	NTTA	Expand existing toll road
SH 114 – Dallas County	SH 121 to SH 183	TxDOT-Dallas	Add managed/ HOV lanes
SH 170	SH 199/Outer Loop to U.S. 67	NTTA	New toll road
SH 183	SH 161 to IH 35E	TxDOT-Dallas	Add managed/ HOV lanes
SH 190	IH 30/PGBT to IH 20/Loop 9	NTTA	New toll road
SH 360	Outer Loop to FM 2258	TxDOT-Dallas	New toll road
SH 360 (toll road)	U.S. 287 to Outer Loop/Loop 9	NTTA	New toll road
U.S. 67	IH 35E to FM 1382	TxDOT-Dallas	Add managed/ HOV lanes
U.S. 67 – Dallas/Ellis County	FM 1382 to Loop 9	TxDOT-Dallas	Add managed/ HOV lanes
U.S. 80	IH 30 to Belt Line Road	TxDOT-Dallas	Add managed/ HOV lanes
Open to Traffic by 2030			
IH 635	U.S. 80 to IH 20	TxDOT-Dallas	Add managed/ HOV lanes
Outer Loop (Eastern Subregion)	IH 30 to U.S. 75	TxDOT-Dallas	New toll road
Outer Loop (Western Subregion)	SH 199 to U.S. 287/ Loop 9	TxDOT-Fort Worth	New toll road

The expanding roadway network, including priced facilities, would cause indirect and/or cumulative impacts to the region. Because of the regional nature of these impacts, the proposed impacts would be better discussed at the regional level. The discussion of the expansion of the priced facility component of the system is discussed in the cumulative impacts section.

6.2 Cumulative Impacts

The TxDOT eight-step process is intended to provide a more efficient, consistent and logical method of evaluating the ICI of a project. Therefore, this eight-step process supersedes the 11-step process presented in the October 2004 FEIS. Table 20 shows the 11-step process used for the 2004 FEIS in comparison to the eight-steps used for the 2009 FEIS re-evaluation.

Table 20 Comparison of 11-Step versus Eight-Step Cumulative Effects Analysis

11-Step Process in the Cumulative Effects Analysis in the October 2004 FEIS	Eight-Step Process in the Cumulative Effects Analysis in the March 2009 FEIS Re-Evaluation
1. Identify the significant secondary and cumulative effects issues associated with the proposed action, and define the assessment goals.	1. Identify the resources to consider in the analysis.
2. Establish the geographic scope for the analysis. 3. Establish the time period for the analysis.	2. Define the study area for each affected resource.
4. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stresses. 5. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds. 6. Define a baseline condition for the resources, ecosystems, and human communities.	3. Describe the current health and historical context for each resource.
7. Identify other actions affecting the resources, ecosystems, and human communities of concern.	4. Identify other reasonably foreseeable future actions that may affect the resources.
8. Identify important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.	5. Identify the direct and indirect impacts that may contribute to a cumulative impact.
9. Determine the magnitude and significance of secondary and cumulative effects.	6. Assess potential cumulative impacts to each resource. 7. Report the results.
10. Modify or add alternatives to avoid, minimize, or mitigate significant secondary and cumulative effects. 11. Monitor the secondary and cumulative effects of the selected alternative and adapt management.	8. Assess and discuss mitigation issues for all adverse impacts.

6.2.1 Methodology and Scoping

Methodological approaches identified in the October 2004 FEIS to determine indirect and cumulative impacts included trends analysis, the use of overlays, and matrices (see Section 5.27 in FEIS). As described throughout this re-evaluation document, the SH 121 project is being re-evaluated for design and operational changes. With the exception of one parcel (see Section 4.5), the right-of-way footprint used to determine project impacts described in the FEIS has not changed. Quantitative and qualitative analyses were conducted to determine the potential indirect and cumulative impacts resulting from the proposed design and operational changes described in Section 4.3 and 4.4.

Coordination with local, state, and federal agencies was completed for the ICI analysis presented in the October 2004 FEIS. Appendix F of the October 2004 FEIS contains copies of the letters to resource agencies and responses received. In addition to meetings and discussions, formal letters were sent to resource agencies requesting input regarding the potentially affected resources and potential effects to these resources. Agency re-coordination was not required for this toll re-evaluation project.

6.2.2 Steps 1 and 2 – Identify Resources and the Study Area for Each Affected Resource

The resources included in the 2004 FEIS ICI analysis were determined to have direct and/or indirect impacts that could contribute to cumulative impacts (beneficial or adverse) resulting from the SH 121 project. The identified resources, geographic boundaries, and timeframes (i.e., spatial and temporal boundaries) used for the resources/topics are identified in Table 5-29 of the 2004 FEIS. Each of these resources has also been addressed for potential ICI associated with the proposed design and operational changes described in Sections 4.3 and 4.4 of this re-evaluation document.

The timeframe for future ICI assessed in the 2004 FEIS was the period from 2004 to 2025, consistent with the timeframe for the effects analyses presented elsewhere in the 2004 FEIS. For purposes of this re-evaluation, this period has been expanded through the year 2030 to assess potential ICI associated with the proposed design and operational changes. Updated available information obtained from the NCTCOG and City of Fort Worth (e.g., MTP *Mobility 2030,* City of Fort Worth *Comprehensive Plan* and *Master Thoroughfare Plan)* was utilized to evaluate potential changes to future conditions. In addition, since the time of the 2004 FEIS additional requirements concerning MSAT (see Section 5.24) and environmental justice (see Section 5.25) have occurred. As noted in these sections, the year 2030 was also considered for these analyses. The data obtained for these analyses coincide with the MTP *Mobility 2030*.

6.2.3 Step 3 – Current Health and Historical Context

Socioeconomics and Land Use

A detailed description of existing and historical socioeconomic and land use conditions are described for the indirect and cumulative impacts analysis is provided in the October 2004 FEIS document. Since the October 2004 FEIS, various changes to land use have occurred due to commercial and residential growth as developers utilize vacant land in a high growth region. The historical context has not changed since the October 2004 FEIS.

Cultural Resources

Detailed descriptions of existing and historical cultural resources are used in the indirect and cumulative impacts analysis is provided in the October 2004 FEIS document. No changes have

occurred in the historical context or current health to cultural resources since the October 2004 FEIS.

Transportation
A detailed description of the existing and historical transportation system is used in the indirect and cumulative impacts analysis is provided in the October 2004 FEIS document. Since the October 2004 FEIS, small changes to infrastructure has occurred through additional local streets for new developments and various improvements with signalization, roadway repairs, shoulder improvements, etc. No major roadway improvements have occurred. The historical context has not changed since the October 2004 FEIS.

Water Resources
Detailed descriptions of existing and historical water resources are used in the indirect and cumulative impacts analysis provided in the October 2004 FEIS document. No changes have occurred to historical context or current health since the October 2004 FEIS.

Biological Resources
A detailed description of existing and historical biological resources is used in the indirect and cumulative impacts analysis is provided in the October 2004 FEIS document. Since the October 2004 FEIS, vacant land has been converted to residential or commercial use in the study area. These conversions have resulted in additional losses of potential wildlife habitat. No changes in historical context have occurred since the October 2004 FEIS.

Park, Open Space, and Recreation Resources
A detailed description of existing and historical park, open space, and recreation resources are used in the indirect and cumulative impacts analysis provided in the October 2004 FEIS document. Since the October 2004 FEIS, vacant land has been converted to residential or commercial use in the study area. No changes in the historical context have occurred since the October 2004 FEIS.

Air Quality
A detailed description of existing and historical air quality is used in the indirect and cumulative impacts analysis is provided in the October 2004 FEIS document. Since the approval of the October 2004 FEIS, a new MSAT rule was adopted by the EPA in 2007. This rule revised increases regulation introduces a more stringent standards from EPA's 2001 MSAT rule discussed in the October 2004 FEIS. The new rule increase benzene standards for gasoline, sets hydrocarbon emissions standards for cars at cold temperatures and increases fuel container standers to prevent evaporation of fumes. A full discussion of EPA's 2007 MSAT rule is discussed in Section 5.24.1. The historical context has not changes since the October 2004 FEIS.

Noise
A detailed description of existing and historical noise conditions is used in the indirect and cumulative impacts analysis provided in the October 2004 FEIS document. No changes have occurred to historical context or current health since the October 2004 FEIS.

6.2.4 Step 4 – Identify Direct and Indirect Impacts

The changes to an all ETC system and the two intersection design changes to Edwards Ranch Road and Risinger Road (see Section 5.0) identified potential impacts to low-income populations due to inclusion of all electronic tolling, but potential opportunities for enhanced access to employment, retail, and entertainment could offset these potential adverse impacts.

In addition, land use and air quality were identified to have potential indirect effects from the re-evaluation, but these effects would not be adverse due to potential benefits, mitigation and comparison to the impacts of the No Build Alternative.

6.2.5 Step 5 – Other Reasonably Foreseeable Future Actions

A detailed description concerning other reasonably foreseeable future actions described for the indirect and cumulative impacts analysis is provided in the October 2004 FEIS document. According to a review of available information obtained from the NCTCOG and City of Fort Worth, no changes have occurred in regards to reasonably foreseeable future actions since the October 2004 FEIS, with the exception of the proposed expansion of the existing Davidson Freight Railroad Yard. UPRR's yard is located at the northern terminus of the proposed project near IH 30. SH 121 would cross the Davidson Yard with a bridge structure. Modifications to the yard facilities required to accommodate this crossing are being funded as part of the SH 121 project. The proposed expansion of Davidson Yard by the Union Pacific Railroad would be implemented as a separate project.

No existing toll facilities are located in the immediate area of the SH 121 project. Reasonably foreseeable toll projects in the surrounding area include SH 170, SH 360, SH 161, the Regional Outer Loop, SH 121 Chisholm Trail Parkway, and managed lane improvements along IH 35W and IH 820.

6.2.6 Steps 6 and 7 – Assess Potential Cumulative Impacts and Report the Results

Economic Effects

The following information concerning cumulative toll impacts has been included because of the proposed design and operational changes for the SH 121 project.

Historically, TxDOT has financed highway projects on a "pay-as-you-go" basis, using motor fuel taxes and other revenue deposited in the state highway fund. However, population increases and traffic demand have outpaced the efficiency of this traditional finance mechanism. As funding mechanisms evolve, the trend towards utilization of toll facilities in this region would through time create user impacts as access to highway systems becomes an issue to the economically disadvantaged.

As acknowledged in the environmental justice assessment discussion in Section 5.25.1, the economic impact of tolling would be higher for low-income residents because the cost of paying tolls would represent a higher percentage of household income than for non low-income households. SH 121, as an element of the system of toll roads now being developed for the greater Dallas-Fort Worth area, would contribute to a cumulative impact on low-income users of the system.

Social Effects

The proposed changes from the re-evaluation would not have a cumulative impact on social effects.

Land Use

The proposed changes from the re-evaluation would not have a cumulative impact on land use.

Cultural Resources

The proposed changes from the re-evaluation would not have a cumulative impact on cultural resources.

Transportation
The proposed changes from the re-evaluation would not have a cumulative impact on transportation.

Water Resource Impacts
The proposed changes from the re-evaluation would not have a cumulative impact on water resources.

Biological Impacts
The proposed changes from the re-evaluation would not have a cumulative impact on biological resources.

Park, Open Space, and Recreation Impacts
The proposed changes from the re-evaluation would not have a cumulative impact on parks, open spaces, or recreational areas.

Air Quality
Criteria pollutant air quality cumulative impacts associated with transportation projects are addressed at the regional level by analyzing the air quality impacts in the MTP and the TIP. The U.S. Department of Transportation is responsible for determining the conformity of the MTP and TIP with local air quality goals as presented in the SIP. The SH 121 project appears in the MTP and the TIP and has been determined to conform to the SIP. The EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause reductions that, in almost all cases, will cause region-wide MSAT levels to be lower than today. The proposed re-evaluation changes could result in beneficial cumulative impact by potentially improving regional air quality contributing to the potential attainment of all NAAQS.

Noise
The proposed changes from the re-evaluation would not have a cumulative impact on noise impacts.

6.2.7 Step 8 – Assess and Discuss Mitigation Issues

No mitigation is proposed concerning the design and operational changes described throughout this re-evaluation. All project-specific commitments and conditions of approval, including resource agency permitting, compliance, and monitoring requirements have been stated in the October 2004 FEIS and June 2005 ROD issued by the FHWA for the SH 121 project. Mitigation monitoring would be conducted by TxDOT/NTTA and other appropriate federal, state, and local agencies to ensure compliance with the agreed upon mitigation measures.

6.2.8 Cumulative Regional Toll and Managed/HOV System

The indirect impact section identified the need to study the impacts from the regional toll and managed/HOV lane network as it expands for the 2030 proposed transportation system. Each cumulative resource is studied from a regional perspective and addresses the impacts the proposed priced facility network would have on each resource. Because of the accessibility of data resources supplied by the NCTCOG, the Resource Study Area (RSA) for the regional study is the MPA.

6.2.8.1 Land Use

Metropolitan areas have come under intense pressure to respond to federal mandates to link planning of land use, transportation, and environmental quality from persons concerned about managing the side effects of growth such as sprawl, congestion, housing affordability, and loss

of open space. The planning models used by Metropolitan Planning Organizations (MPOs) were not designed to address these questions, creating a gap in the ability of planners to systematically assess these issues.

The relationships between land use, transportation, and the environment are at the heart of growth management. The emerging concern that construction of new suburban highways induces additional travel, vehicle emissions, and land development, making it implausible to "build our way out" of congestion has reshaped the policy context for metropolitan transportation planning. Recognizing the effects of transportation on land use and the environment, the CAA and the Intermodal Surface Transportation Efficiency Act (ISTEA) mandated the MPOs integrate metropolitan land use and transportation planning. Later, the Transportation Equity Act for the 21st Century (TEA-21) and subsequently Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) succeeded the ISTEA to refine this process.

The NCTCOG is promoting sustainable development as a specific objective of *Mobility 2030* because of the direct link between land use, transportation, and air quality. NCTCOG has defined sustainable development as:

- Land use and transportation practices that promote economic development while using limited resources in an efficient manner.
- Transportation decision making based on impacts on land use, congestion, VMT, and the viability of alternative transportation modes.
- Planning efforts which seek to balance access, finance, mobility, affordability, community cohesion, and environmental quality.

The essence of sustainable development is the wise use of scarce resources so that future generations may enjoy them. At the regional level, the key to maintaining sustainable patterns of development is to allow cities the option to present a variety of land use, zoning, mobility, and service packages to the development market and residents. This can be accomplished by providing planning support for a diverse range of mobility options such as rail, automobiles, bicycling, transit, and walking.

The Dallas-Fort Worth MPA is forecasted to grow to almost 8.5 million people and 5.3 million jobs by the year 2030, producing nearly a 63 percent increase in population and a 64 percent increase in employment. If not planned for and implemented in a responsible way, this type of rapid growth would have negative impacts on the region. If development continues to grow away from the urban core, the VMT would substantially rise per household, per person, and per employee. Higher densities, mixed-land uses, and increased transportation alternatives, which are characteristics of the urban core, reduce overall VMT. This leads to lower emissions of VOC and NOx, improving air quality. NCTCOG's analysis of travel patterns showed that mixing land uses has a similar beneficial impact on travel as density. There are five types that categorize all land in the Dallas-Fort Worth MPA: employment dominant, employment leaning, mixed, household leaning, and household dominant. The localized mixing and integration of land uses occur at a variety of densities in urban, suburban, and rural settings in the region.

The MTP land development policies were created by combining regional expectations with local city plans, including anticipated population growth and land use. NCTCOG relies on the information provided by cities as a basis for their land development policies. By understanding the cities' expectations, NCTCOG is better able to educate the public and municipalities on the best alternatives for regional land development. NCTCOG conducted a series of demographic sensitivity analyses scenarios to quantitatively assess the potential impacts of alternative growth

scenarios on the region between 2010 and 2030. Historically, the Dallas-Fort Worth area has grown outward with new developments turning rural areas into suburban cities. Within the alternative growth scenarios presented by NCTCOG, households and employment locations were redistributed throughout the region to simulate alternative market assumptions; however the control numbers for population and employment remained the same. Table 21 is the statistics produced through the analysis of each scenario. Brief descriptions of each scenario are:

- Rail Scenario: NCTCOG redistributed population and employment growth occurring between 2010 and 2030, while maintaining the population and employment control totals for the region. Growth was taken from rural areas of the region and added primarily to passenger rail station areas.
- Infill Scenario: NCTCOG redistributed population and employment growth occurring between 2010 and 2030, while maintaining the population and employment control totals for the region. Growth was taken from rural areas of the region and added primarily to infill areas along existing freeways/tollways.
- Rail with County Control Totals (RCCT) Scenario: NCTCOG redistributed population and employment growth occurring between 2010 and 2030, while maintaining the population and employment control totals for the region and each individual county. Growth was taken from rural areas of the region and added primarily to passenger rail-oriented areas.
- Vision North Texas (VNT) Scenario: NCTCOG redistributed population and employment growth occurring between 2010 and 2030, while maintaining the population and employment control totals for the region. Growth was distributed based on overall VNT participant feedback.
- Forward Dallas Scenario: Created for the City of Dallas, NCTCOG redistributed population and employment growth occurring between 2010 and 2030 based on the final alternative demographic dataset created during the Forward Dallas! Comprehensive Plan process.

Table 21 Alternative Growth Scenarios Compared to Historical Growth Model

Data of Interest	Rail Scenario	Infill Scenario	RCCT Scenario	VNT Scenario	Forward Dallas!
MPA Average of Trip Length	- 8%	+ 3%	- 0.01%	- 10.85%	- 2.9%
MPA Rail Transit Boardings	+ 52%	+ 9%	+ 8%	+ 11.13%	+ 7.4%
MPA Non-Rail Transit Boardings	+ 29%	+ 11%	+ 5%	+ 15.98%	+ 11%
MPA Vehicle Miles Traveled	- 6%	- 5%	- 1.2%	- 9.43%	- 2.2%
MPA Vehicle Hours Traveled	- 9%	- 7%	- 1.7%	- 14.31%	- 5.7%
Total Vehicle Hours of Delay	- 24.0%	- 19.0%	- 4.0%	- 32.5%	- 14.5%
Lane Miles Needs	- 13.0%	- 10.0%	- 13.3%	- 30.90%	- 32.1%
Financial Needs (billions)	- $9.5	- $6.7	- $2.9	- $15.6	- $7.0
Roadway Pavement Needs	- 8.3 sq. mi.	- 6.5 sq. mi	- 0.7 sq. mi.	- 19.8 sq. mi.	- 1.6 sq. mi.
NOx Emissions	- 4.1%	- 3.9%	- 1.2%	- 8.47%	- 2.4%
VOC Emissions	- 5.3%	- 5.2%	- 1.5%	- 11.02%	- 3.0%

The results of the analysis show a strong correlation between passenger rail and VNT scenarios, both reducing the greatest amount of ozone emissions and the amount of MPA vehicle miles traveled and hours of delay.

Mobility 2030 does not pick, favor, or choose any regional land use scenario. This data is provided by NCTCOG as an educational guide for the cities and municipalities that comprise the Dallas-Fort Worth metropolitan area. The alternative growth scenarios area presented as

suggested alternatives the municipalities could incorporate into their land use policies to improve regional transportation and environmental issues. Because NCTCOG has no power to control regional growth and land development, the MTP provides these alternatives as guidance to city planers and developers as the most efficient way to grow. By presenting these options, NCTCOG's transportation goals are better served.

The RTC is an independent transportation policy body of the MPO and is comprised of elected officials representing the region's counties and municipalities as well as the region's transportations providers (DART, TxDOT, NTTA, etc.). The RTC is responsible for overseeing the 2030 MTP as it relates to transportation and creates policies for regional transportation including toll policies, managed lane policies, comprehensive development agreement (CDA) policies, and other transportation related issues.

The RTC has taken a proactive approach to improving regional traffic congestion and air quality through its Sustainable Development Policy adopted in 2001. The RTC established basic policy directions which serve as strategies to meet finance constraints, diversify mobility, and improved air quality. The objectives of these practices are to:

- Respond to local initiatives for town centers, mixed-use growth centers, transit-oriented developments, infill/brownfield developments, and pedestrian-oriented projects.
- Complement rail investments with coordinated investments in park-and-ride, bicycle, and pedestrian facilities.
- Reduce the growth in VMT per person.

Although the 2030 MTP and the RTC states these practices should be followed, the local municipalities have direct jurisdiction over land use and public agencies such as DART, TxDOT, and NTTA have jurisdiction over the regional transportation system. These agencies and municipalities would need to work with the NCTCOG and the RTC to implement these sustainable development policies. These policies represent an important new trend in local development patterns that are based an increased desire for a greater variety of transportation options, mixed-use developments, and unique communities with a sense of place. This trend contributes to the region's increasing emphasis on sustainable development and the ability to attain federal air quality attainment.

This sustainable land use is one tool the NCTCOG uses to reduce the need for new infrastructure (utilities, transportation, emergency response, government facilities, water, etc.). This ability for sustainable land use helps reduce the need for new infrastructure, such as priced facilities, for the region. Without sustainable land use, the addition cost of new infrastructure items would increase beyond the current cost.

Sustainable land use is a tool for the NCTCOG, but it is only one part of the solution. The cost of implementation of a full sustainable land use plan is expensive and only municipalities have the power in the state of Texas to affect and implement land use zoning, codes, and enforcement. Furthermore, no government entity has the authority or power to force developers or people where to develop or live.

The current future roadway facility outlined in the 2030 MTP is in support of the predicted land use changes and growth in the region. To meet the demand of the expansive growth and changes to land use from development, the 2030 transportation network would supply the transportation portion of infrastructure requirements for the expanding growth and development. Current and future predicted available funds from the federal government for transportation will

not meet the demands for the transportation infrastructure needed to support the predicted land use changes. Toll roads and managed lanes are the methods that the MTP employs to ensure the transportation demands from future growth are met based on limited transportation funds.

The development of a managed lane/toll system is consistent with the land use policies discussed in the MTP. One component of the managed lane system is planned access to high density development areas. As more mixed-use development centers are planned in the region, managed lane facilities would continue to connect to these centers, allowing HOV and transit vehicles access to the transportation system. This would help remove single occupancy vehicle (SOV) users from the main lanes and increase mobility, efficiency and reliability on all traffic facilities.

The proposed 2030 priced facility network may affect land use within the MPA boundaries by helping to enhance land development opportunities. However, priced facility network is only one factor in creating favorable land development conditions; other prerequisites for growth in the region include demand for new development, favorable local and regional economic conditions, adequate utilities, and supportive local land development regulations and policies. The proposed 2030 priced facility network as currently envisioned may, with the right conditions, help influence and facilitate the additional planned regional land use conversion, redevelopment, and growth.

6.2.8.2 Environmental Justice

Mobility 2030 presents a system of transportation improvements needed to maintain mobility in the Dallas-Fort Worth area over the next 20 plus years and serves as a guide for the expenditure of state and federal funds for the region. Its development was coordinated among local governments, transit authorities, TxDOT, FHWA, and FTA. The plan is based on regional transportation needs through the process of forecasting future travel demand, evaluating system scenarios, and selecting those options which best meet the mobility needs of the region. It also serves as a guide for the implementation of multi-modal transportation improvements, policies, and programs through the year 2030.

As part of the development of *Mobility 2030*, the current MTP, the NCTCOG conducted an environmental justice study for the existing transportation facilities compared to the 2030 proposed transportation system in the MTP. NCTCOG concluded that the *Mobility 2030* transportation improvements and recommendations for the NCTCOG region would not cause adverse impacts to environmental justice populations. However, it did not account for the impact of tolls on environmental justice populations.

To further analyze the effects of expansion of toll roads and managed lanes in the NCTCOG region, a regional study was performed for environmental justice populations comparing the regional build and no build scenarios. The regional no build scenario utilized the existing roadway network in 2009 with 2030 population demographics. The regional build scenario used the proposed MTP roadway network in 2030 with 2030 population demographics.

Regional traffic analysis performance reports and regional origin-destination studies were conducted for the NCTCOG's MPA transportation network for the regional build and no build regional toll/managed lane scenarios. The analysis was conducted to investigate the possible cumulative impacts from the construction of toll roads and managed lanes to environmental justice populations and to determine if there would be disproportionately high and adverse cumulative impacts to these populations.

Traffic Analysis Performance Reports
Traffic analysis performance reports were developed for the regional build and no build scenarios for the entire MPA transportation network. The average daily vehicle trips for both scenarios are 24,912,520.

A comparison of the average loaded speed per roadway classification is shown in Table 22. Average loaded speed, based on the NCTCOG's performance reports, is defined as "the average speed on roadways with traffic on the road; it is the volume-weighted average of loaded speed." The average loaded speed is the average speed a vehicle is traveling along a specific roadway classification during traffic. This is calculated using the miles traveled divided by the time it took to travel a fixed distance. This calculation illustrates the usage of the roadway system by roadway classification. The results show that the regional build scenario would result in an increase in roadway speed for all roadway classifications.

Table 22 2030 Average Loaded Speed (mph)

Roadway Classification	Build Scenario			No Build Scenario			Percent Change		
	AM	PM	Daily	AM	PM	Daily	AM	PM	Daily
Freeways (includes toll roads)	52.88	54.16	57.11	38.92	44.49	50.10	26.40%	17.85%	12.27%
Major Arterials	27.14	28.83	31.82	20.69	22.00	26.52	23.77%	23.69%	16.66%
Minor Arterials	24.01	25.55	27.38	20.45	22.09	25.21	14.83%	13.54%	7.93%
Collectors	20.14	21.62	23.00	17.54	18.93	21.22	12.91%	12.44%	7.74%
Frontage Roads	25.65	27.48	29.61	19.63	21.22	24.67	23.47%	22.78%	16.68%
HOV Lanes (includes managed lanes)	49.73	51.78	52.81	44.37	47.72	50.37	10.78%	7.84%	4.62%

Source: NCTCOG TransCAD® data for 2030 regional build and no build scenarios (April 2008 Performance Reports)

In addition, an evaluation of the regional no build scenario versus the regional build scenario was conducted for the MPA using Level of Service (LOS) per lane mile by roadway classification. The results are shown in Table 23. The regional no build scenario shows an increase in roadway miles in LOS F for all roadway classifications with the exception of managed/HOV lanes.

Table 23 Level of Service for the Traffic Study Area (2030)

Roadway Classification	Build Scenario		No Build Scenario	
	Lane-Miles	LOS	Lane-Miles	LOS
Freeways (includes toll roads)	7,602	A-B-C (3,826 lane-miles) 50%	4,486	A-B-C (890 lane-miles) 20%
		D-E (2,264 lane-miles) 30%		D-E (1,220 lane-miles) 27%
		F (1,512 lane-miles) 20%		F (2,376 lane-miles) 53%
Major Arterials	8,739	A-B-C (4,793 lane-miles) 55%	4,085	A-B-C (1,120 lane-miles) 17%
		D-E (1,848 lane-miles) 21%		D-E (640 lane-miles) 16%
		F (2,098 lane-miles) 24%		F (2,325 lane-miles) 57%

Roadway Classification	Build Scenario		No Build Scenario	
	Lane-Miles	LOS	Lane-Miles	LOS
Minor Arterials	7,568	A-B-C (5,407 lane-miles) 71%	9,282	A-B-C (3,654 lane-miles) 39%
		D-E (829 lane-miles) 11%		D-E (1,574 lane-miles) 17%
		F (1,332 lane-miles) 18%		F (4,054 lane-miles) 44%
Collectors	9,007	A-B-C (6,992 lane-miles) 78%	8,217	A-B-C (4,568 lane-miles) 56%
		D-E (724 lane-miles) 8%		D-E (914 lane-miles) 11%
		F (1,291 lane-miles) 14%		F (2,735 lane-miles) 33%
Frontage Roads	4,152	A-B-C (3,182 lane-miles) 76%	2,622	A-B-C (1,254 lane-miles) 48%
		D-E (402 lane-miles) 10%		D-E (375 lane-miles) 14%
		F (568 lane-miles) 14%		F (993 lane-miles) 38%
HOV Lanes (includes managed lanes)	898	A-B-C (612 lane-miles) 68%	182	A-B-C (76 lane-miles) 42%
		D-E (190 lane-miles) 21%		D-E (45 lane-miles) 25%
		F (96 lane-miles) 11%		F (61 lane-miles) 33%

Source: NCTCOG TransCAD® data for 2030 regional build and no build scenarios (April 2008 Performance Reports)

Regional Origin-Destination Study

An origin-destination study was conducted by NCTCOG for the MPA toll road/managed lane network for environmental justice populations. The assumptions and limitations of origin-destination studies are discussed in Section 5.25.4. Appendix A, Exhibits 17 and 18 show the basis of the NCTCOG analysis and the identified TSZ that contain environmental justice populations (i.e., TSZs that contain 51 percent or greater minority and low-income populations) and the existing and future toll roads and managed lanes used in the origin-destination analysis. These figures show the majority of environmental justice communities within IH 635 and IH 820 loops in Dallas and Fort Worth and in the southern section of MPA.

The entire MPA was evaluated for the existing and future toll network. The total TSZs that comprise the origin-destination study area within the MPA is 4,813. A total of 1,542 these are considered environmental justice TSZs.

For the regional no build scenario, 4,720 TSZs are anticipated to regularly utilize the existing toll roads in the MPA in 2030 (originating at least one trip per day); this represents 98.1 percent of the totally TSZs in the MPA. Under the regional no build scenario, 1,530 environmental justice TSZs are anticipated to regularly utilize the existing toll facilities (originating at least one trip per day); this represents 99.2 percent of the environmental justice TSZs in the MPA. Data analysis indicates that from the 246,462 total trips which originated from all of the TSZs that would utilize the existing toll facilities in the MPA, approximately 14.8 percent (36,400 trips) of the total trips originated from environmental justice TSZs.

The Build scenario is anticipated to contain 4,770 TSZs that would regularly utilize the future toll facilities in the MPA in 2030 (originating at least one trip per day); this represents 99.1 percent of the total TSZs in the MPA. From the total environmental justice TSZs identified in the MPA, 1,541 are anticipated to regularly utilize the proposed toll facilities in 2030 (originating at least one trip per day) for the Build scenario; this represents 99.9 percent of the total TSZs in the MPA. Data analysis indicates that from the 516,988 total trips which originated from TSZs that would utilize the future proposed toll roads, approximately 16.4 percent (85,011 trips) originate from environmental justice TSZs.

Table 24 outlines the origin-destination results for the MPA study area. The analysis was divided into two networks, the No Build scenario which is the existing toll facilities in 2009 and the Build scenario which is the future toll facilities that would be built.

Table 24 Origin-Destination Results

	2030 No Build Scenario (existing toll facilities)	2030 Build Scenario (future toll facilities)
Total TSZs in the MPA	4,813	4,813
Total environmental justice TSZs in the MPA	1,542	1,542
TSZs utilizing toll facilities	4,720 (98.1%)	4,770 (99.1%)
Environmental justice TSZs utilizing toll facilities	1,530 (99.2%)	1,541 (99.9%)
Trips from TSZs utilizing toll facilities	246,462	516,988
Trips from environmental justice TSZs utilizing toll facilities	36,400 (14.8% of total trips)	85,011 (16.4% of total trips)

Source: NCTCOG TransCAD® data for 2030 regional build and no build scenarios (April 2008 Origin-Destination data)

Results and Conclusions

The origin-destination results show an increase in usage for toll roads from the 2030 No Build scenario and the 2030 Build scenario for the NCTCOG MPA region. Both the Build and No Build scenarios showed trips generated from the majority of the TSZs in the MPA (98.1 to 99.1 percent), including the majority of environmental justice TSZs (99.2 to 99.9 percent).

Trips for future proposed toll facilities in the Build scenario would experience an increase of 110 percent from the current toll road facilities. Environmental justice TSZs trips would increase 134 percent. Because of the increase in trips generated by environmental justice populations, these populations would receive cumulative impacts by the regional increase in toll facilities because low-income populations would use a greater amount of their income for toll road and managed lane usage. As shown in Appendix A, Exhibits 17 and 18, existing toll roads and managed lanes are not adjacent to the majority of environmental justice TSZs, but future proposed toll roads and managed lane facilities would be built closer to environmental justice populations.

Results from the performance reports conducted for the MPA showed an increased in roadway speed and an improvement in LOS for the majority of the roadway classifications in the Build scenario in comparison to the No Build scenario. The Build scenario for the MPA would create a cumulative improvement for roadway conditions throughout the NCTCOG region by increasing roadway speed and improving the LOS on the roadway network.

Although environmental justice populations would see an increase in spending for toll facilities, the entire MPA region would also see an increase in spending and usage as the toll road and

managed lane system expands. The majority of environmental justice populations were identified by the NCTCOG travel demand model to potentially make trips along existing and future toll facilities. In addition, for populations (including environmental justice populations) who would opt to use non-toll options, the Build scenario for 2030 (which includes all proposed toll facilities and managed lanes) would provide a roadway network that would operate at better traffic conditions (greater speeds and an improved LOS) than the No Build scenario and would provide an increased benefit for these users over the No Build scenario.

Based on the previous discussion and analysis, the Build scenario for the NCTCOG MPA would not cause cumulative disproportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898 regarding environmental justice.

As discussed, the analysis does not show any disproportionately high and adverse impacts to environmental justice populations; therefore, no project-specific mitigation measures are appropriate for cumulative impacts in this document. However, NCTCOG will continue its efforts to work with all communities in the planning process to identify transportation challenges and explore and develop the appropriate strategies to respond to the issues. Examples include programs and projects to improve availability and accessibility to alternate transportation options including discounted transit fares and tolls, HOV discounts on toll roads and managed lanes, better accessibility to regional transportation systems, and community level congestion management. Specific strategies and projects will be developed through discussions with local governments and community representatives.

6.2.8.3 Air Quality

The NCTCOG serves as the MPO for the Dallas-Fort Worth area. It serves a 16-county metropolitan region centered on Dallas and Fort Worth. Since the early 1970s, MPOs have had the responsibility of developing and maintaining a MTP. The MTP is federally mandated; it serves to identify transportation needs; and guides federal, state, and local transportation expenditures.

ISTEA strengthened the role of the MTP and made it the central mechanism for the decision-making process regarding transportation investments. The passage of the TEA-21 in 1998 continued this emphasis. SAFETEA-LU was signed into law on August 10, 2005. SAFETEA-LU addresses the challenges on our transportation system such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment. Both SAFETEA-LU and the CAA impose certain requirements on an urbanized area's long-range transportation plan.

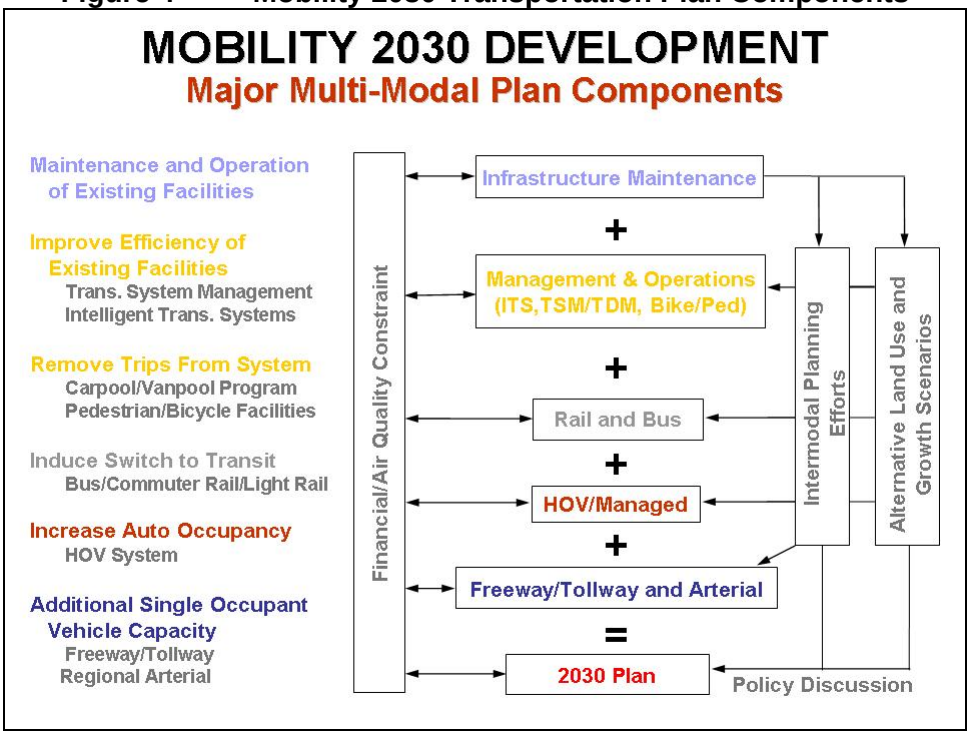
Transportation plans such as *Mobility 2030*, according to SAFETEA-LU metropolitan planning regulations, must be "fiscally constrained," that is, based on reasonable assumptions about future transportation funding levels. Because the Dallas-Fort Worth area is designated as a non-attainment area for the eight-hour ozone standard, the CAA require the transportation plan to be in conformity with the SIP for air quality to demonstrate that projects in the MTP meet air quality goals. *Mobility 2030* specifically addresses regional ozone in addition to its studies of general regional air quality and the final result showed that the regional roadway network (including toll roads and managed lanes) would show a decrease in nitrogen oxides and emissions of volatile organic compounds.

Transportation conformity is a process which ensures federal funding and approval goes to transportation activities that are consistent with air quality goals. Transportation activities that do not conform to state air quality plans cannot be approved or funded.

The CAA established specific criteria which must be met for air quality non-attainment areas. The criteria are based on the severity of the air pollution problem. Transportation conformity is a CAA requirement that calls for the EPA, USDOT, and various regional, state, and local government agencies to integrate air quality and transportation planning development processes. Transportation conformity supports the development of transportation plans, programs, and projects that enable areas to meet and maintain national air quality standards for ozone, PM, and CO, which impact human health and the environment. Through the SIP, the air quality planning process ties transportation planning to the conformity provisions of the CAA. This ensures that transportation investments are consistent with state and local air quality objectives. The NCTCOG is responsible for the conformity analysis in the Dallas-Fort Worth area. If the criteria are not met, EPA can then impose sanctions on all or part of the state. Sanctions include stricter industrial controls and the withholding of federal highway and transit funds.

The EPA has designated a nine-county non-attainment area for the eight-hour ozone NAAQS which includes Dallas, Collin, Denton, Rockwall, Kaufman, Ellis, Johnson, Tarrant, and Parker Counties. The Dallas-Fort Worth area is in attainment for all other NAAQS. In accordance with the metropolitan planning regulations, *Mobility 2030* must include a Congestion Management Process (CMP) to systematically address congestion. The evaluation of additional transportation system improvements beyond the committed system began with a detailed assessment of transportation improvements that would not require building additional facilities for SOV. Various improvements/modes including congestion management strategies, bicycle and pedestrian facilities, rail facilities, HOV lanes, managed lanes, and toll road facilities were investigated prior to determining the need for additional freeway capacity improvements. Figure 4 shows the implementation of these resources and how they are integrated into the MTP.

Figure 4 Mobility 2030 Transportation Plan Components



Source: *Mobility 2030*

Dallas-Fort Worth Regional Transportation Model (DFWRTM) travel model throughout the MTP development process. This information guided development of the system alternatives and indicated the impact of various improvements. The improvements recommended in *Mobility 2030* include regional congestion management strategies, bicycle and pedestrian facilities, managed/HOV lanes, light/commuter rail and bus transit improvements, ITS technology, freeway and tollway lanes, and improvements to the regional arterial and local thoroughfare system such as intersection improvements and signal timing. Because *Mobility 2030* is financially and air quality constrained, other more cost effective methods are reviewed before SOV lanes (freeways and toll roads) are added into the roadway system. ITS, mass transit, and managed/HOV lanes are ways to meet regional transportation demands under the financially constrained MTP while improving regional air quality.

The additional introduction of priced facilities into the existing roadway network would not cause any cumulative impacts to air quality. The regional priced facility system would provide additional travel capacity to the roadway network which would allow a greater flow of traffic throughout the region, decreasing the amount of cars traveling at lower speeds or idling conditions. Fuel emission changes would result in a lower emission of MSAT, CO, and ozone from the congestion reduction, EPA's vehicle and fuel regulations, and fleet turnover despite an increase of traffic from latent demand for the transportation system.

6.2.8.4 Water Quality

Direct impacts to water quality were addressed in the 2004 FEIS and earlier in this document. Water quality is regulated on the state level by TCEQ. TCEQ monitors all major water bodies (rivers, lakes and streams) and reports the conditions of these streams in a biennial Texas Water Body Inventory report. Section 303(d) of this report details those water bodies TCEQ has identified as impaired due to water contamination.

The 303(d) list identifies five major water systems as impaired with pollutants and bacteria in the MPA. These major water bodies are the Upper Trinity River, the West Fork Trinity River, the East Fork Trinity River, the Elm Fork Trinity River, and the Clear Fork Trinity River. The construction of the proposed priced facility system would cross and impact these water bodies at multiple locations and could cause water quality impacts.

As stated previously, TCEQ regulates water quality through SW3P, Municipal Separate Storm Sewer System (MS4), and BMPs. All construction of these priced facilities would follow these water quality permits that would prevent further pollution to these impaired waters and to waters that are not impaired. Additionally any indirect land use development that would occur from the construction of these facilities would follow TCEQ's regulations for water quality through SW3P and MS4. Therefore, the regional priced facility network would not have a cumulative impact to water quality.

6.2.8.5 Waters of the U.S.

Direct impacts to waters of the U.S. were addressed in the 2004 FEIS. The USACE regulates waters of the U.S. in the State of Texas. The MPA is under the jurisdiction of the Fort Worth District of the USACE. Fill of any jurisdictional waters of the U.S. is required to be permitted through the USACE.

While the USACE has specific guidelines for identifying waters of the U.S., several methods exist to preliminary identify these waters. U.S. Geological Survey (USGS) topography maps and TCEQ's Water Quality Inventory database provides information for the location of larger rivers and streams that would fall under the USACE jurisdiction. The National Wetlands

Inventory maps created and maintained by the USFWS attempts to identify potential wetlands through the use of infrared aerial photography (Digital Ortho Quarter Quads). The current status for the National Wetland Inventory maps for the MPA consist digital formats and hard copy formats; some areas are currently not mapped.

Although this data is incomplete, it only serves as a background for the identification of waters of the U.S. Government and private developments must permit any fill into waters of the U.S. and the identification of these waters of the U.S. is completed at the project level with field surveys.

From the available data, the regional priced facility system would impact and cause fill to waters of the U.S., both streams and potential wetlands. These roadway projects would be required to comply with permitting and mitigation for the fill of these waters of the U.S. Any land use change or development that would occur from this regional priced facility system would also be required to permit and mitigation for fill and loss of waters of the U.S.

Through the permitting and mitigation process the USACE has implemented a “no net loss” policy for permanent impacts to wetlands and waters of the U.S. This ensures that loss of these waters would require mitigation that is equal or greater than the loss. Because the USACE would regulate and require mitigation for loss of these waters of the U.S., the priced facility network would not cause a cumulative impact to waters of the U.S.

6.2.8.6 Vegetation

Direct impacts to vegetation were addressed in the 2004 FEIS. An inventory of regional vegetation is not available for the MPA. General vegetation descriptions identifying regions and ecological areas are available from many resources. These resources (e.g. the *Vegetation Types of Texas*, etc.) vary in description of areas of regions and do not update their descriptions from the original publications. Project specific vegetation descriptions are the best method to map the vegetation that would be affected by a project.

Currently, the MPA lies in the Blackland and Cross Timbers prairies ecological regions identified by TPWD. The construction of most of the proposed priced facility system would occur in areas already developed and contain urban type vegetation. The projects outside the urban areas could impact natural vegetation and the changes in land use and development that may be caused by these facilities would impact vegetation surrounding these projects.

The NCTCOG does not address impacts to vegetation or mitigation for loss of vegetation in the MTP. TxDOT districts can mitigate for loss of vegetation based on the MOU and MOA with TPWD, which focuses on special habitat types of wildlife and protected species. Wetlands are under the jurisdiction of the USACE and mitigation for the loss of these wetlands (which includes the vegetation) would occur through the permitting process. The USFWS can regulate and require mitigation for loss of vegetation that is designated habitat for a threatened or endangered species. Finally, cities can implement ordinances to protect trees, natural land, or open green spaces.

Although impacts to vegetation would occur from the priced facility system, these impacts would be regulated at the project level for each individual roadway project. Because of this project mitigation, there would be no cumulative impacts to vegetation from the priced facility system.

6.2.8.7 Regional Cumulative Toll and Managed/HOV System Conclusion

The regional priced facility system would cause minor impacts to some of the identified resources in this section. Regional mitigation for some of these resources is addressed by the NCTCOG. As part of *Mobility 2030*, NCTCOG address two issues related to air quality and environmental justice populations. The Transportation Planning Process, at a regional level, provides ways to minimize for any potential impacts that could occur. The priced facility projects would be included in the STIP/TIP and MTP, and the STIP/TIP and MTP would conform to the SIP. This assurance addresses each project is in compliance with the TIP/STIP and the MTP for air quality under the CAA and environmental justice under Title VI of the Civil Rights Act of 1964 and Executive Order 12898.

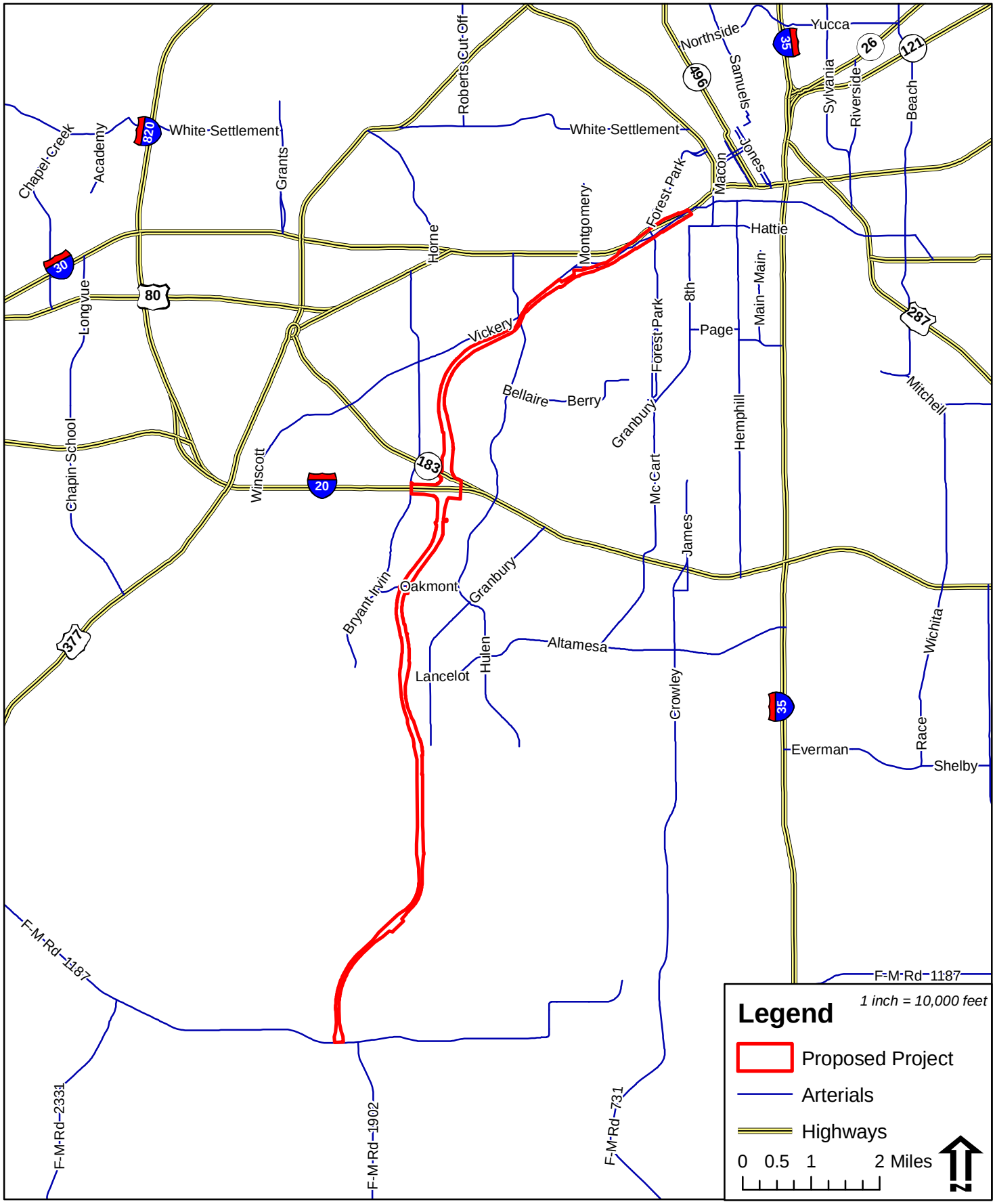
Land use impacts cannot be mitigated at a regional level, but at a municipality level because these entities have direct control over land use. These municipalities would work with NCTCOG to address regional infrastructure changes in their comprehensive plans. State and federal regulatory agencies that have direct jurisdiction over natural and cultural resources would be responsible for requiring avoidance, minimization, and mitigation from any entity whose proposed project (transportation or other type) has a direct impact to any of these resources on their project.

Finally as required by NEPA, mitigation for impacts would occur at the project level. Because of these potential mitigation measures, the regional proposed priced facility system would not have a cumulative impact to these resources.

7.0 CONCLUSION

Since the time of the last environmental documentation for this project, there have been no changes in right-of-way requirements and only minor changes in design. A public meeting has been held to inform the public about the proposed electronic tolling of SH 121, the shift of the Edwards Ranch Road interchange, and at-grade change to Risinger Road interchange (see Section 4.6). There have been no changes that have resulted in substantial social, economic, or environmental consequences not previously addressed. This document indicates the project modifications assessed in this re-evaluation (full electronic tolling of the proposed facility) would not result in impacts substantially different than those documented in the October 2004 FEIS and the findings of the June 2005 ROD. No further environmental documentation is required.

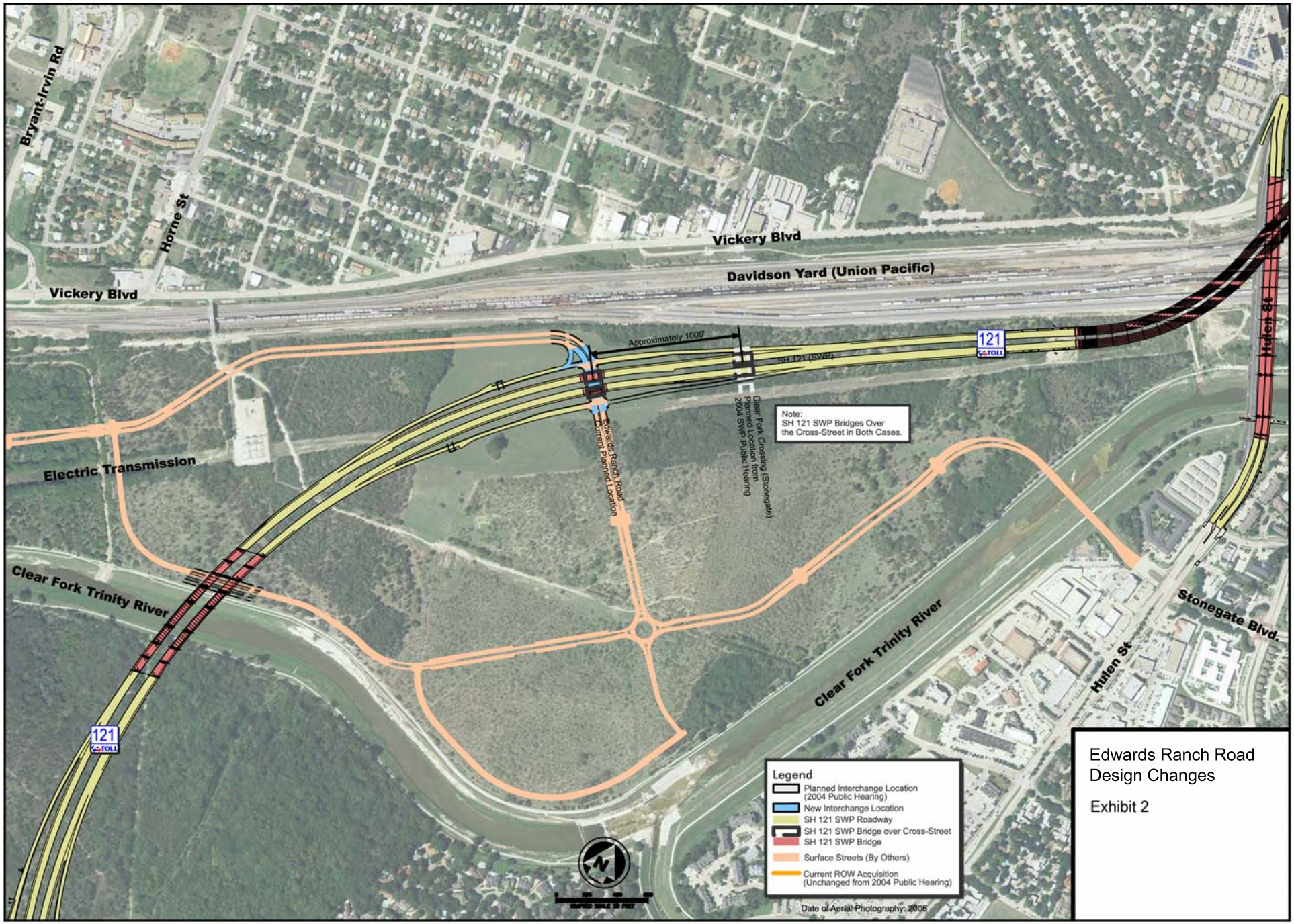
Appendix A
Project Exhibits



Texas Department of Transportation

SH 121
From IH 30 to FM 1187
Tarrant County
CSJs 0504-02-008 and 0504-02-013

Project Location
Exhibit 1



Edwards Ranch Road
Design Changes

Exhibit 2

DISTRICT	COUNTY	CSJ	HWY	LET DATE	PHASE	CITY	MPO PROJ ID	YOE COST
FORT WORTH	TARRANT	0364-01-113	SH 121	06/2009	C,E,R	GRAPEVINE		$157,405,041

LIMITS FROM: IH 635
LIMITS TO: SH 114
TIP DESCRIPTION: RECONST FREEWAY 4 LANE TO 8/10 LNS W/ AUX LNS, COLLECTOR FACILITY (9) & INTERCHANGE WITH SH 114/INTL PKWY; FR W/ AUX LNS
REMARKS: CDA PARTNER IS THE SOURCE OF THE LOCAL CONTRIBUTION

REV DATE: 09/2007
GROUPED PROJECT CSJ: N/A
FUNDING CATEGORY: 2,12,LC
MTP REFERENCE: FT1 1715

Total Project Cost Information:

Preliminary Engineering:	$6,508,681
Right Of Way:	$23,175,000
Construction:	$127,721,360
Construction Engineering:	$5,313,209
Contingencies:	$7,969,813
Indirects:	$6,508,681
Bond Financing:	$0
Total Project Cost (YOE):	**$177,196,742**

Cost of Approved Phases: **$157,405,041**

Authorized Funding by Category:

Category 2:	$36,684,595
Category 12:	$86,124,405
Local Contribution:	$4,912,360
State PE/ROW:	$29,683,681
Total Category Funding:	**$157,405,041**

Authorized Funding by Share:

Federal Funds:	$98,247,200
State Funds:	$54,245,481
Local Funds:	$0
Local Contribution:	$4,912,360
Total Funding:	**$157,405,041**

***State Paying for PE and/or ROW Costs**

FORT WORTH	TARRANT	0504-02-008	SH 121	08/2009	C,E	FORT WORTH	11250	$1,075,000,000

LIMITS FROM: IH 30
LIMITS TO: ALTA MESA BLVD
TIP DESCRIPTION: CONSTRUCT NEW LOCATION 6 LANE TOLLWAY WITH INTERCHANGES AT IH 30 AND IH 20
REMARKS: NTTA IS THE SOURCE OF THE LOCAL CONTRIBUTION; INCREASE FUNDING

REV DATE: 11/2008
GROUPED PROJECT CSJ: N/A
FUNDING CATEGORY: 2,7,LC
MTP REFERENCE: FT1 1530, FT1 1535, IN1 15301, IN1 10151, FR 1530

Total Project Cost Information:

Preliminary Engineering:	$28,384,720
Right Of Way:	$0
Construction:	$1,046,615,280
Construction Engineering:	$23,171,200
Contingencies:	$34,742,947
Indirects:	$28,384,720
Bond Financing:	$0
Total Project Cost (YOE):	**$1,161,298,867**

Cost of Approved Phases: **$1,075,000,000**

Authorized Funding by Category:

Category 2:	$149,270,000
Category 7:	$10,000,000
Local Contribution:	$915,730,000
Total Category Funding:	**$1,075,000,000**

Authorized Funding by Share:

Federal Funds:	$127,416,000
State Funds:	$0
Local Funds:	$31,854,000
Local Contribution:	$915,730,000
Total Funding:	**$1,075,000,000**

FORT WORTH	TARRANT	0504-02-013	SH 121	06/2009	C,E,R	FORT WORTH		$148,000,000

LIMITS FROM: ALTA MESA BLVD
LIMITS TO: FM 1187
TIP DESCRIPTION: CONSTRUCT 4 LANE TOLLWAY ON NEW LOCATION
REMARKS: NTTA IS THE SOURCE OF THE LOCAL CONTRIBUTION; INCREASE FUNDING

REV DATE: 11/2008
GROUPED PROJECT CSJ: N/A
FUNDING CATEGORY: 2,LC
MTP REFERENCE: FT1 1537

Total Project Cost Information:

Preliminary Engineering:	$4,081,053
Right Of Way:	$15,174,608
Construction:	$128,744,339
Construction Engineering:	$3,331,472
Contingencies:	$4,997,208
Indirects:	$4,081,053
Bond Financing:	$0
Total Project Cost (YOE):	**$160,409,733**

Cost of Approved Phases: **$148,000,000**

Authorized Funding by Category:

Category 2:	$30,840,000
Local Contribution:	$112,250,425
State PE/ROW:	$4,909,575
Total Category Funding:	**$148,000,000**

Authorized Funding by Share:

Federal Funds:	$24,672,000
State Funds:	$11,077,575
Local Funds:	$0
Local Contribution:	$112,250,425
Total Funding:	**$148,000,000**

***State Paying for PE and/or ROW Costs**

FORT WORTH	TARRANT	0902-00-113	VA	08/2009	C	VARIOUS	11613	$3,847,950

LIMITS FROM: REGIONAL GOODS MOVEMENT/OUTER LOOP STUDY
LIMITS TO:
TIP DESCRIPTION:
REMARKS:

REV DATE: 09/2007
GROUPED PROJECT CSJ: N/A
FUNDING CATEGORY: 7
MTP REFERENCE: GM1320

Total Project Cost Information:

Preliminary Engineering:	$0
Right Of Way:	$0
Construction:	$3,847,950
Construction Engineering:	$0
Contingencies:	$0
Indirects:	$0
Bond Financing:	$0
Total Project Cost (YOE):	**$3,847,950**

Cost of Approved Phases: **$3,847,950**

Authorized Funding by Category:

Category 7:	$3,847,950
Total Category Funding:	**$3,847,950**

Authorized Funding by Share:

Federal Funds:	$3,078,360
State Funds:	$739,590
Local Funds:	$30,000
Local Contribution:	$0
Total Funding:	**$3,847,950**

Exhibit 3
STIP and MTP Listings

PHASE: C=CONSTRUCTION, E = ENGINEERING, R = ROW, T = TRANSFER

DALLAS-FORT WORTH MPO
FY 2008-2011 TRANSPORTATION IMPROVEMENT PROGRAM
FORT WORTH DISTRICT PROJECTS
FY 2009

DISTRICT	COUNTY	CSJ	HWY	LET DATE	PHASE	CITY	MPO PROJ ID	YOE COST
FORT WORTH	TARRANT	0504-02-991	SH 121	06/2009	C	FORT WORTH	11250.2	**$225,006,889**

LIMITS FROM: AT IH 20 & SH 183
LIMITS TO:
TIP DESCRIPTION: PHASE CONSTRUCT INTERCHANGE AT IH 20 & SH 183

REV DATE: 03/2009
GROUPED PROJECT CSJ: N/A
FUNDING CATEGORY: 2,7,10
MTP REFERENCE: IN1 15301

REMARKS: SPLIT FROM 0504-02-008; ADD $133,906,889 TOTAL (ARRA) FUNDS

Total Project Cost Information:

		Cost of Approved Phases:
Preliminary Engineering:	$14,700,000	
Right Of Way:	$0	
Construction:	$225,006,889	**$225,006,889**
Construction Engineering:	$12,000,000	
Contingencies:	$18,000,000	
Indirects:	$16,500,000	
Bond Financing:	$0	
Total Project Cost (YOE):	**$286,206,889**	

Authorized Funding by Category:

Category 2:	$81,100,000
Category 10:	$133,906,889
Category 7:	$10,000,000
Total Category Funding:	**$225,006,889**

Authorized Funding by Share:

Federal Funds:	$206,786,889
State Funds:	$18,220,000
Local Funds:	$0
Local Contribution:	$0
Total Funding:	**$225,006,889**

FY 2009 Total YOE Cost of Approved Phases:	**$1,722,976,313**
FY 2009 Total Authorized Funding by Share:	**$1,722,976,313**
FY 2009 Total Authorized Funding by Category:	**$1,722,976,313**

PHASE: C=CONSTRUCTION, E = ENGINEERING, R = ROW, T = TRANSFER

41. SH 121 – Southwest Parkway/Chisholm Trail Parkway

Highway Segments: FT1015, FT1017, FT1530, FT1535, FT1537, FT1540

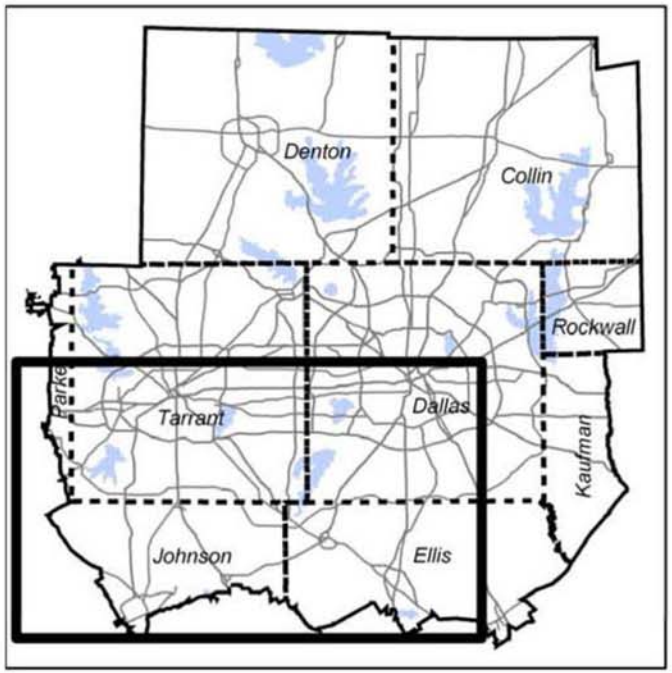
GENERAL DESCRIPTION

This long-awaited corridor will be developed by the North Texas Tollway Authority (NTTA) as a controlled-access toll facility between IH 30 near the Fort Worth Central Business District and US 67 in Cleburne. Designed as an extension of SH 121, the corridor will accommodate 6 general purpose toll lanes between IH 30 and Altamesa Boulevard and 4 general purpose toll lanes between Altamesa Boulevard and US 67. NTTA will be the responsible agency for this portion of this project.

The northern segment of the SH 121 corridor will feature construction of major interchanges with direct connector ramps at IH 30 and at IH 20/SH 183. Intermediate access points will be constructed at the following locations: (1) Forest Park Drive; (2) University Drive; (3) Montgomery Street/Rosedale Street; (4) Stonegate Drive; (5) Arborlawn Drive; (6) Overton Ridge Boulevard; (7) Oakmont Boulevard; and (8) Altamesa Boulevard. This segment will also feature frontage roads between Arborlawn Drive and Overton Ridge Boulevard (southbound only between Arborlawn Drive and SH 183).

The southern segment of SH 121 will feature construction of a major interchange with direct connector ramps at US 67, the facility's southern terminus. Intermediate access points will be constructed at the following locations: (1) Sycamore School Road;

Overview Map



Detail Map

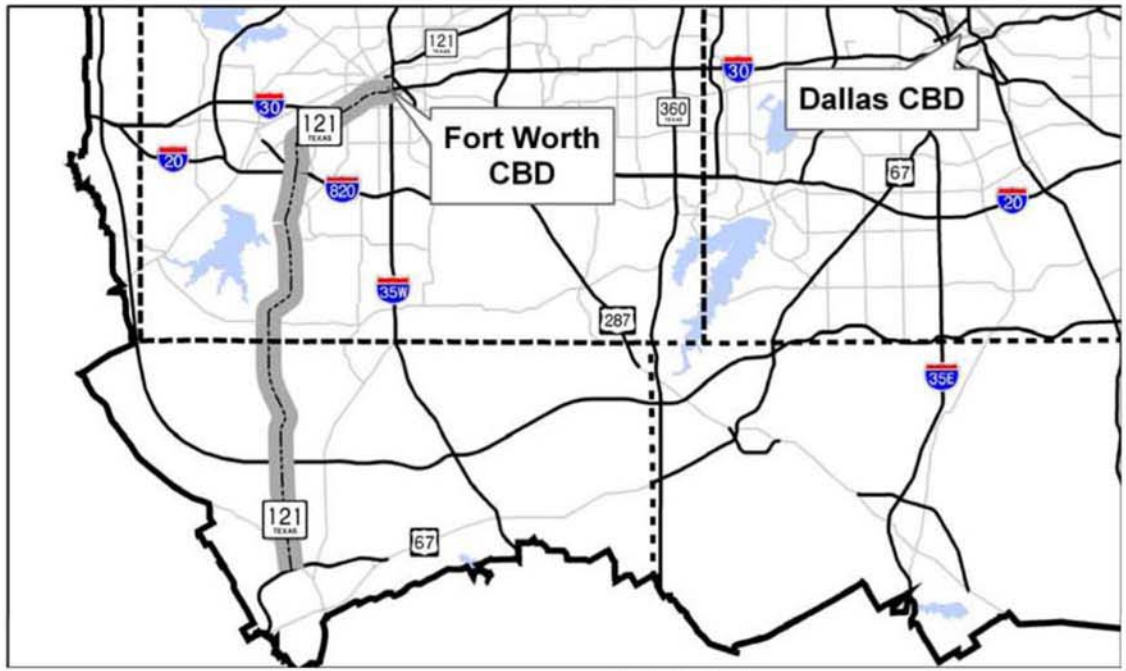


Exhibit 3
STIP and MTP Listings

(2) McPherson Boulevard; (3) FM 1187; (4) CR 920; (5) FM 1902; (6) CR 913; (7) FM 917; (8) CR 904; (9) Sparks Road; and (10) CR 1125. The connection to FM 917 will be upgraded to a major interchange upon construction of the Dallas-Fort Worth Regional Outer Loop, a portion of which is proposed to generally follow the FM 917 alignment through Johnson County.

The project will also include improvements to a section of IH 30 from SH 121 to IH 35W, just south of the Fort Worth Central Business District. These improvements will increase capacity of IH 30 to 8 general purpose lanes between SH 121 and Henderson Street, and 10 general purpose lanes between Henderson Street and IH 35W. This additional capacity will improve the ability for SH 121 traffic to travel through the Fort Worth "Mixmaster." The Texas Department of Transportation – Fort Worth District will be the responsible agency for the IH 30 portion of this project between IH 35W and the IH 30/SH121 interchange. All improvements are expected to be completed by 2015.

TxDOT CSJ#: 0504-05-008; 0504-02-013; 0504-04-001; 0504-05-001
Estimated Total Project Cost: **$1.6485 billion**

RECOMMENDED IMPROVEMENTS

SH 121/Southwest Parkway			
Highway Segments	Limits	Project Description	Cost
FT1530	IH 30 to IH 20	6 general purpose toll lanes (plus auxiliary lanes). Northbound frontage road between Overton Ridge Boulevard and SH 183. Southbound frontage road between Arborlawn Drive and Overton Ridge Boulevard.	$935 million
FT1535	IH 20 to Altamesa Boulevard	6 general purpose toll lanes (plus auxiliary lanes).	
FT1537	Altamesa Boulevard to FM 1187	4 general purpose toll lanes.	$698 million
FT1540	FM 1187 to US 67	4 general purpose toll lanes.	
IH 30			
Highway Segments	Limits	Project Description	Cost
FT1015, FT1017	SH 121 to IH 35W	8 general purpose lanes – SH 121 to Henderson Street. 10 general purpose lanes – Henderson Street to IH 35W	$15.5 million

Exhibit 3
STIP and MTP Listings

62. Interchange Projects

GENERAL DESCRIPTION

This fact sheet contains proposed freeway and toll road interchange projects throughout the Dallas-Fort Worth Metropolitan Area. The projects listed in the table below are anticipated high priority interchange improvements that are either independent projects or "break-out" projects to be built in advance of major corridor improvements. However, all interchanges listed below are designed to accommodate ultimate corridor recommendations.

The Texas Department of Transportation (TxDOT) – Dallas District is the responsible agency for 41 of the proposed interchange projects below. Projects within the Dallas District to be built under cooperation with the North Texas Tollway Authority (NTTA) are also indicated.

The TxDOT – Fort Worth District is the responsible agency for 15 of the proposed interchange projects below. Projects within the Fort Worth District to be built under cooperation with NTTA are also indicated.

The tables below are not intended to be comprehensive listings of interchange projects. Due to unforeseen programming issues or various project development circumstances, other interchange projects within corridors described in previous fact sheets could be developed. As those projects are advanced toward implementation, their corridor segment identifiers will be referenced.

RECOMMENDED IMPROVEMENTS

TxDOT – Dallas District				
Highway Segments	Project Description	Limits		Description
		From	To	
IN1 14901	Dallas North Tollway	SH 121 (full interchange)	PHASE II	New interchange (NTTA)
IN1 16121	IH 20	Falcon's Lair		New interchange
IN1 10703	IH 30	Hickory Hill		New interchange
IN1 10702	IH 30	FM 551		Reconstruct
IN1 10701	IH 30	SH 205	FM 549 (includes SH 205 bypass)	New interchange
IN1 10651	IH 30	SH 205		Reconstruct
IN1 10631	IH 30	PGBT	Partial interchange	New interchange (NTTA)
IN1 10351	IH 30	Loop 12		Reconstruct
IN1 10352	IH 30	SH 161	Phase I	New interchange
IN1 10301	IH 30	SH 161	Phase II	New interchange
IN1 11751	IH 35E	FM 407		Reconstruct

TxDOT – Dallas District				
Highway Segments	Project Description	Limits		Description
		From	To	
IN1 20451	US 380	SH 289 (Preston Road)		Reconstruct
IN1 16051	US 80	Town East Boulevard		Reconstruct
IN1 16121	US 80	SH 352/Collins Road		Reconstruct
IN1 16151	US 80	FM 548		Reconstruct

TxDOT – Fort Worth District				
Highway Segments	Project Description	Limits		Description
		From	To	
IN1 12501	IH 20	FM 1187/FM 3325		Reconstruct
IN1 12551	IH 20	Walsh Ranch Parkway		New interchange
IN1 10021	IH 30	Academy Boulevard		Reconstruct
IN1 10271	IH 30	Baird Farm Road		New interchange
IN1 10271	IH 30	Center Street		New interchange
IN1 10281	IH 30	SH 360		Reconstruct
IN1 10001	IH 30	Walsh Ranch Parkway		New interchange
IN1 16701	IH 35W	IH 820 NE		Reconstruct
IN1 16251	IH 820	SH 121/Trinity Boulevard		Reconstruct
IN1 16651	IH 820	SH 199		Reconstruct
IN1 18001	Outer Loop/TTC-35	All major cross streets		New interchange
IN1 15301	SH 121 (Southwest Parkway)	IH 20/SH 183		New interchange (NTTA)
IN1 14551	SH 360	Division Street		Reconstruct
IN1 20051	US 287	Lone Star Road		New interchange
IN1 13901	US 287	North Tarrant Parkway/Harmon Road		Reconstruct

MOBILITY 2030 PLAN:
FUNDED ROADWAY RECOMMENDATIONS

Revised 06-01-2007
Source: NCTCOG

TxDOT - Fort Worth District

SEG ID	FACILITY	APPROXIMATE LIMITS[1] FROM	TO	DESCRIPTION	2007 LANES[2]	2009 LANES[2]	2015 LANES[2]	2025 LANES[2]	2030 LANES[2]	STUDY REFERENCE
	SH 121									
FT1 1505	SH 121	TARRANT / DALLAS C/L	FM 2499	New Staged Freeway	4	4	10	10	10	SH 114 / SH 121 MIS/EA
FT1 1507	SH 121	FM 2499	IH 635	Widen	4	4	8 + 7 CD	8 + 7 CD	8 + 7 CD	SH 114 / SH 121 MIS/EA
FT1 1715	SH 121	IH 635	SH 114	Widen	4	4	10 + 9 CD	10 + 9 CD	10 + 9 CD	
FT1 1510	SH 121	SH 114	SH 360	Widen	4	4	6 +7 CD	6 + 7 CD	6 + 7 CD	SH 114 / SH 121 MIS/EA
FT1 1515	SH 121	SH 360	FM 157 / CHEEK-SPARGER ROAD	Existing	6	6	6	6	6	
FT1 1517	SH 121	FM 157 / CHEEK-SPARGER ROAD	SH 183	Widen	4	4	6	6	6	IH 35W / IH 820 / SH 183 CDA
FT1 1520	SH 121 / SH 183	SH 183	IH 820 (NE)	Widen	6	6	6	6	6	IH 35W / IH 820 / SH 183 CDA
FT1 1525	SH 121	IH 820 (E)	MINNIS DR	Reconstruct	6	6	6	8	8	IH 820 EAST MIS-EA
FT1 1526	SH 121	MINNIS DR	BEACH STREET	Existing	6	6	6	6	6	
FT1 1528	SH 121	BEACH STREET	IH 35W	Existing	8	8	8	8	8	
FT1 1530	SH 121 (SW PARKWAY)	IH 30	IH 20	New Tollway	0	0	6	6	6	SH 121 (SW Parkway) MIS-EIS
FT1 1535	SH 121 (SW PARKWAY)	IH 20	ALTAMESA BLVD	New Tollway	0	0	6	6	6	SH 121 (SW Parkway) MIS-EIS
FT1 1537	SH 121 (SW PARKWAY)	ALTAMESA BLVD	FM 1187	New Tollway	0	0	4	4	4	SH 121 (SW Parkway) MIS-EIS
FT1 1540	SH 121 (SW PARKWAY)	FM 1187	US 67 BYPASS	New Tollway	0	0	4	4	4	SH 121 (SW Parkway) MIS-EIS
	SH 121 (HOV/MANAGED LANES)									
HM1 8200	SH 121 / SH 183	SH 183	IH 820 (NE)	Ultimate			3 + 3 2-Way	3 + 3 2-Way	3 + 3 2-Way	IH 35W / IH 820 / SH 183 CDA
HM1 8205	SH 121	IH 820 (E)	HANDLEY-EDERVILLE ROAD (W)	Ultimate			1 NB 1-Way	1 NB 1-Way	1 NB 1-Way	IH 35W / IH 820 / SH 183 CDA
HM1 8155	SH 121	IH 820 (E)	GLENVIEW DRIVE	Ultimate			1 SB - 1-Way	1 SB - 1-Way	1 SB - 1-Way	IH 35W / IH 820 / SH 183 CDA
	SH 170									
FT1 2165	SH 170	SH 199	US 81 / US 287	New Staged Tollway	0	0	0	6	6	
FT1 2170	SH 170	US 81 / US 287	IH 35W	New Staged Tollway	0	0	4	6	6	
FT1 2180	SH 170	IH 35W	SH 114	New Staged Tollway	6 FRTG	6 FRTG	4	4	4	

1 Limits are approximate. Actual limits will be based on environmental approval.
2 Number of lanes excludes auxiliary lanes.
3 Anticipated costs excluding streamlining efforts.

Exhibit 3
STIP and MTP Listings

MOBILITY 2030 PLAN:
FUNDED ROADWAY RECOMMENDATIONS

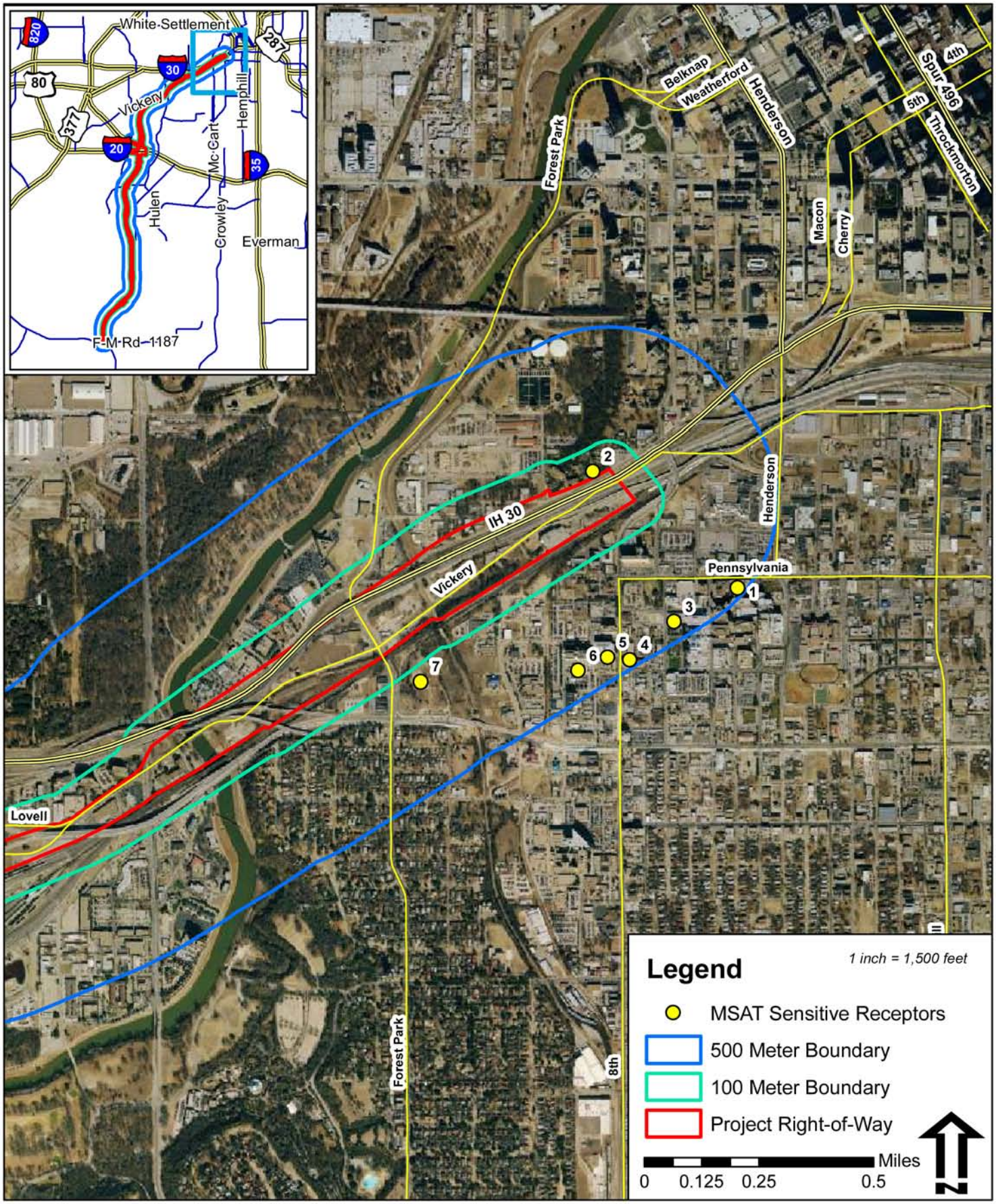
Revised 06-01-2007
Source: NCTCOG

TxDOT - Fort Worth District

SEG ID	FACILITY	APPROXIMATE LIMITS[1] FROM	TO	DESCRIPTION	2007 LANES[2]	2009 LANES[2]	2015 LANES[2]	2025 LANES[2]	2030 LANES[2]	STUDY REFERENCE
	US 287									
FT1 1390	US 287	WISE / TARRANT C/L	IH 35W	Existing	4	4	4	4	4	
FT1 1395	US 287	SPUR 280	IH 30	Existing	6	6	6	6	6	
FT1 1400	US 287	IH 30	BERRY STREET	Existing	6	6	6	6	6	IH 820 SE MIS-EA
FT1 1402	US 287	BERRY STREET	IH 820 (SE)	Existing	6	6	6	6	6	IH 820 SE MIS-EA
FT1 1405	US 287	IH 20	SUBLETT ROAD	Existing	4	4	4	4	4	IH 820 SE MIS-EA
FT1 1407	US 287	SUBLETT ROAD	BROAD STREET	Existing	4	4	4	4	4	
FT1 2000	US 287	BROAD STREET	TARRANT / JOHNSON C/L	Existing	4	4	4	4	4	
FT1 2005	US 287	TARRANT / JOHNSON C/L	JOHNSON / ELLIS C/L	Upgrade to Parkway	4 ART	4 ART	4 ART	4 ART	4 ART	
	US 287 (HOV/MANAGED LANES)									
HM1 8220	US 287	BERRY STREET	IH 820	Ultimate				2 Reversible	2 Reversible	IH 820 SE MIS-EA
HM1 8225	US 287	IH 20	SUBLETT ROAD	Ultimate				1 Reversible	1 Reversible	
	FREEWAY / TOLLWAY INTERCHANGES									
IN1 12501	IH 20	FM 1187 / FM 3325		Reconstruct		X				
IN1 12551	IH 20	WALSH RANCH PARKWAY		New Interchange		X				
IN1 10021	IH 30	ACADEMY BOULEVARD		Reconstruct		X				
IN1 10271	IH 30	BAIRD FARM RD				X				
IN1 10271	IH 30	CENTER STREET		New Interchange		X				
IN1 10281	IH 30	SH 360		Reconstruct				X		SH 360 CIS
IN1 10001	IH 30	WALSH RANCH PARKWAY		New Interchange		X				
IN1 10221	IH 30	WOODHAVEN BOULEVARD		Complete						Construction complete
IN1 11551	IH 35W	HIDDEN CREEK PARKWAY		New Overpass	X					Under construction
IN1 16701	IH 35W	IH 820 NE		Reconstruct			X			
IN1 11301	IH 35W	NORTH TARRANT PARKWAY		Complete						Construction complete (2006)
IN1 16251	IH 820	SH 121/TRINITY BOULEVARD		Reconstruct			X			
IN1 16651	IH 820	SH 199		Reconstruct				X		
IN1 18001	OUTER LOOP / TTC-35	ALL MAJOR CROSS STREETS		New Interchanges				X		
IN1 15301	SH 121	IH 20 / SH 183		Reconstruct			X			
IN1 14551	SH 360	DIVISION STREET		Reconstruct		X				
IN1 14601	SH 360	GREEN OAKS BOULEVARD		New Interchange	X					Under construction
IN1 20001	US 287	HERITAGE PARKWAY		Complete						Construction complete (2006)
IN1 20051	US 287	LONE STAR ROAD		New Interchange		X				
IN1 13901	US 287	NORTH TARRANT PARKWAY / HARMON ROAD		Reconstruct		X				

1 Limits are approximate. Actual limits will be based on environmental approval.
2 Number of lanes excludes auxiliary lanes.
3 Anticipated costs excluding streamlining efforts.

Exhibit 3
STIP and MTP Listings

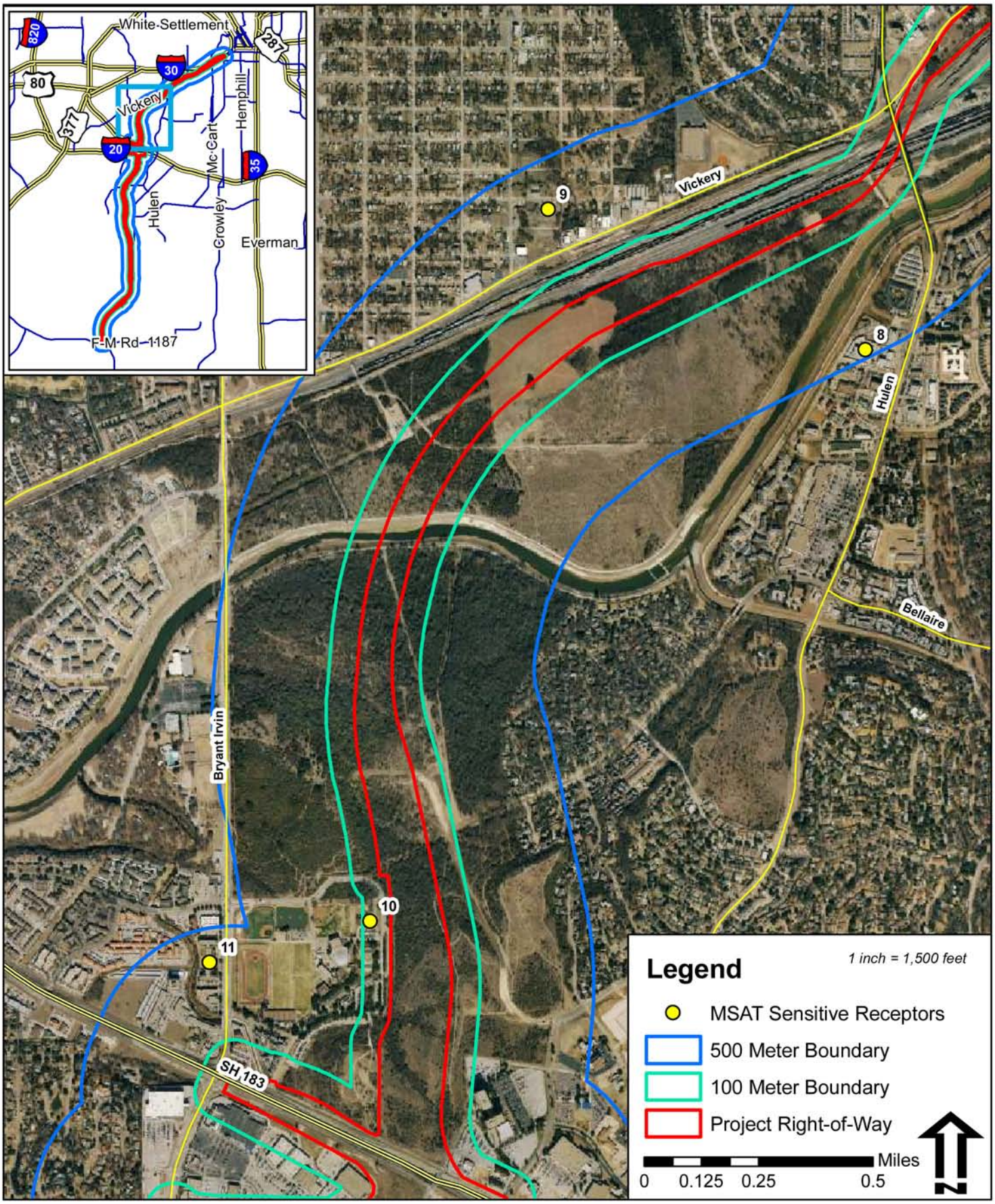


Texas Department of Transportation

SH 121
From IH 30 to FM 1187
Tarrant County
CSJs 0504-02-008 and 0504-02-013

MSAT Sensitive Receptors North

Exhibit 4

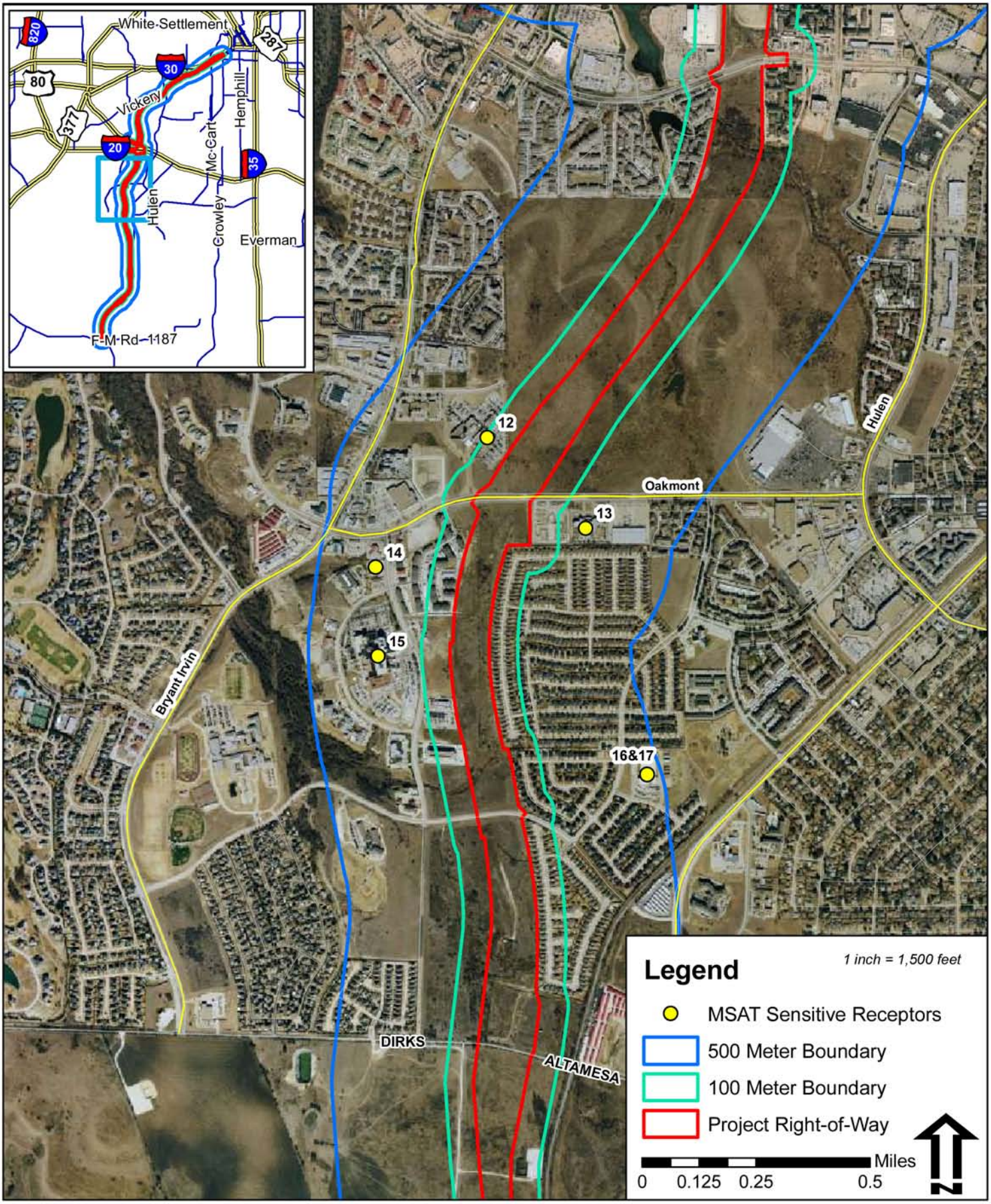


Texas Department of Transportation

SH 121
From IH 30 to FM 1187
Tarrant County
CSJs 0504-02-008 and 0504-02-013

MSAT Sensitive Receptors
North of SH 183

Exhibit 5



Texas Department of Transportation

SH 121
From IH 30 to FM 1187
Tarrant County
CSJs 0504-02-008 and 0504-02-013

MSAT Senstive Receptors
South of IH 20

Exhibit 6

Year 2030 SH-121 Southwest Parkway MSAT Analysis: IH-30 to FM-1187
Build / No-Build Volume Comparison

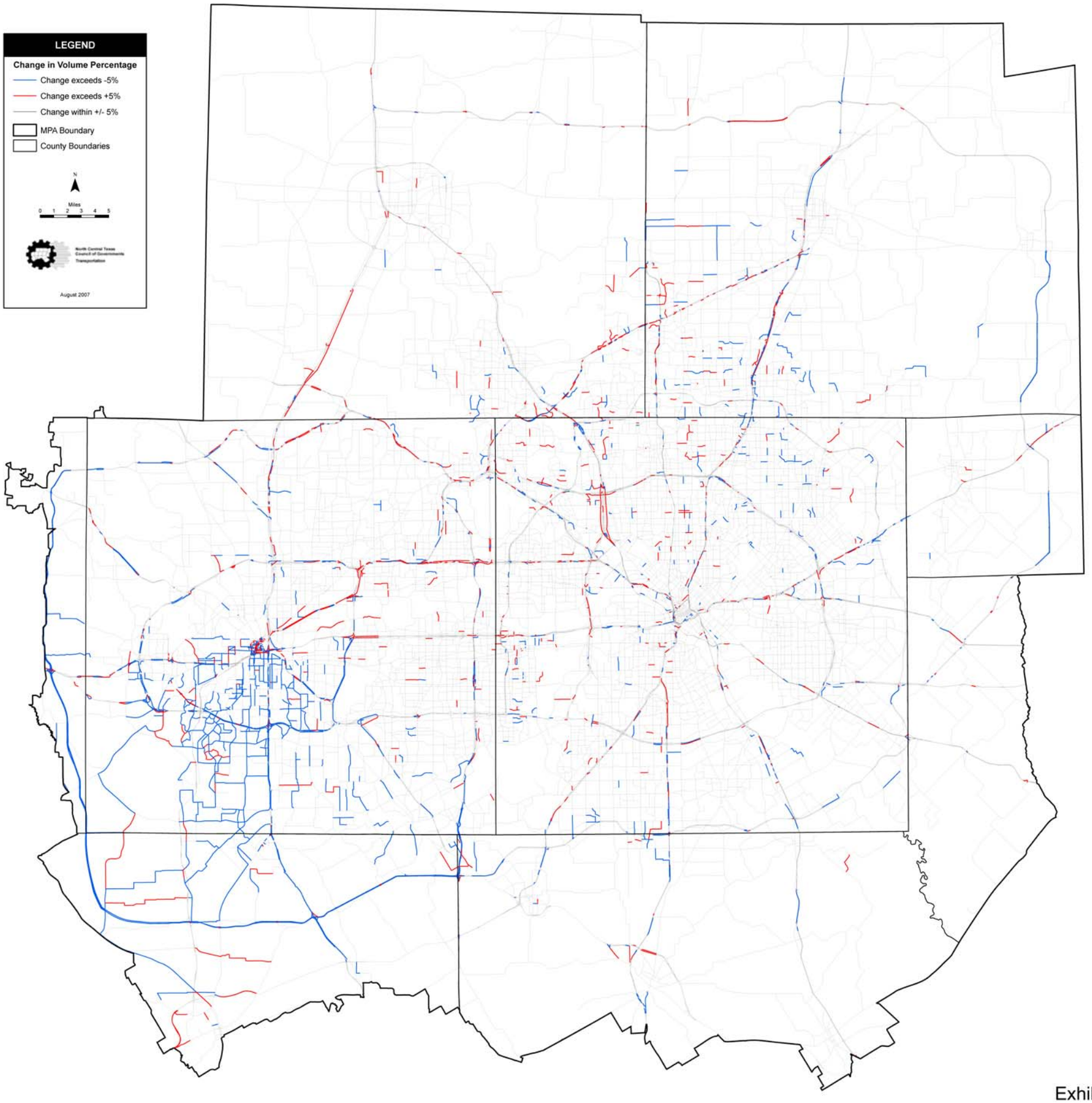
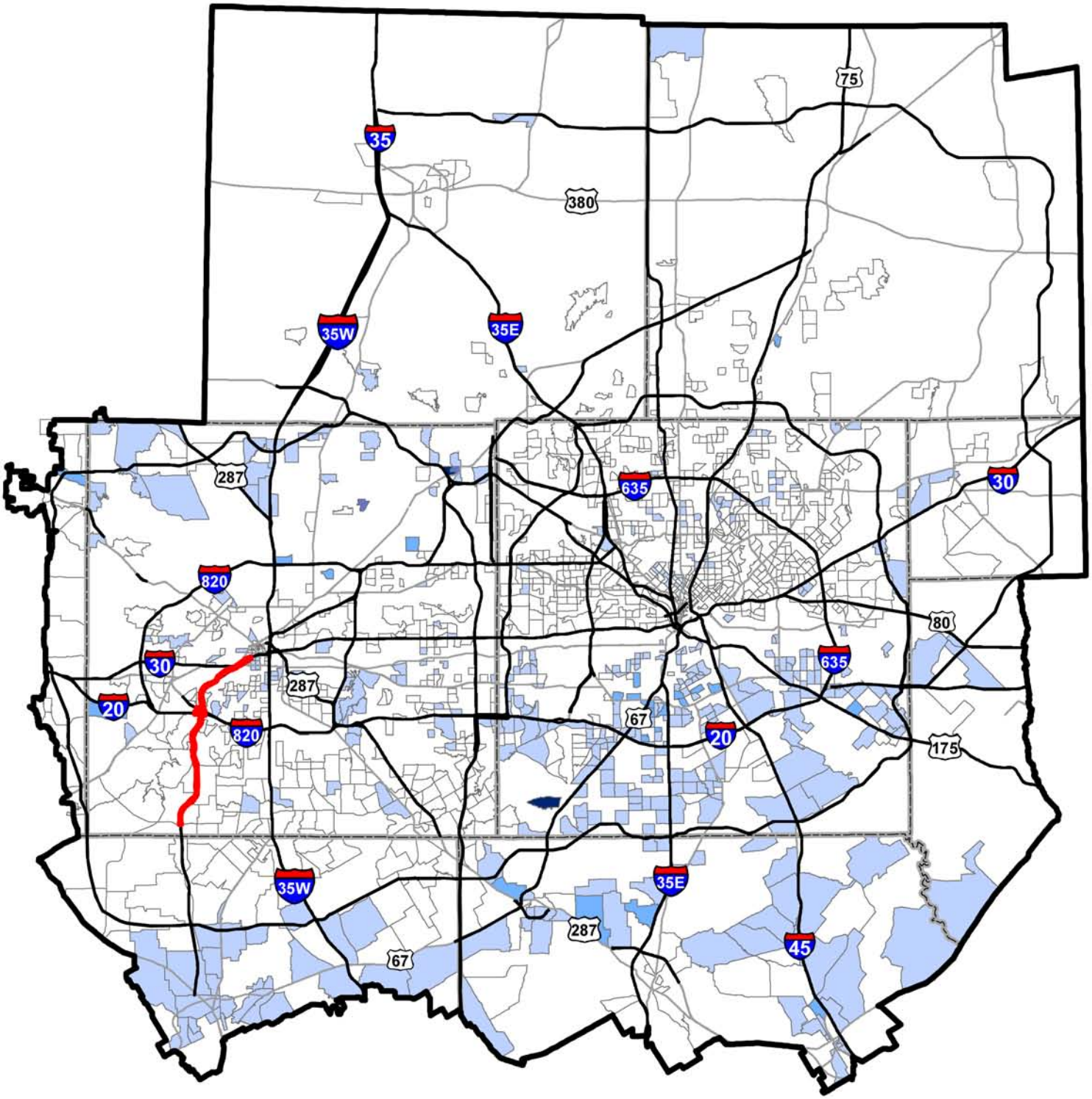


Exhibit 7



Legend

- Mobility 2030 Roadway Network
- Propsed Project
- MPA Boundary
- County Boundaries

Environmental Justice TSZs

Trips

- <1 Trip
- 1-25 Trips (1,658 EJ Trips, 37% of total EJ Trips)
- 26-75 Trips (1,006 EJ Trips, 22% of total EJ Trips)
- 76-150 Trips (221 EJ Trips, 5% of total EJ Trips)
- >150 Trips (1,621 EJ Trips, 36% of total EJ Trips)

0 5 10 20 Miles

N

Texas Department of Transportation

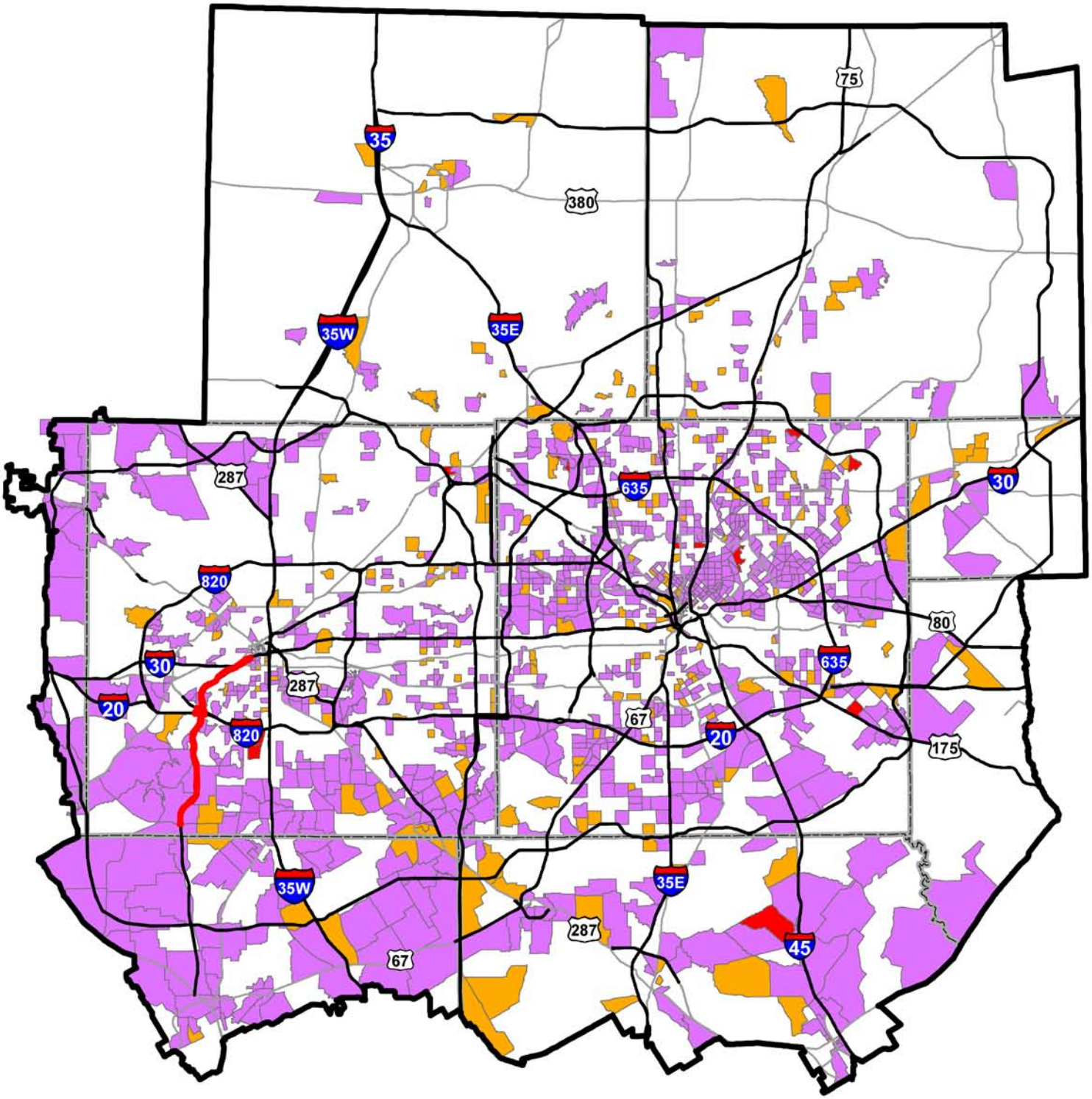
Texas Department of Transportation
Tarrant County

Environmental Justice
Traffic Survey Zones
2030 Daily Trips

SH 121 from IH 30 to FM 1187

Exhibit 8

Date Created: August 2008



Legend

- Mobility 2030 Roadway Network
- Propsed Project
- MPA Boundary
- County Boundaries

Environmental Justice TSZs Generating 1 or more Trips on SH 121

- Low Income >50%
- Minority > 50%
- Minority (<50%) and Low-income (<50%) combined >50%

0 5 10 20 Miles

N

Texas Department of Transportation

Texas Department of Transportation
Tarrant County

Environmental Justice Breakdown
SH 121 Environmental Justice
Traffic Survey Zones Utilization

SH 121 from IH 30 to FM 1187

Exhibit 9

Date Created: August 2008

Exhibit 10

RTR Funding Initiative Projects

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Summary of RTR "New Projects" Recommendations with Inflation
Collin County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
AVAILABLE FUNDING						Account 1: 512,590,000		Account 2: $290,000,000		Projected Interest: 51,259,000				
Reserve Pool	N/A	N/A	To Be Determined	Set aside for cost overruns or RTC-Approved scope changes that result in higher costs	N/A	N/A	$0	$0	$51,259,000	$0	$0	N/A	Yes	Staff recommends using the accrued interest to maintain a reserve pool for cost overruns. ~~Staff recommends maintaining a reserve pool of 10% of Account 1 revenues~~.
Bicycle/ Pedestrian	NPBP011	Allen	Allen	Citywide On Street Bike Signage (Various)	On street bike route system signage	Con	$0	$0	$0	$0	$0	2010	No	Removed per request by Allen & Collin County; Collin County to fund through open space bond program
Bicycle/ Pedestrian	NPBP010	Allen	Allen	Six Cities 3 Southwest section From The Woods Nature Preserve To McDermott Drive	Connection of existing hike/bike trail on McDermott property	Con	$0	$0	$0	$0	$0		No	Removed per request by Allen & Collin County; Collin County to fund through open space bond program
On System	NPON020	Allen	Allen	FM 1378 From Rockridge Road To South of Stacy Road	Reconstruct 2 lane roadway to a 6 lane roadway	Eng	$220,000	$237,952	$190,362	$47,590	$6,967,338	2009	Yes	Account 2
						ROW	$200,000	$224,973	$179,978	$44,995		2010		
						Con	$5,560,000	$6,504,414	$5,203,531	$1,300,883		2011		
On System	NPON043	Allen	Allen	Stacy Road From Angel Parkway To FM 1378	Reconstruct 2 lane roadway to a 4 lane divided roadway	Eng	$390,000	$421,824	$337,459	$84,365	$7,662,054	2009	Yes	Account 1
						ROW	$350,000	$378,560	$302,848	$75,712		2009		
						Con	$6,100,000	$6,861,670	$5,489,336	$1,372,334		2010		
On System	NPON082	TxDOT-Dallas	Allen	US 75 From Legacy To Spur 399	Widen from 6 to 8 lanes and frontage roads from 2 to 3 lanes each	Eng	$6,278,409	$7,344,851	$5,875,880	$1,468,970	$78,842,562	2011	Yes	Account 2
						Con	$56,505,680	$71,497,712	$57,198,169	$14,299,542		2013		
On System	NPON128	TxDOT, DART	Allen, McKinney	US 75 From Exchange Parkway to El Dorado Parkway	Construction of HOV in the median of US 75	Con	$0	$0	$0	$0	$0		No	Removed per request by City of McKinney
On System	NPON093	TxDOT-Dallas	Anna	FM 455 From US 75 Northbound Frontage Road To SH 5	Widen 2 lane rural to 4 lane (ultimate 6 lane) urban roadway	Con	$9,675,993	$10,465,554	$8,372,443	$2,093,111	$10,465,554	2009	Yes	Account 1

Source: North Central Texas Council of Governments, August 2008

RTC Action
August 21, 2008

REFERENCE ITEM 4.1

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Summary of RTR "New Projects" Recommendations with Inflation
Collin County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
On System	NPON084	TxDOT-Dallas	Anna, Melissa	US 75 North From Telephone Road (CR 275) To Outer Loop (CR 366)	Reconstruct mainlanes from 4 to 6 lanes (ultimate 8 lane); reconstruct 2 lane frontage roads; includes widening of SH 121 from US 75 to SH 5 with construction of US 75	Con	$7,243,465	$8,473,830	$6,779,064	$1,694,766		2011	Yes	Partial Funding for Reduced Limits; Stripe to transition correctly; ultimate 8 lanes; SH 121 from US 75 to SH 5 will be widened along with construction of this US 75 portion; Account 1 ($6.7M) and Account 2 ($69.9)
						Con	$74,691,864	$87,378,916	$69,903,133	$17,475,783	$95,852,746	2011		
On System	NPON146	TxDOT-Dallas	Various	US 75 From Outer Loop (CR 366) to Grayson County Line	Engineering for reconstruction of mainlanes from 4 to 6 lanes. Reconstruct 2 lane frontage roads	Eng	$6,250,000	$6,250,000	$5,000,000	$1,250,000	$6,250,000	2011	Yes	Fund engineering phase only; Fixed Funded; Account 2
On System	NPON145	TxDOT - Dallas	Melissa, Anna	SH 5 from SH 121 to FM 455	Engineering for reconstruction of mainlanes	Eng	$2,500,000	$2,500,000	$2,000,000	$500,000	$2,500,000	2009	Yes	Fund engineering phase only; Fixed Funded; Account 1
Intersection Improvement	NPIMP035	Frisco	Frisco	SH 121 From frontage road to Ohio Drive	Design and construct a right turn bay on the South bound frontage road of SH 121 at Ohio Drive	Eng	$40,000	$43,264	$34,611	$8,653		2009	Yes	Account 1
						Env	$7,000	$7,874	$6,299	$1,575		2010		
						Con	$208,000	$243,331	$194,664	$48,666	$294,469	2011		
Intersection Improvement	NPIMP034	Frisco	Frisco	SH 289 (Preston Road) From SH 121 to FM 3537	Add turning bays at intersections; signal improvements, add ADA compliant ramps, and pedestrian signals	Eng	$193,000	$208,749	$166,999	$41,750		2009	Yes	Account 1
						Env	$40,000	$43,264	$34,611	$8,653		2009		
						ROW	$930,000	$1,087,968	$870,375	$217,594		2011		
						Con	$1,968,600	$2,395,103	$1,916,082	$479,021	$3,735,084	2012		
Off System	NPOFF157	Collin County	Various	Outer Loop From Denton County Line to Rockwall County Line	Environmental clearance for construction of Outer Loop	Env	$6,250,000	$6,250,000	$5,000,000	$1,250,000	$6,250,000	2009	Yes	Fund Environmental from Denton County Line to SH 121 and from FM 6 to Rockwall County Line as a 1st Priority; Fixed Funds; Creates a revolving loan fund to environmentally clear projects in Collin County; Collin County's 1st Priority for construction is to fund Outer Loop from US 75 to SH 121; 2nd Priority is Denton County Line to SH 289; 3rd Priority is FM 6 to Rockwall County Line; Account 1

Source: North Central Texas Council of Governments, August 2008

RTC Action
August 21, 2008

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Summary of RTR "New Projects" Recommendations with Inflation
Collin County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Off System	NPOFF141	Collin County	Anna	Outer Loop From US 75 to SH 121	Construct new two lane service road	Con	$15,000,000	$15,000,000	$12,000,000	$3,000,000	$15,000,000	2009	Yes	If private sector participation is secured, construction funds will be returned to Collin County pool; Fixed Funded; Account 1
On System	COON047	TxDOT-Dallas	Frisco	SH 289 From Panther Creek To FM 3537	Reconstruct and widen 2 lane rural highway to 6 lane divided urban	Con	$6,552,000	$7,086,643	$5,669,315	$1,417,329	$7,086,643	2009	Yes	Account 1
On System	COON046	TxDOT-Dallas	Frisco	SH 289 From US 380 To Panther Creek	Reconstruct and widen 2 lane rural highway to 6 lane divided urban	Con	$20,954,400	$22,664,279	$18,131,423	$4,532,856	$22,664,279	2009	Yes	Account 1
On System	NPON046	Collin County	Celina, Prosper	SH 289/ Preston Road From US 380 To Business 289	Widen 2 lane rural to 6 lane urban divided	Eng	$7,000,000	$7,571,200	$6,056,960	$1,514,240		2009	Yes	Account 2
						ROW	$8,400,000	$9,826,812	$7,861,450	$1,965,362		2011		
						Con	$70,000,000	$85,165,703	$68,132,563	$17,033,141	$102,563,715	2012		
On System	NPON089	TxDOT-Dallas	Frisco, Prosper	US 380 from West of CR 26 (Denton County Line) ~~Denton County Line To SH 289~~ ~~County Road 26~~ to East of Dallas North Tollway	~~Construct Interchange at US 380 and DNT~~ Widen 4 to 6 lanes divided; add new 4/6 lane access roads at grade separation; construct grade separation at US 380 and DNT	Eng	$2,574,100	$2,784,147	$2,227,317	$556,829		2009	Yes	Approval contingent upon resolution of consistency with Mobility 2030, Account 1
						Env	$0	$0	$0	$0				
						ROW	$0	$0	$0	$0				
						Util	$0	$0	$0	$0				
						Con	$23,166,900	$31,705,502	$25,364,402	$6,341,100	$34,489,649	2015		
On System	NPON088	TxDOT-Dallas	Frisco, Prosper	US 380 From ~~289 To County Rd 73~~ East of Dallas North Tollway to Coit Road (CR 72/CR 74)	~~Reconstruct US 380 at SH 289 Interchange~~ Widen 4 to 6 lanes divided; add new 4/6 lane access roads at grade separation; construct grade separation at US 380 and SH 289	Con	$57,088,405	$78,129,424	$62,503,539	$15,625,885	$78,129,424	2015	Yes	Approval contingent upon resolution of consistency with Mobility 2030, Account 1
On System	NPON031	TxDOT-Dallas	Lavon	SH 78 From Business 78 To FM 6	Widen 2 Lane Rural to 6 Lane Urban Divided	Con	$10,500,000	$12,774,855	$10,219,884	$2,554,971	$12,774,855	2012	Yes	Account 2

Source: North Central Texas Council of Governments, August 2008

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Summary of RTR "New Projects" Recommendations with Inflation
Collin County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
On System	NPON030	TxDOT-Dallas	Lavon	SH 78 From SH 205 To Business 78	Widen 2 Lane Rural to 6 Lane Divided Urban	Con	$15,100,000	$16,985,446	$13,588,357	$3,397,089	$16,985,446	2010	Yes	Account 2
Intelligent Transportation System	NPIT056	TxDOT Dallas	McKinney	US 75 From Eldorado Parkway To US 380	Extend existing ITS network	Eng	$270,000	$270,000	$216,000	$54,000		2009		
						Util	$200,000	$200,000	$160,000	$40,000		2009		
						Con	$1,800,000	$1,800,000	$1,440,000	$360,000	$2,270,000	2010	Yes	Fixed Funded; Account 1
Intelligent Transportation System	NPIT055	TxDOT Dallas	McKinney	US 75 From Exchange Parkway To Eldorado Parkway	Extend existing ITS network	Eng	$360,000	$360,000	$288,000	$72,000		2009		
						Util	$200,000	$200,000	$160,000	$40,000		2009		
						Con	$2,400,000	$2,400,000	$1,920,000	$480,000	$2,960,000	2010	Yes	Fixed Funded; Account 1
Intersection Improvement	NPIMP044	McKinney	McKinney	McDonald St (SH 5) at Eldorado Parkway/ FM 546; McDonald St (SH 5) at Tennessee St; From 1000 feet in each direction at the intersection at McDonald	Add right turn lanes in each direction at the intersection; and add raised median to the intersection of McDonald Street (SH 5) at Tennessee Street	Eng	$187,110	$202,378	$161,903	$40,476		2009		
						Env	$75,000	$81,120	$64,896	$16,224		2009		
						ROW	$200,000	$224,973	$179,978	$44,995		2010		
						Util	$150,000	$168,730	$134,984	$33,746		2010		
						Con	$1,424,916	$1,666,950	$1,333,560	$333,390	$2,344,151	2011	Yes	Account 1
On System	NPON016	McKinney	McKinney	US 380 From 500 Feet East of Custer Road (FM 2478) To 1,000 Feet East of Lake Forest Drive	Widen existing 5 lane undivided rural arterial to a 6 lane divided cross section	Eng	$1,119,000	$1,210,310	$968,248	$242,062		2009		
						Env	$650,000	$703,040	$562,432	$140,608		2009		
						ROW	$1,400,000	$1,637,802	$1,310,242	$327,560		2011		
						Util	$3,200,000	$3,893,289	$3,114,631	$778,658		2012		
						Con	$15,984,000	$19,446,980	$15,557,584	$3,889,396	$26,891,422	2012	Yes	Account 1
On System	NPON027	McKinney	McKinney	US 380 From Bois D' Arc To 1000 Feet West of Lake Forest Drive	Widen existing 4 lane divided urban arterial to a 6 lane divided cross section	Eng	$385,000	$416,416	$333,133	$83,283		2009		
						Env	$45,000	$48,672	$38,938	$9,734		2009		
						ROW	$225,000	$263,218	$210,575	$52,644		2011		
						Util	$750,000	$912,490	$729,992	$182,498		2012		
						Con	$6,760,000	$8,224,574	$6,579,659	$1,644,915	$9,865,369	2012	Yes	Account 1

Source: North Central Texas Council of Governments, August 2008

RTC Action
August 21, 2008

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Summary of RTR "New Projects" Recommendations with Inflation
Collin County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
On System	NPON081	TxDOT-Dallas	McKinney	US 75 From Spur 399 (SH 121 South) To Wilson Creek	Reconstruct from 4 to 8 lanes; Reconstruct frontage roads from 2 to 3 lanes each	Con	$55,540,631	$62,475,656	$49,980,525	$12,495,131	$62,475,656	2010	Yes	Account 1
On System	NPON085	TxDOT-Dallas	McKinney	US 75 From US 380 To Telephone Rd (CR 275)	Reconstruct from 4 to 8 lanes; Reconstruct frontage roads from 2 to 3 lanes	ROW	$10,900,000	$11,789,440	$9,431,552	$2,357,888	$139,066,362	2009	Yes	Account 1
						Con	$108,796,846	$127,276,922	$101,821,537	$25,455,384		2011		
On System	NPON083	TxDOT-Dallas	McKinney	US 75 From Wilson Creek To US 380	Reconstruct from 4 to 8 lanes; Reconstruct frontage roads from 2 to 3 lanes	Con	$47,814,436	$53,784,738	$43,027,790	$10,756,948	$53,784,738	2010	Yes	Account 1
On System	NPON092	TxDOT-Dallas	Melissa, Anna	SH 121 From SH 5 To ~~Fannin County Line~~ FM 455	Widen 2 lane rural highway to 4 lane divided roadway	Con	$29,375,660	$29,375,660	$23,500,528	$5,875,132	$29,375,660	2010	Yes	Partial Funding for Reduced Limits; SH 121 from US 75 to SH 5 will be widened with construction of US 75; Account 2
On System	NPON092	TxDOT-Dallas	Melissa, Anna	SH 121 From ~~SH 5~~ FM 455 To Fannin County Line	Engineering only for widening of 2 lane rural highway to 4 lane divided roadway	Eng	$6,250,000	$6,250,000	$5,000,000	$1,250,000	$6,250,000	2010	Yes	Fund Phase 1 Only (Partial Fund $5M); Fixed Funded; Account 1
On System	COON051	TxDOT-Dallas	Murphy	FM 2551 (Murphy Rd) From FM 544 To FM 2514	Reconstruct and widen 2 lane rural to 6 lane urban	Con	$19,180,000	$21,574,892	$15,377,288	$6,197,603	$21,574,892	2010	Yes	Account 1
On System	NPON097	TxDOT-Dallas	Parker	FM 2514 From FM 2551 To FM 1378	Widen 2 lane rural to 4 lane (ultimate 6 lane) urban roadway	Con	$15,930,000	$22,673,357	$18,138,686	$4,534,671	$22,673,357	2016	Yes	Account 2
Intersection Improvement	NPIMP010	Plano	Plano	Independence Pkwy from 15th Street to Parker Road	Realign traffic lanes to increase traffic flow, optimize signal timing, add right lanes	Eng	$150,000	$162,240	$129,792	$32,448	$1,771,661	2009	Yes	Account 1
						ROW	$500,000	$540,800	$432,640	$108,160		2009		
						Con	$950,000	$1,068,621	$854,897	$213,724		2010		
Intersection Improvement	NPIMP011	Plano	Plano	Legacy Dr from Custer Road to K Avenue	Add right turn lanes and dual left turn lanes	Eng	$130,000	$146,232	$116,986	$29,246	$1,454,224	2010	Yes	Account 1
						ROW	$50,000	$56,243	$44,995	$11,249		2010		
						Con	$1,070,000	$1,251,749	$1,001,399	$250,350		2011		

Source: North Central Texas Council of Governments, August 2008

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Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Intersection Improvement	NPIMP012	Plano	Plano	Park Boulevard from Coit Road to Jupiter Road	Add dual left lanes, right lanes, remove road hump, maximize left lane lengths	Eng	$200,000	$224,973	$179,978	$44,995		2010	Yes	Account 1
						ROW	$150,000	$175,479	$140,383	$35,096		2011		
						Con	$1,600,000	$1,946,645	$1,557,316	$389,329	$2,347,096	2012		
Intersection Improvement	NPIMP013	Plano	Plano	Parker Road at ~~Preston Road~~ Coit Road, Independence Pkwy and Alma Road	Add dual left lanes	Eng	$175,000	$189,280	$151,424	$37,856		2009	Yes	City of Plano wishes to implement all Preston Road intersection improvements together under NPIMP015; Account 1
						ROW	$100,000	$112,486	$89,989	$22,497		2010		
						Con	$1,225,000	$1,433,077	$1,146,461	$286,615	$1,734,843	2011		
Intersection Improvement	NPIMP015	Plano	Plano	Preston Road ~~from Headquarters to Hedgcoxe~~ at Headquarters Road, Hedgcoxe Road, Spring Creek Pkwy and Parker Road	Add dual left lanes and Ded right lanes	Eng	$200,000	$216,320	$173,056	$43,264		2009	Yes	City of Plano wishes to implement all Preston Road intersection improvements together under NPIMP015; Account 1
						Con	$2,600,000	$3,041,632	$2,433,306	$608,326	$3,257,952	2011		
Intersection Improvement	NPIMP016	Plano	Plano	Spring Creek Parkway ~~from Preston Road to US 75~~ at Independence Pkwy, Custer Road and US 75 (Service Road)	Dual left lanes, Ded right lanes, consolidate split intersections into a normalized intersection	Eng	$260,000	$292,465	$233,972	$58,493		2010	Yes	City of Plano wishes to implement all Preston Road intersection improvements together under NPIMP015; Account 1
						Con	$2,340,000	$2,737,469	$2,189,975	$547,494	$3,029,934	2011		
Off System	NPOFF052	Plano	Plano	14th Street From K Avenue To Ridgewood Drive	Reconstruct existing 4 lane divided and 6 lane divided road sections	Eng	$0	$0	$0	$0		Completed by City	Yes	Account 1
						ROW	$100,000	$108,160	$86,528	$21,632		2009		
						Con	$6,700,000	$7,246,720	$5,797,376	$1,449,344	$7,354,880	2009		
Off System	NPOFF076	Plano	Plano	Rasor Road From Ohio Drive To SH 121	Widen existing 2 lane sections to 6 lanes and construct East and West sides to complete the 6 lane divided thoroughfare road	Eng	$0	$0	$0	$0		Completed by City	Yes	Account 2
						Con	$5,000,000	$5,408,000	$4,326,400	$1,081,600	$5,408,000	2009		

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On System	NPON121	Plano	Plano	Preston Road at PGBT	Widen Preston Rd bridge over PGBT to provide 2 left turns for PGBT entrance ramps	Eng	$300,000	$324,480	$259,584	$64,896	$3,471,849	2009	Yes	Account 1
						ROW	$250,000	$281,216	$224,973	$56,243		2010		
						Con	$2,450,000	$2,866,153	$2,292,923	$573,231		2011		
Transit	NPTT014	NCTCOG	Various	Cotton Belt Passenger Rail Corridor From DFWIA To North Central/Red Line (Collin County Section)	The Cotton Belt Corridor would provide a key East-West passenger rail link across the Northern part of the DART Service Area	Imp	$416,667	$416,667	$333,334	$83,333	$1,249,999	2009	Yes	Fund Phase 1 ($1M); Fixed Funded; Account 1
						Imp	$416,666	$416,666	$333,333	$83,333		2010		
						Imp	$416,666	$416,666	$333,333	$83,333		2011		
Transit	NPTT026	NCTCOG	Plano, Allen, McKinney	DART LRT (Red Line) from Parker Road Station to McKinney	Phase 1	Eng	$625,000	$625,000	$500,000	$125,000	$625,000	2009	Yes	Fund Phase 1; Fixed Funded; planning work for DART's red line from City of McKinney to City of Anna to be funded under regular UPWP planning studies; Account 2
Bicycle/ Pedestrian	COBP005	Richardson	Richardson	US 75 From Alma Road and SH 190 To Spring Creek Nature Area and Prairie Creek	Construct 10 to 12 foot wide trail	Con	$421,800	$456,219	$364,975	$91,244	$456,219	2009	Yes	If project is funded by Collin County Open Space Bond Program; RTR funds will be returned to Collin County RTR Pool; Account 1
Bicycle/ Pedestrian	NPBP041	Richardson	Richardson	US 75 at Renner Road From US 75 along Prairie Creek To DART Bush Turnpike Station	Construction of a new 12 foot wide concrete trail	Eng	$158,000	$170,893	$136,714	$34,179	$2,434,552	2009	Yes	If project is funded by Collin County Open Space Bond Program; RTR funds will be returned to Collin County RTR Pool; Account 1
						Env	$3,000	$3,245	$2,596	$649		2009		
						Con	$2,009,500	$2,260,414	$1,808,331	$452,083		2010		
Intersection Improvement	NPIMP021	Richardson	Richardson	Renner Road at Alma (Renner at Jupiter) from Alma Drive (Renner at SH 190) to Jupiter at SH 190/PGBT	Additional left turn lanes and/or a right turn bay	Eng	$100,000	$108,160	$86,528	$21,632	$1,156,533	2009	Yes	Account 1
						ROW	$100,000	$112,486	$89,989	$22,497		2010		
						Con	$800,000	$935,887	$748,709	$187,177		2011		
Transit	NPTT022	NCTCOG	Various	BNSF Passenger Rail from Denton/Collin County line to North Frisco (Collin County Section)	Phase 1	Imp	$625,000	$625,000	$500,000	$125,000	$1,875,000	2009	Yes	Fixed Funded; Account 1
						Imp	$625,000	$625,000	$500,000	$125,000		2010		
						Imp	$625,000	$625,000	$500,000	$125,000		2011		

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Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
On System	NPON090	TxDOT-Dallas	Wylie	SH 78 From Spring Creek Pkwy To SH 205	Reconstruct and widen 2 to 6 lane urban	Con	$19,997,270	$21,629,047	$17,303,238	$4,325,809	$21,629,047	2009	Yes	Account 1
On System	COON033	Collin County	Wylie	FM 1378 From FM 544 To FM 3412	Widen existing 2 lane to 6 lane divided and realign	Con	$8,626,000	$9,329,882	$7,463,905	$1,865,976	$9,329,882	2009	Yes	Account 1
Local Contribution*		Plano	Plano	To Be Determined	Remaining SH 121 Local Contribution		$1,890,927	$1,890,927	$1,890,927	$0	$1,890,927		Yes	$9.3M reserved for SH 121 Local Contribution Credit; Once project(s) are identified, RTR funds will be credited via TIP modification process; Fixed Funded out of Account 1; Credit previously applied to the US 75/Parker Road Interchange Project ($4.4M applied towards the local match) and to the US 75/PGBT Interchange Project ($3.0M applied towards local match), leaving a remianing balance of $1.8M
Local Contribution*		Allen	Allen	To Be Determined	SH 121 Local Contribution		$150,000	$150,000	$150,000	$0	$150,000		Yes	Reserved for SH 121 Local Contribution Credit; Fixed Funded; Once project is identified, RTR funds will be credited via TIP modification process out of Account 1
Local Contribution*		Collin County	Collin County	To Be Determined	Remaining SH 121 Local Contribution		$21,992,159	$21,992,159	$21,992,159	$0	$21,992,159		Yes	$25.3M reserved for SH 121 Local Contribution Credit; Fixed Funded; Once projects are identified, RTR funds will be credited via TIP modification process out of Account 1; Credit previously applied to the US 75/Parker Road Interchange Project ($3.3M applied towards the local match), leaving a balance of $21.9M
Local Contribution*		Frisco	Frisco	To Be Determined	SH 121 Local Contribution		$14,257,471	$14,257,471	$14,257,471	$0	$14,257,471		Yes	Reserved for SH 121 Local Contribution Credit; Once project(s) are identified, RTR funds will be credited via TIP modification process; Fixed Funded out of Account 1

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Summary of RTR "New Projects" Recommendations with Inflation
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Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Local Contribution*		McKinney	McKinney	To Be Determined	SH 121 Local Contribution		$876,390	$876,390	$876,390	$0	$876,390		Yes	Reserved for SH 121 Local Contribution Credit; Once project(s) are identified, RTR funds will be credited via TIP modification process; Fixed Funded out of Account 1
					Total Funding		**$855,142,931**	**$995,799,045**	**$802,590,000**	**$193,209,045**	**$995,799,045**			

* Revenue will be used to account for local contribution credits for agencies along SH
Awaiting feedback from those entities regarding allocation of credits.

	Original Total Cost	Inflation Adjusted Total Cost	RTR Portion	RTR Balance
ACCOUNT 1	**$549,784,727**	**$633,299,044**	**$512,590,000**	**$0**
ACCOUNT 2	**$305,358,204**	**$362,500,001**	**$290,000,000**	**$0**
PROJECTED INTEREST	**$51,259,000**	**$51,259,000**	**$51,259,000**	**$51,259,000**

Per STTC's request, the Northwest Plano Park and Ride project (NPPR003) has been added to the Collin County listing and funded from Collin County's Projected Interest thereby reducing the Cost Overrun Pool. This project was originally funded in 2001 and later deleted per the Dallas Area Rapid Transit's (DART) request and the RTC's TIP modification policy. Approval of this project represents an exception to RTC policies.

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Approved Funding by Phase	Inflation Adjusted (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
AVAILABLE FUNDING														
Park and Ride	NPPR003	DART	Plano	Northwest Plano Park and Ride Lot From West Side of the North Dallas Tollway To (Between) Tennyson Pkwy and Spring Creek Pkwy	Provide 544 (ultimately 716) space DART Park and Ride facility	Con	$8,500,000	$9,193,600	$4,688,736	$4,504,864	$9,193,600	2009	Yes	51/49 split between RTR and Local; Fund with Projected Interest
					Total Funding		**$863,642,931**	**$1,004,992,645**	**$807,278,736**	**$197,713,909**	**$1,004,992,645**			

	Original Total Cost	Inflation Adjusted Total Cost	RTR Portion	RTR Balance
ACCOUNT 1	**$549,784,727**	**$633,299,044**	**$512,590,000**	**$0**
ACCOUNT 2	**$305,358,204**	**$362,500,001**	**$290,000,000**	**$0**
PROJECTED INTEREST	**$8,500,000**	**$9,193,600**	**$4,688,736**	**$46,570,264**

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Summary of RTR "New Projects" Recommendations with Inflation
Dallas County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Approved Funding Year by Phase	Recommend?	Comments
AVAILABLE FUNDING						Account 1: $47,290,000		Account 2: 303,530,000						
Reserve Pool	Reserve Pool	N/A	N/A	To Be Determined	Set aside for cost overruns or RTC-Approved scope changes that result in higher costs	N/A	$7,093,500	$7,093,500	$7,093,500	$0	$7,093,500	N/A	Yes	Staff recommends maintaining a reserve pool of 15% of Account 1 revenues; Fund from Account 2
On System	COON064	TxDOT- Dallas	Cedar Hill	FM 1382 From New Clark To West of Straus Road	Widen from 4 lanes to 6 lanes and upgrade traffic signals	Eng	$200,000	$224,973	$179,978	$44,995		2010		
						Con	$2,376,300	$2,891,132	$2,312,906	$578,226	$3,116,105	2012	Yes	Account 2
Bicycle/ Pedestrian	NPBP023	Dallas	Dallas	Trinity Strand Trail From West of IH 35E (in between Oak Lawn and Motor) To Motor Street	Construct 12-foot multi-use trail	Eng	$5,000	$5,408	$4,326	$1,082		2009		
						Env	$9,000	$9,734	$7,788	$1,947		2009		
						ROW	$1,000	$1,082	$865	$216		2009		
						Con	$5,026,230	$5,653,825	$4,523,060	$1,130,765	$5,670,049	2010	Yes	Account 1
Intersection Improvement	NPIMP027	Dallas	Dallas	IH 20 at Bonnie View	Improve existing approach, expand bridge from 5 to 7 lanes and replace traffic signal system	Eng	$335,000	$362,336	$289,869	$72,467		2009		
						ROW	$200,000	$224,973	$179,978	$44,995		2010		
						Con	$1,821,875	$2,131,336	$1,705,069	$426,267	$2,718,645	2011	Yes	Reduced funding per revised cost estimate from City; Account 1
On System	NPON110	TxDOT- Dallas	Dallas	IH 20 From Haymarket Rd To West of US 175	Construct frontage roads and ramps; 0 lanes to 4 lanes (both directions)	Con	$0	$0	$0	$0	$0	2009	No	Propose funding NPON109 in lieu of NPON110
On System	NPON109	TxDOT- Dallas	Balch Springs	IH 20 From Kleburg Rd To Shepherd	Construct 2 new ramps	Con	$5,713,400	$6,179,613	$4,943,691	$1,235,923	$6,179,613	2009	Yes	Propose funding NPON109 in lieu of NPON110; Account 1; RTC may consider future partnerships through future funding programs
On System	COON060	TxDOT- Dallas	Dallas	IH 35E Frontage Roads From Crown Road To Joe Field Road	Construct South bound frontage road and entrance and exit ramps; 6 lanes to 6 lanes and 0 to 2 frontage	Con	$2,700,000	$2,920,320	$2,336,256	$584,064	$2,920,320	2009	Yes	Account 1

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Regional/ Innovative	NPRI025	Dallas	Dallas	SM Wright Blvd from Budd St to IH 45/Julius Schepps	Reconstruction to an arterial boulevard, including demolition of bridges, retaining walls and freeway mainlanes	Imp	$6,250,000	$6,250,000	$5,000,000	$1,250,000	$6,250,000	2009	Yes	$5M for Phase I Implementation from Account 2 (Fixed Funded)
Traffic Signal	NPTS002	Dallas	Dallas	Various Locations around Oak Cliff Corridor	All traffic signals will be retimed, including; traffic counts; intersection data collection; computer modeling; implementation; fine tuning; and before and after studies	Imp	$0	$0	$0	$0	$0		No	City of Dallas requested deletion of this project and addition of NPIT034 instead
Intelligent Transportation System	NPIT034	Dallas	Dallas	ATMS Communications Network at various citywide locations	Design, testing, and implementation of new communication technologies	Eng	$532,000	$532,000	$425,600	$106,400	$3,032,000	2009	Yes	Added per City of Dallas request; offset by deletion of NPTS002; Approve Partial Fixed Funds; Account 1
						Con	$1,500,000	$1,500,000	$1,200,000	$300,000		2010		
						Imp	$1,000,000	$1,000,000	$800,000	$200,000		2011		
Transit	NPTT001	Dallas	Dallas	Dallas CBD Streetcar Circulator Expansion From Bus lane reconstruction Elm & Commerce (Houston to Central Expressway) To Streetcar Phase IB (Main/Elm & Commerce Loop)	Expansion of existing streetcar line in Dallas CBD	Eng	$10,000,000	$10,000,000	$8,000,000	$2,000,000	$10,000,000	2011	Yes	Fund Phase 1 $8M (Fixed Funded); Account 2
Transit	NPTT012	NCTCOG	Various	East Cotton Belt Passenger Rail Corridor From DFWIA To North Central Red Line (Dallas County Section)	Construct a key East-West passenger rail link across the Northern part of the DART Service Area	Imp	$1,562,500	$1,562,500	$1,250,000	$312,500	$3,125,000	2009	Yes	Fund Phase 1 (Fixed Funded); Account 1
						Imp	$1,562,500	$1,562,500	$1,250,000	$312,500		2010		

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Bicycle/ Pedestrian	NPBP029	Farmers Branch	Farmers Branch	Station Area Trails Along Denton Drive at Valley View Lane (Near DART rail station)	Pedestrian trail connecting the DART rail transit station to residential neighborhoods and businesses to the north and the City's Historical Park	Con	$300,000	$324,480	$259,584	$64,896	$324,480	2009	Yes	Account 1
Off System	NPOFF003	Dallas County	Garland, Dallas, Rowlett	Miller Road From Garland East city limits To Rowlett West city limits	2 lane asphalt section to 4 lane divided concrete section	Eng	$1,200,000	$1,403,830	$1,123,064	$280,766	$12,436,871	2011	Yes	Advances PGBT EE Near Neighbor Project; Account 1
						Env	$500,000	$562,432	$449,946	$112,486		2010		
						ROW	$50,000	$58,493	$46,794	$11,699		2011		
						Con	$8,558,000	$10,412,116	$8,329,692	$2,082,423		2012		
Off System	NPOFF001	Rowlett	Rowlett	Merritt Road From PGBT To Chiesa Road and Liberty Grove Road Intersection	Widen the existing 2 lane asphalt road into a six-lane divided major thoroughfare	Eng	$0	$0	$0	$0	$14,038,303		Yes	Advances PGBT EE Near Neighbor Project; Fund Partial Amount; Account 2
						Env	$0	$0	$0	$0				
						ROW	$0	$0	$0	$0		2010		
						Con	$12,000,000	$14,038,303	$11,230,642	$2,807,661		2011		
Off System	NPOFF047	Garland	Garland	Pleasant Valley Road From Richfield Drive & Creek Meadow Lane To Miles Lane	Construct a 4 lane divided roadway and bridge	Eng	$3,250,000	$3,515,200	$2,812,160	$703,040	$26,845,032	2009	Yes	Advances PGBT EE Near Neighbor Project; Account 1 (Eng, Env, ROW up to $3.5M) and Account 2 (Const up to $17.9M)
						Env	$400,000	$449,946	$359,956	$89,989		2010		
						ROW	$408,000	$458,945	$367,156	$91,789		2010		
						Con	$18,428,380	$22,420,942	$17,936,754	$4,484,188		2012		
On System	COON034	TxDOT- Dallas	Hutchins	IH 45 at Fulghum Rd Intersection	Upgrade interchange; 6 lanes to 6 lanes	Con	$4,290,169	$5,018,891	$1,421,350	$3,597,541	$5,018,891	2011	Yes	Account 1
Bicycle/ Pedestrian	NPBP032	Mesquite	Mesquite	Mesquite Hike & Bike Trail - Phase 1; Northeast Mesquite City Limit - IH 30 - Northwest Drive - TXU/Oncor easement - Towne Centre Drive - IH 635	Construct first section of City's main hike and bike trail to connect to Regional Veloweb in Garland	Eng	$165,000	$178,464	$142,771	$35,693	$3,822,663	2009	Yes	Account 1
						Env	$50,000	$56,243	$44,995	$11,249		2010		
						Con	$3,067,000	$3,587,956	$2,870,365	$717,591		2011		

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Off System	NPOFF114	Sachse	Sachse	Sachse Road From SH 78 To Muddy Creek	2 lane rural road with a 4 lane divided roadway	Con	$0	$0	$0	$0	$0	2009	No	City of Sachse requested deletion of this project and addition of NPOFF113
Off System	NPOFF113	Sachse	Sachse	Bunker Hill Road From SH 78 To New Miles Road	Replace an existing 2 lane rural road with a 4 lane divided roadway	Con	$8,800,000	$9,518,080	$7,614,464	$1,903,616	$9,518,080	2009	Yes	Advances PGBT EE Near Neighbor Project; added per City of Sachse request; offset by removal of NPOFF114; City must commit to constructing Sachse Rd with funds freed up by this project; Account 1
Transit	NPTT024	NCTCOG	Various	BNSF Passenger Rail from Josey/Keller Springs to Denton County Line (Dallas County Section)	Phase 1	Imp	$100,000	$100,000	$80,000	$20,000	$100,000	2009	Yes	Fund Phase 1 (Fixed Amount); Account 1
Transit	NPTT025	NCTCOG	Various	DART South Oakcliff Light Rail Extension from Ledbetter to the UNT campus	Phase 1	Imp	$100,000	$100,000	$80,000	$20,000	$100,000	2009	Yes	Fund Phase 1 (Fixed Amount); Account 1
Intelligent Transportation System	NPIT039	TxDOT Dallas	Wilmer and Hutchins	IH 45 ITS Implementation From IH 20 To Dallas & Ellis County Line	Installation of wireless incident detection and response system	Con	$550,000	$594,880	$475,904	$118,976	$594,880	2009	Yes	Account 1
Local Contribution*		Coppell	Coppell	N/A	SH 121 Local Contribution Credit		$0	$0	$0	$0	$0		No	Cost previously reimbursed

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Dallas County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Approved Funding Year by Phase	Recommend?	Comments
Local Contribution*		Dallas County	Dallas County	To Be Determined	SH 121 Local Contribution Credit		$850,000	$850,000	$850,000	$0	$850,000		Yes	Reserved for SH 121 Local Contribution; Fixed Funded from Account 1; Once project(s) are identified, RTR funds will be credited via TIP modification process
					Total Funding		**$110,954,854**	**$123,754,432**	**$97,998,483**	**$25,755,949**	**$123,754,432**			

* Revenue will be used to account for local contribution credits for agencies along SH 121 corridor. Awaiting feedback from those entities regarding allocation of credits.

	Original Total	Inflation Adjusted Total	RTR Portion
ACCOUNT 1	$54,606,674	$60,835,583	$46,244,703
ACCOUNT 2	$56,348,180	$62,918,850	$51,753,780
	$110,954,854	**$123,754,432**	**$97,998,483**

Source: North Central Texas Council of Governments, August 2008

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Summary of RTR "New Project" Recommendations with Inflation
Denton County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
			AVAILABLE FUNDING			Account 1: $735,890,000		Account 2: $89,630,000		Projected Interest: $73,589,000				
Reserve Pool	N/A	N/A	N/A	To Be Determined	Set aside for cost overruns or RTC-Approved scope changes that result in higher costs				$73,589,000		$73,589,000		Yes	Staff recommends using the accrued interest to maintain a reserve pool for cost overruns; Fund from Projected Interest Acct ~~Staff recommends maintaining a reserve pool of 10% of revenues. Fund from Account 2.~~
Park-and-Ride	NPPR002	DART	Carrollton	North Carrollton LRT Station Parking Lot Expansion near IH 35 East and Frankford Road	Expansion of surface parking at North Carrollton LRT station area, end of line station along Northwest Corridor 4 ~~(763 spaces)~~ (450 spaces)	Const.	$6,669,000	$6,669,000	$4,701,000	$1,968,435	$6,669,435	2009	Yes	DART to fund spaces identified in the FEIS; COG to fund balance of spaces up to 450 spaces and potentially additional spaces. Fund from Acct 1 ~~RTC will participate at $5,000/space cost. Fund as part of pilot program. All DART previously funded spaces are free, all RTC funded spaces are tolled (using toll tags); RTC paid back using toll revenues~~
Transit	NPTT006	DCTA	Various	MKT Rail Corridor From Denton CBD just South of intersection of Hickory and railroad To DART Trinity Mills light rail station	Construct passenger rail line using light rail new technology linking the cities of Denton and Lewisville to the DART LRT line at Trinity Mills in Carrollton	Eng.	$10,000,000	$10,000,000	$8,000,000	$2,000,000		2009	Yes	Fixed Funded; Fund from Acct 1
						Env.	$10,700,000	$10,700,000	$8,560,000	$2,140,000		2009		
						ROW	$23,000,000	$23,000,000	$18,400,000	$4,600,000		2009		
						Util.	$7,500,000	$7,500,000	$6,000,000	$1,500,000		2010		
						Const.	$190,250,000	$190,250,000	$152,200,000	$38,050,000	$241,450,000	2010		
Local Contribution *		Denton County	Denton County		SH 121 Local Contribution Credit		$2,479,975	$2,479,975	$2,479,975	$0	$2,479,975		Yes	Reserved for SH 121 Local Contribution Credit; Fixed Funded; Once project is identified, RTR funds will be credited via TIP modification process out of Acct 1
Bicycle/ Pedestrian	NPBP028	Denton	Denton	Rail Trail Bridge; Pecan Creek near Prairie Street and Loop 288 in Denton at [rail mile markers 722 (Pecan Creek) and 724 [Loop 288)]	2 pedestrian bridges, 110 linear feet and 530 linear feet on the Denton Branch Rail Trail	Eng.	$173,000	$187,117	$149,693	$37,423		2009	Yes	Must coordinate with DCTA on the rail corridor project (NPTT006); Fund from Acct 1
						Env.	$10,000	$10,816	$8,653	$2,163		2009		
						Const.	$1,118,800	$1,258,498	$1,006,798	$251,700	$1,456,431	2010		
Intelligent Transportation Systems	NPIT036	Denton	Denton	Fiber Optic Trunk Lines at various locations in the City of Denton	Installation of fiber optic communication lines	Eng.	$96,000	$96,000	$76,800	$19,200		2009	Yes	Recommend reduced scope (to remove arterial improvements) and funding; Fiber runs along IH 35 (partial), US 380, and US 377, and various major arterials; Fixed Funded; Fund from Acct 1
						ROW	$14,000	$14,000	$11,200	$2,800		2009		
						Util.	$150,000	$150,000	$120,000	$30,000		2010		
						Const.	$1,704,500	$1,704,500	$1,363,600	$340,900	$1,964,500	2010		
Off System	NPOFF004	Denton	Denton	Bonnie Brae Road From IH 35 East To US 377	Widening 2 to 4 lane arterial	Eng.	$5,200,000	$5,849,293	$4,679,434	$1,169,859		2010	Yes	Staff recommends funding this project unless additional funding is needed for IH 35E reconstruction project; Fund from Acct 1
						Env.	$533,479	$600,091	$480,073	$120,018		2010		
						ROW	$1,200,000	$1,403,830	$1,123,064	$280,766		2011		
						Util.	$1,000,000	$1,169,859	$935,887	$233,972		2011		
						Const.	$40,000,000	$48,666,116	$38,932,893	$9,733,223	$57,689,189	2012		

Source: North Central Texas Council of Governments

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August 21, 2008

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Summary of RTR "New Project" Recommendations with Inflation
Denton County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Off System	NPOFF005	Denton	Denton	Mayhill Road From IH 35 East To US 380 (Extension of FM 2499)	Expand 2 lane rural road to a 4 lane divided urban arterial (ultimate 6 lane divided urban); extension of FM 2499	Eng.	$4,420,000	$4,971,899	$3,977,519	$994,380	$56,670,566	2010	Yes	Connects a national highway with a Texas Trunk System highway; Fund from Acct 1
						Env.	$428,727	$482,260	$385,808	$96,452		2010		
						ROW	$10,000,000	$11,698,586	$9,358,868	$2,339,717		2011		
						Util.	$500,000	$584,929	$467,943	$116,986		2011		
						Const.	$32,000,000	$38,932,893	$31,146,314	$7,786,579		2012		
Off System	NPOFF020	Flower Mound	Flower Mound	Flower Mound Road From FM 1171 To FM 2499	Widen 2 lane rural road to 4 lane divided urban arterial	Eng.	$0	$0	$0		$5,174,374	0	Yes	Design work completed; Fund from Acct 1
						Const.	$4,600,000	$5,174,374	$4,139,500	$1,034,875		2010		
Off System	NPOFF019	Flower Mound	Flower Mound	Garden Ridge Boulevard From FM 3040 To Spinks Road	New 4 lane divided urban arterial	Eng.	$44,500	$48,131	$38,505	$9,626	$3,569,280	2009	Yes	Fund from Acct 1
						ROW	$300,000	$324,480	$259,584	$64,896		2009		
						Const.	$2,955,500	$3,196,669	$2,557,335	$639,334		2009		
Off System	NPOFF041	Flower Mound	Flower Mound	Gerault/Morriss From FM 2499 To FM 407	Widen and reconstruct 4 lane divided urban arterial to 6 lane divided urban arterial	Eng.	$780,000	$843,648	$674,918	$168,730	$13,464,622	2009	Yes	Fund from Acct 1
						Const.	$11,220,000	$12,620,974	$10,096,779	$2,524,195		2010		
Off System	NPOFF039	Flower Mound	Flower Mound	Spinks Road From Garden Ridge Boulevard To Duncan Lane	New 4 lane divided urban arterial	Eng.	$0	$0	$0	$0	$5,029,440	0	Yes	Design work completed; Fund from Acct 1
						Const.	$4,650,000	$5,029,440	$4,023,552	$1,005,888		2009		
Off System	NPOFF151	Fort Worth	Fort Worth	Litsey Road From Independence Parkway To West of Henrietta Creek (Cleveland Gibbs Rd)	Widen Roadway ~~Construct bridge to replace widen nonfunctional bridge~~from 2 to 4 lanes	Env.	$150,000	$150,000	$120,000	$30,000	$8,000,000	2009	Yes	Denton County already funding bridge; Fixed Funded; Fund from Acct 1
						ROW	$500,000	$500,000	$400,000	$100,000		2009		
						Util.	$250,000	$250,000	$200,000	$50,000		2010		
						Const.	$7,100,000	$7,100,000	$5,680,000	$1,420,000		2011		
Regional/ Innovative	CORI002	Fort Worth/ Haslet/ TxDOT/BNSF	Denton	Multimodal Transportation Improvements	Relocation of the BNSF Railway track and relocation of FM 156 to the West of the current FM 156	Const.	$100,000,000	$100,000,000	$80,000,000	$20,000,000	$100,000,000	2009	Yes	For only railroad relocation; involves 100% FAA payback; Fund from Acct 1
Off System	NPOFF109	Lewisville	Lewisville	Corporate Drive at Elm Fork Trinity River Bridge	Construct four lane divided roadway	Eng.	$612,600	$662,588	$530,071	$132,518	$5,895,091	2009	Yes	Fund from Acct 1
						ROW	$510,500	$574,243	$459,394	$114,849		2010		
						Const.	$3,981,900	$4,658,260	$3,726,608	$931,652		2011		
Off System	NPOFF108	Lewisville	Lewisville	Corporate Drive From DGNO RR To Elm Fork Trinity River Bridge	Construct four lane divided roadway	Eng.	$474,000	$512,678	$410,143	$102,536	$6,724,177	2009	Yes	Fund from Acct 1
						Const.	$5,522,000	$6,211,499	$4,969,199	$1,242,300		2010		
Off System	NPOFF107	Lewisville	Lewisville	Corporate Drive From Elm Fork Trinity River Bridge To Holford's Prairie Road	Construct four lane divided roadway	Eng.	$593,000	$641,389	$513,111	$128,278	$10,207,547	2009	Yes	Fund from Acct 1
						ROW	$1,139,000	$1,281,220	$1,024,976	$256,244		2010		
						Const.	$7,082,000	$8,284,938	$6,627,951	$1,656,988		2011		
Off System	NPOFF106	Lewisville	Lewisville	Corporate Drive From FM 544 To Josey Lane	Construct four lane divided roadway	Eng.	$989,000	$1,069,702	$855,762	$213,940	$17,833,596	2009	Yes	Fund from Acct 1
						ROW	$2,526,000	$2,841,406	$2,273,125	$568,281		2010		
						Const.	$11,901,000	$13,922,487	$11,137,989	$2,784,497		2011		
Off System	NPOFF110	Lewisville	Lewisville	Corporate Drive From Holford's Prairie Road To FM 2281	Construct four lane divided roadway	Eng.	$318,000	$343,949	$275,159	$68,790	$4,511,570	2009	Yes	Fund from Acct 1
						Const.	$3,705,000	$4,167,621	$3,334,097	$833,524		2010		
Off System	NPOFF111	Lewisville	Lewisville	Corporate Drive From Josey Lane To Trinity Drive	Construct four lane divided roadway	Eng.	$270,000	$292,032	$233,626	$58,406	$3,830,854	2009	Yes	Fund from Acct 1
						Const.	$3,146,000	$3,538,822	$2,831,058	$707,764		2010		

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RTC Action
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Summary of RTR "New Project" Recommendations with Inflation
Denton County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Off System	NPOFF112	Lewisville	Lewisville	Corporate Drive From Waters Ridge Drive To DGNO RR	Construct four lane divided roadway	Eng.	$140,000	$151,424	$121,139	$30,285	$1,986,077	2009	Yes	Fund from Acct 1
						Const.	$1,631,000	$1,834,653	$1,467,723	$366,931		2010		
Intersection Improvement	NPIMP054	Little Elm	Little Elm	Woodlake Parkway (at FM 720) From Witt Road To Woodlake Parkway	Realignment of the existing Woodlake Parkway at FM 720 intersection	Eng.	$0	$0	$0	$0	$0	2009	No	Project deleted per Town of Little Elm Priority Project (NPOFF73)
						Env.	$0	$0	$0	$0		2009		
						Const.	$0	$0	$0	$0		2009		
Off System	NPOFF73	Little Elm	Little Elm	Witt Road crossing Cottonwood Creek (approximately 0.8 miles South of FM 720) From 500 feet North of Cottonwood Creek to 500 feet South of Cottonwood Creek	Reconstruct bridge 2 to 4 lanes divided urban	Eng.	$498,000	$538,637	$430,909	$107,727		2009	Yes	Project added per Town of Little Elm priority in lieu of NPIMP054; Fund from Acct 1
						Env.	$50,000	$56,243	$44,995	$11,249		2010		
						Util.	$400,000	$449,946	$359,956	$89,989		2010		
						Const.	$3,860,000	$4,515,654	$3,612,523	$903,131		2011		
Transit	NPTT023	NCTCOG	Various	BNSF Passenger Rail	Dallas/Denton County Line to Denton/Collin County Line	Imp.	$500,000	$500,000	$400,000	$100,000	$500,000	2009	Yes	Fixed Funded; Fund from Acct 1
Off System	NPOFF054	Plano	Plano	Headquarters Drive From East of Spring Creek Parkway To Legacy Dr	Construct north 3 lanes to complete the 6 lane divided thoroughfare	Eng.	$0	$0	$0	$0	$0	2010	No	Project removed from RTR per City's request. City would like to fund Marsh Lane project (NPOFF084) in lieu of Headquarters project (NPOFF054) at the same funding level.
						ROW	$0	$0	$0	$0		2010		
						Const.	$0	$0	$0	$0		2011		
Off System	NPOFF084	Plano	Plano	Marsh Lane From Park Blvd To Parker Blvd	Widen existing 2 lane section	Eng.	$200,000	$216,320	$173,056	$43,264	$891,238	2009	Yes	City requested NPOFF084 in lieu of NPOFF054 at $800,000 total; Fund from Acct 1
						Const.	$600,000	$674,918	$539,935	$134,984		2010		
Off System	NPOFF086	Plano	Plano	Plano Parkway From Midway Road To West city limits	Widen 4 lanes to 6 lane divide thoroughfare	Const.	$1,200,000	$1,297,920	$1,038,336	$259,584	$1,297,920	2009	Yes	City to fund engineering phase; Denton County intends to fund project in TRIP-08 Bond Program; if approved in bond program, RTR funds will be removed from project and returned to Denton County RTR pool; Fund from Acct 1
Off System	NPOFF120	The Colony	The Colony	North Colony Boulevard From Curry Drive (0.1 Mile West of Main Street) To Paige Road	Widen and reconstruct from 4 to 6 lanes	Eng.	$750,000	$811,200	$648,960	$162,240	$7,401,086	2009	Yes	Fund from Acct 1
						Env.	$50,000	$54,080	$43,264	$10,816		2009		
						ROW	$1,000,000	$1,081,600	$865,280	$216,320		2009		
						Util.	$500,000	$540,800	$432,640	$108,160		2009		
						Const.	$4,200,000	$4,913,406	$3,930,725	$982,681		2011		
Off System	NPOFF119	The Colony	The Colony	Plano Parkway widening From intersection of SH 121 and Plano Parkway To 0.4 miles South of Windhaven Parkway	Widen 4 lane rural road to a 6 lane divided roadway	Eng.	$650,000	$731,162	$584,929	$146,232	$7,255,373	2010	Yes	Fund from Acct 1
						Env.	$50,000	$56,243	$44,995	$11,249		2010		
						ROW	$250,000	$281,216	$224,973	$56,243		2010		
						Util.	$300,000	$337,459	$269,967	$67,492		2010		
						Const.	$5,000,000	$5,849,293	$4,679,434	$1,169,859		2011		

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Summary of RTR "New Project" Recommendations with Inflation
Denton County

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On System	NPON004	TxDOT-Dallas	Argyle	FM 407 From FM 1830 to IH 35 West	Widen from 2 to a 4 lane divided roadway	Eng.	$0	$0	$0	$0	$0	2009	No	
						Env.	$0	$0	$0	$0		2009		
						ROW	$0	$0	$0	$0		2011		
						Const.	$0	$0	$0	$0		2012		
Traffic Signal	NPTS008	The Colony	The Colony	Memorial Drive From Morning Star To Standridge Drive	Design, installation, & retiming of 3 new traffic signals	Eng.	$50,000	$50,000	$40,000	$10,000	$500,000	2009	Yes	Fixed Funded. Timing is included in project; Fund from Acct 1
						Const.	$450,000	$450,000	$360,000	$90,000		2010		
On System	NPON137	TxDOT- Dallas	Bartonville	FM 407 From 1830 To Jeter Road	Widen from 2 lane rural to 4 lane urban	Const.	$9,857,657	$11,532,064	$9,225,652	$2,306,413	$11,532,064	2011	Yes	SH 121 MOU project; Fund from Acct 1
On System	NPON138	TxDOT- Dallas	Corinth and Denton	FM 2499 From FM 2181 North To IH 35 East	Construct 6 lane divided urban facility, new location	Const.	$23,310,000	$28,360,179	$22,688,143	$5,672,036	$28,360,179	2012	Yes	Fund from Acct 1
On System	NPON001	TxDOT- Dallas	Cross Roads, Krugerville, Aubrey, and Pilot Point	US 377 From US 380 To Denton County Line	Roadway improvements at various locations throughout the limits of the roadway.	Eng.	$500,000	$540,800	$432,640	$108,160	$11,606,087	2009	Yes	Fund from Acct 1
						Env.	$130,000	$140,608	$112,486	$28,122		2009		
						ROW	$820,000	$922,388	$737,910	$184,478		2010		
						Const.	$8,550,000	$10,002,291	$8,001,833	$2,000,458		2011		
On System	~~NPON100~~ COON052	TxDOT- Dallas	Denton	LP 288 From ~~US 380 West of Denton To IH 35 West~~ IH 35 to US 380 - NW Quadrant & Interchange	Construct 2 lane rural roadway on new location with interchange at IH 35 ~~Phase 1: extension of Loop 288;~~	Eng.	$990,000	$1,113,615	$890,892	$222,723	$25,892,967	2010	Yes	Changed Loop 288 segment per Denton's priority; Fund from Acct 1
						Env.	$247,500	$267,696	$214,157	$53,539		2009		
						ROW	$1,650,000	$1,930,267	$1,544,213	$386,053		2011		
						Const.	$16,500,000	$22,581,389	$18,065,111	$4,516,278		2015		
On System	NPON034	TxDOT- Dallas	Denton	US 377 From IH 35 East To 0.26 miles South of FM 1830	Widen 2 lane to 6 lane urban section	Const.	$11,626,140	$13,600,939	$10,880,752	$2,720,188	$13,600,939	2011	Yes	Fund from Acct 1
On System	NPON139	TxDOT- Dallas	Flower Mound	FM 1171 From West of US 377 To West of Shiloh Road	Widen 2 lane rural to 6 lane divided urban highway	Const.	$30,207,500	$35,338,502	$28,270,802	$7,067,700	$35,338,502	2011	Yes	Fund from Acct 1
On System	NPON141	TxDOT- Dallas	Flower Mound and North Lake	FM 1171 From IH 35 West To US 377	Widen 2 lane rural to 4 lane of ultimate 6 lane divided urban highway	Const.	$12,210,001	$14,283,974	$11,427,179	$2,856,795	$14,283,974	2011	Yes	Fund from Acct 1
On System	NPON038	TxDOT- Dallas	Flower Mound, Argyle	US 377 From South of FM 1171 To Crawford Road	Widen 2 lane rural to 4 lane divided urban	Const.	$27,742,435	$36,507,152	$29,205,721	$7,301,430	$36,507,152	2014	Yes	Fund from Acct 1
On System	NPON144	TxDOT- Dallas	Flower Mound, Double Oak, Bartonville	FM 407 From C/L of Bartonville To West of Chinn Chapel	Widen from 2 lane rural to 4 lane urban	Const.	$10,677,603	$12,491,285	$9,993,028	$2,498,257	$12,491,285	2011	Yes	Fund from Acct 1
On System	COON057	TxDOT- Dallas	Fort Worth	SH 114 at FM 156	Construct interchange; 2 lanes to 4 lanes urban	Const.	$23,230,000	$27,175,814	$21,740,651	$5,435,163	$27,175,814	2011	Yes	Fund from Acct 1
On System	NPON008	TxDOT- Dallas	Justin	FM 156 From SH 114 To North Justin City Limit (1100 feet North of FM 407)	Widen from 2 to a 4 lane divided urban cross section	Eng.	$1,590,000	$1,719,744	$1,375,795	$343,949	$34,390,982	2009	Yes	Fund from Acct 1
						Env.	$397,500	$429,936	$343,949	$85,987		2009		
						Const.	$26,500,000	$32,241,302	$25,793,042	$6,448,260		2012		

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Summary of RTR "New Project" Recommendations with Inflation
Denton County

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On System	NPON002	TxDOT- Dallas	Little Elm and Cross Roads	FM 720 From US 380 To Garza Lane	Widen 2 lane rural roadway to a 4 lane divided urban cross section	ROW	$3,454,300	$3,736,171	$2,988,937	$747,234	$44,146,595	2009	Yes	Fund from Acct 1
						Const.	$34,543,000	$40,410,424	$32,328,339	$8,082,085		2011		
On System	COON014	TxDOT-Dallas	Little Elm, Lincoln Park, & Oak Point	FM 720 from Eldorado Pkwy (FM 720) to US 380	Widen 2 lane rural to 6 lanes urban divided	Const.	$0	$0	$0	$0	$0	2011	No	
On System	NPON007	TxDOT- Dallas	North Carrollton and West Lewisville	FM 544 From FM 2281 (Denton Drive) To 0.17 miles West of Josey Lane	Widen from 2 to a 6 lane divided urban facility	Eng.	$1,260,000	$1,362,816	$1,090,253	$272,563	$31,382,624	2009	Yes	Fund from Acct 1
						Env.	$315,000	$340,704	$272,563	$68,141		2009		
						ROW	$3,500,000	$3,785,600	$3,028,480	$757,120		2009		
						Util.	$2,100,000	$2,271,360	$1,817,088	$454,272		2009		
						Const.	$21,000,000	$23,622,144	$18,897,715	$4,724,429		2010		
On System	NPON036	TxDOT- Dallas	Roanoke	US 377 From Tarrant County Line To SH 114	Widen 2 lane roadway to 4 lane divided urban	Const.	$10,889,136	$12,738,749	$10,190,999	$2,547,750	$12,738,749	2011	Yes	Fund from Acct 1
On System	NPON037	TxDOT- Dallas	Roanoke, Flower Mound	US 377 From SH 114 To South of FM 1171	Widen 2 lane roadway to 4 lane divided urban	Const.	$24,835,940	$33,989,699	$27,191,759	$6,797,940	$33,989,699	2015	Yes	Fund from Acct 2
Traffic Signal	NPTS007	TxDOT-Dallas	Roanoke	US 377 & SH 114 at various locations signal construction	Installation of traffic signals and subsequent retiming	Eng.	$84,000	$84,000	$67,200	$16,800	$910,000	2009	Yes	Fixed Funded; Fund from Acct 1
						Const.	$826,000	$826,000	$660,800	$165,200		2010		
On System	NPON040	TxDOT-Dallas	Various	~~US 380 From Loop 288 To Collin County Line~~US 380 From FM 423 To Denton/Collin County Line	~~Rural to Urban; add median, right turn lanes~~ Widen 4 to 6 lane divided urban with intersection improvements at FM 423	Const.	$13,200,000	$14,277,120	$11,421,696	$2,855,424	$14,277,120	2009	Yes	Project added to recommendations per request of the City of Frisco in order to meet up with companion project in Collin County; Fund from Acct 2
							$869,540,193	$966,637,121	$773,171,492	$193,466,064	$961,077,076			

*** Revenue will be used to account for local contribution credits for agencies along SH 121 corridor.**

	Original Total	Inflation Adjusted Total	RTR Portion	RTR Balance
Account 1	$831,504,253	$918,370,302	$734,558,037	$1,331,963
Account 2	$38,035,940	$48,266,819	$38,613,455	$51,016,545
Projected Interest	$73,589,000	$73,589,000	$73,589,000	$73,589,000

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Summary of RTR "New Projects" Recommendations with Inflation
Tarrant County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
AVAILABLE FUNDS						**Account 1: $33,710,000**		**Account 2: $33,060,000**						
Reserve Pool	N/A	N/A	N/A	To Be Determined	Set aside for cost overruns or RTC-Approved scope changes that result in higher costs		**$5,056,500**	**$5,056,500**	**$5,056,500**	**$0**			Yes	Staff recommends maintaining a reserve pool of 15% of Account 1 revenues; Fund from Acct 2
Intelligent Transportation Systems	NPIT013	Arlington	Arlington	Arlington Entertainment District From Collins & Lamar Blvd To SH 360 & Division Street	Design and construct ITS field devices	**Eng.**	**$69,617**	**$69,617**	**$55,694**	**$13,923**		**2009**		Recommend partial funding of higher Arlington Priority NPIT014 & NPIT013 in lieu of NPIT002 and NPIT003. Fixed Funded; Fund from
						Const.	**$510,527**	**$510,527**	**$408,421**	**$102,105**	**$580,144**	**2009**	Yes	
Intelligent Transportation Systems	NPIT002	Arlington	Arlington	Arlington Entertainment District	Installation and implementation of interactive kiosks and a Highway Advisory Radio (HAR) system	**N/A**	**$0**	**$0**	**$0**	**$0**	**$0**	**N/A**	No	Recommend partial funding of higher Arlington priorities NPIT014 & NPIT013 instead.
Intelligent Transportation Systems	NPIT003	Arlington	Arlington	Arlington Entertainment District	Design and construct Arlington's traffic management center	**N/A**	**$0**	**$0**	**$0**	**$0**	**$0**	**N/A**	No	Recommend partial funding of higher Arlington priorities NPIT014 & NPIT013 instead.
Intelligent Transportation Systems	NPIT014	Arlington	Arlington	Reversible and Changeable Lanes for Special Events	Design and construction of 5 reversible lane systems (Division, Collins, Rogers, Baird Farm, and Road to Six Flags)	**Eng.**	**$75,032**	**$75,032**	**$60,025**	**$15,006**		**2009**		Recommend partial funding of higher Arlington Priority NPIT014 & NPIT013 in lieu of NPIT002 and NPIT003. Fixed Funded; Fund from Acct 1
						Const.	**$550,233**	**$550,233**	**$440,187**	**$110,047**	**$625,265**	**2009**	Yes	
Regional/ Innovative	NPRI015	Colleyville	Colleyville	Railroad Crossings - SH 26 at Pleasant Run Road; SH 26 at John McCain Road; SH 26 at LD Lockett Road	Add quad gates at 3 crossings	**Eng.**	**$140,900**	**$140,900**	**$112,720**	**$28,180**		**2010**		Fixed Funded; Fund from Acct 1
						Const.	**$1,654,100**	**$1,654,100**	**$1,323,280**	**$330,820**	**$1,795,000**	**2011**	Yes	
Off system	NPOFF155	Fort Worth	Fort Worth	Dirks Road From Bryant Irvin To SH 121	Reconstruct existing 2 lane roadway as 6 lane divided arterial with sidewalks on both sides for safety and capacity. Grade crossing safety improvements.	**Const.**	**$762,000**	**$762,000**	**$762,000**	**$7,247,400**	**$8,009,400**	**2009**	Yes	Fixed Funded; Fund from Acct1
Transit		Fort Worth	Fort Worth	Fort Worth Modern Streetcar	Phase I	**Eng.**	**$2,000,000**	**$2,000,000**	**$1,600,000**	**$400,000**	**$2,000,000**	**2009**	Yes	Fund Phase 1 ($1.6M); Fixed Funded; Fund from Acct 1
Bicycle/ Pedestrian	COBP002	Fort Worth	Fort Worth	East Rosedale From IH 35 West To US 287	Pedestrian and bicycle facility improvements	**Const.**	**$5,000,000**	**$5,000,000**	**$4,000,000**	**$1,000,000**	**$5,000,000**	**2011**	Yes	Approve Partial Funding; $4M; Fund from Acct 2; Fixed Funded ~~split original funding with West Rosedale project;~~ City to fund engineering

Source: North Central Texas Council of Governments

RTC Action
August 21, 2008

DRAFT

Summary of RTR "New Projects" Recommendations with Inflation
Tarrant County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Bicycle/ Pedestrian	COBP004	Fort Worth	Fort Worth	West Rosedale From Forest Park To IH 35W	Pedestrian and bicycle facility improvements	**Const.**	**$2,500,000**	**$2,500,000**	**$2,000,000**	**$500,000**	**$2,500,000**	**2011**		Approve Partial Funding $2M; ~~Funding split with East Rosedale project; City to fund engineering;~~ Fund from Acct 1; Fixed Funded
Intersection Improvement	COIMP003	Fort Worth	Fort Worth	US 287 South bound frontage road from Berry to Vaughn	Extension of the US 287 South bound frontage road to the existing Berry Street & Vaughn Blvd intersection	**Eng.**	**$200,000**	**$216,320**	**$173,056**	**$43,264**	**$1,563,561**	**2009**	Yes	Includes management and operations improvements near intersection; Fund from Acct 1
						Env.	**$30,000**	**$32,448**	**$25,958**	**$6,490**		**2009**		
						ROW	**$15,000**	**$16,224**	**$12,979**	**$3,245**		**2009**		
						Util.	**$15,000**	**$16,224**	**$12,979**	**$3,245**		**2009**		
						Const.	**$1,140,000**	**$1,282,345**	**$1,025,876**	**$256,469**		**2010**		
Intersection Improvement	COIMP004	Fort Worth	Fort Worth	Precinct Line Road & Trinity Boulevard From Trinity Boulevard (400 feet East) To Precinct Line Road (400 feet West)	Left turn lanes on Trinity Boulevard at Precinct Line Road are proposed	**Eng.**	**$288,000**	**$323,961**	**$259,169**	**$64,792**	**$1,948,689**	**2010**	Yes	Fund from Acct 1
						ROW	**$30,555**	**$34,370**	**$27,496**	**$6,874**		**2010**		
						Const.	**$1,359,445**	**$1,590,358**	**$1,272,287**	**$318,072**		**2011**		
Off system	NPOFF025	Fort Worth	Fort Worth	Euless & South Main From TRE Rail To Euless Street	Widen 2 lanes to 3 lane undivided roadway and raise railroad bridge for clearance	**Eng.**	**$823,500**	**$890,698**	**$712,558**	**$178,140**	**$5,183,070**	**2009**	Yes	Fund from Acct 1
						Env.	**$54,000**	**$58,406**	**$46,725**	**$11,681**		**2009**		
						ROW	**$31,500**	**$35,433**	**$28,347**	**$7,087**		**2010**		
						Util.	**$54,000**	**$60,743**	**$48,594**	**$12,149**		**2010**		
						Const.	**$3,537,000**	**$4,137,790**	**$3,310,232**	**$827,558**		**2011**		
Off system	NPOFF026	Fort Worth	Fort Worth	Riverside Bridge at Fossil Creek From Stone Creek To Redwood Creek	New Road 4 lane bridge with sidewalks on both sides	**Eng.**	**$875,000**	**$946,400**	**$757,120**	**$189,280**	**$5,741,036**	**2009**	Yes	Fund from Acct 1
						Env.	**$165,000**	**$178,464**	**$142,771**	**$35,693**		**2009**		
						ROW	**$201,000**	**$226,098**	**$180,878**	**$45,220**		**2010**		
						Util.	**$165,000**	**$185,603**	**$148,482**	**$37,121**		**2010**		
						Const.	**$3,594,000**	**$4,204,472**	**$3,363,577**	**$840,894**		**2011**		
Transit	NPTT018	FWTA	Fort Worth	Tower 60 Trinity River Bridge Project	Construct structures, track and signals for a new bridge over the Trinity River	**Eng.**	**$1,400,000**	**$1,400,000**	**$936,600**	**$463,400**	**$13,450,000**	**2010**	Yes	Fund Partial Amount; Fixed Funded; Fund from Acct 1
						Env.	**$300,000**	**$300,000**	**$200,700**	**$99,300**		**2009**		
						Util.	**$150,000**	**$1,500,000**	**$100,350**	**$49,650**		**2010**		
						Const.	**$11,600,000**	**$11,600,000**	**$7,760,400**	**$3,839,600**		**2011**		
Local Contribution*		Grapevine	Grapevine	Grapevine (To be Determined)	SH 121 Local Contribution Credit		**$150,000**	**$150,000**	**$150,000**	**$0**	**$150,000**		Yes	Reserved for SH 121 Local Contribution Credit; Fixed Funded; Once project is identified, RTR funds will be credited via TIP modification process out of Account 1

Source: North Central Texas Council of Governments

RTC Action
August 21, 2008

DRAFT

Summary of RTR "New Projects" Recommendations with Inflation
Tarrant County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Intersection Improvement	NPIMP040	Haltom City	Haltom City	US 377 at East Belknap	Redesign interchange to a standard 4 way, signalized intersection	**Eng.**	**$141,000**	**$152,506**	**$122,004**	**$30,501**	**$1,666,711**	**2009**	Yes	Haltom City requested consideration of interesction improvements on IH 820; request resulting in ongoing discussion with TxDOT; Staff recommends funding this intersection (NPIMP040) and considering IH 820 requests in future funding initiatives once discussions with TxDOT have concluded; Fund from Acct 1
						Env.	**$15,000**	**$16,224**	**$12,979**	**$3,245**		**2009**		
						ROW	**$16,000**	**$17,998**	**$14,398**	**$3,600**		**2010**		
						Const.	**$1,315,700**	**$1,479,984**	**$1,183,987**	**$295,997**		**2010**		
Intersection Improvement	NPIMP026	Keller	Keller	FM 1709 at US 377 West	Widen FM 1709 between intersection of Elm Street and the UP Railroad and Keller West city limits	**Eng.**	**$113,000**	**$122,221**	**$97,777**	**$24,444**	**$1,120,321**	**2009**	Yes	Fund from Acct 1
						Env.	**$20,000**	**$21,632**	**$17,306**	**$4,326**		**2009**		
						ROW	**$50,000**	**$54,080**	**$43,264**	**$10,816**		**2009**		
						Const.	**$820,000**	**$922,388**	**$737,911**	**$184,478**		**2010**		
Intersection Improvement	NPIMP042	Mansfield	Mansfield	East Broad Street at US 287	Addition and alignment of a West bound right turn lane; Add additional West and East bound left turn prior to the bridge	**Const.**	**$580,000**	**$627,328**	**$501,862**	**$125,466**	**$627,328**	**2009**	Yes	Fund from Acct 1
Bicycle/ Pedestrian	NPBP038	NCTCOG	Arlington	Viridian Trail Project From ~~Green Oaks Blvd to the South~~ the Future TRE Rail Station To SH 360	Construct northern trail & underpass at SH 360 ~~8.6 miles of trails that range 8-12 feet wide~~	**Const.**	**$2,000,000**	**$2,631,864**	**$1,315,932**	**$1,315,931**	**$2,631,863**	**2014**	Yes	Approve Reduced Funding and Scope; Scope includes northern bike/ped route with a connection to future TRE rail station and connection from veloweb intersection, and SH 360 bike/ped underpass; Fund from Acct 1
Transit	NPTT021	NCTCOG	Various	East Cotton Belt Tarrant County - Cotton Belt Passenger Rail Corridor From Fort Worth ITC (Intermodal Transit Center) to Tarrant County Line	The Cotton Belt Corridor would provide a key east-west link across Tarrant County, linking several member cities to each other and to DFW Airport	**Imp.**	**$500,000**	**$500,000**	**$400,000**	**$100,000**	**$500,000**	**2009**	Yes	Fund Phase 1; Fixed Funded; Fund from Acct 1

Source: North Central Texas Council of Governments

RTC Action
August 21, 2008

DRAFT

Summary of RTR "New Projects" Recommendations with Inflation
Tarrant County

Project Type	Project ID	Submitting Agency	City Name	Project Location	Scope of Work	Approved Phases	Original Funding by Phase	Inflation Adjusted Total (4%)	RTR Portion Inflated	Local Match Inflated	Total Funding Inflated	Funding Year by Phase	Recommend?	Comments
Intersection Improvement	NPIMP022	Richland Hills	Richland Hills	SH 183/Baker Blvd From Booth Calloway Dr To Rufe Snow Dr	Right turn lanes, curb, gutter, and sidewalks at 3 intersection locations	**Eng.**	**$230,000**	**$258,719**	**$206,975**	**$51,744**	**$3,148,329**	**2010**	Yes	Fund from Acct 1 (Environmental Phase at $47,590, Engineering at $206,975 & Utilities at $336,919) and from Acct 2 (Construction at $1.93M)
						Env.	**$55,000**	**$59,488**	**$47,590**	**$11,898**		**2009**		
						Util.	**$360,000**	**$421,149**	**$336,919**	**$84,230**		**2011**		
						Const.	**$1,980,000**	**$2,408,973**	**$1,927,178**	**$481,795**		**2012**		
On System	NPON078	Tarrant County	Fort Worth	US 81 & 287 at Avondale Haslet Road From Avondale Haslet Road To 3300 ft. South of Avondale Haslet Road	Relocate existing exit ramp: includes reconstructing and widening 2 lanes to 3 lanes on frontage roads	**Const.**	**$2,272,000**	**$2,457,395**	**$810,940**	**$1,646,455**	**$2,457,395**	**2009**	Yes	Fund from Acct 1
							$54,964,609	**$59,857,212**	**$44,292,985**	**$21,461,627**	**$60,698,112**			

Revenue will be used to account for local contribution credits for agencies along SH 121 corridor.

	Original Total	Inflation Adjusted Total	RTR Portion	RTR Balance
Account 1	**$42,928,109**	**$47,391,740**	**$33,309,307**	**$400,693**
Account 2	**$12,036,500**	**$12,465,473**	**$10,983,678**	**$22,076,322**

Source: North Central Texas Council of Governments

RTC Action
August 21, 2008

Mobility 2030 The Metropolitan Transportation Plan

Funded Roadway Recommendations

Legend

- New Freeway Facilities
- New Tollway Facilities
- Additional Capacity To Existing Freeway/Tollway
- HOV/Managed Lanes
- Improvements to Existing Freeway and HOV/Managed Lanes
- Selected New/Improved Regionally Significant Arterials
- Freeways/Tollways

Fort Worth CBD

Dallas CBD

Corridor specific design and operational characteristics for the Freeway/Tollway system will be determined through ongoing project development.

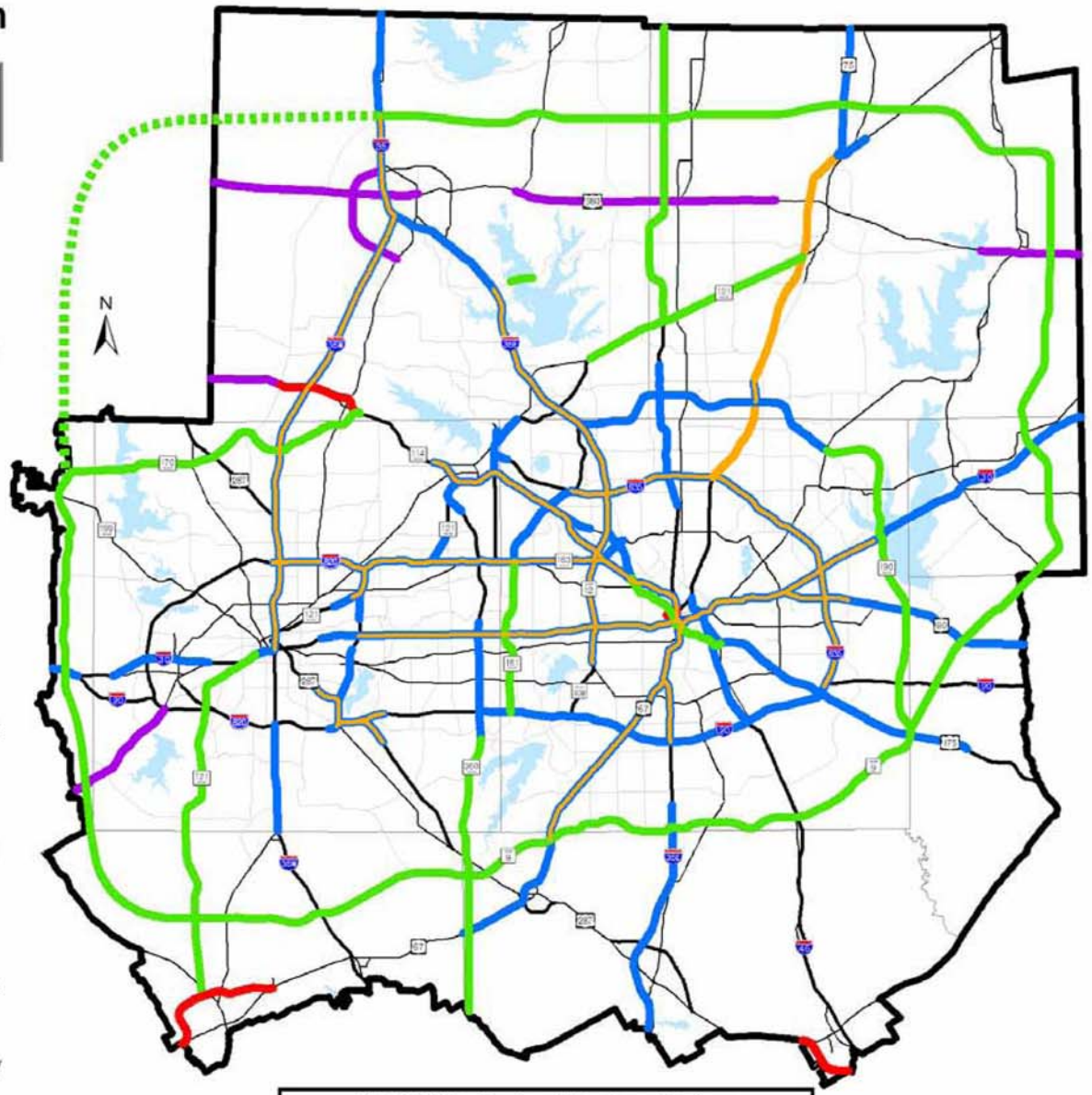
Additional and improved Freeway/Tollway interchanges and service roads should be considered on all Freeway/Tollway facilities in order to accommodate a balance between mobility and access needs.

All Freeway/Tollway corridors require additional study for capacity, geometric, and safety improvements related to truck operations.

New facility locations indicate transportation needs and do not represent specific alignments

Operational strategies to manage the flow of traffic should be considered in the corridors where additional freeway or tollway lanes are being considered.

North Central Texas Council of Governments Transportation



$29.8 Billion Regional Roadway System
Additional Freeway/Tollway lane miles = 3,444 Additional HOV/Managed lane miles = 626

Exhibit 11

January 11, 2007

The Metropolitan Transportation Plan

Priced Facilities

Legend

- Existing Toll Facilities
- Proposed Toll Facilities
- Proposed HOV/Managed Facilities*
- Freeways/Tollways

Fort Worth CBD

Dallas CBD

Corridor specific design and operational characteristics for the Freeway/Tollway system will be determined through ongoing project development.

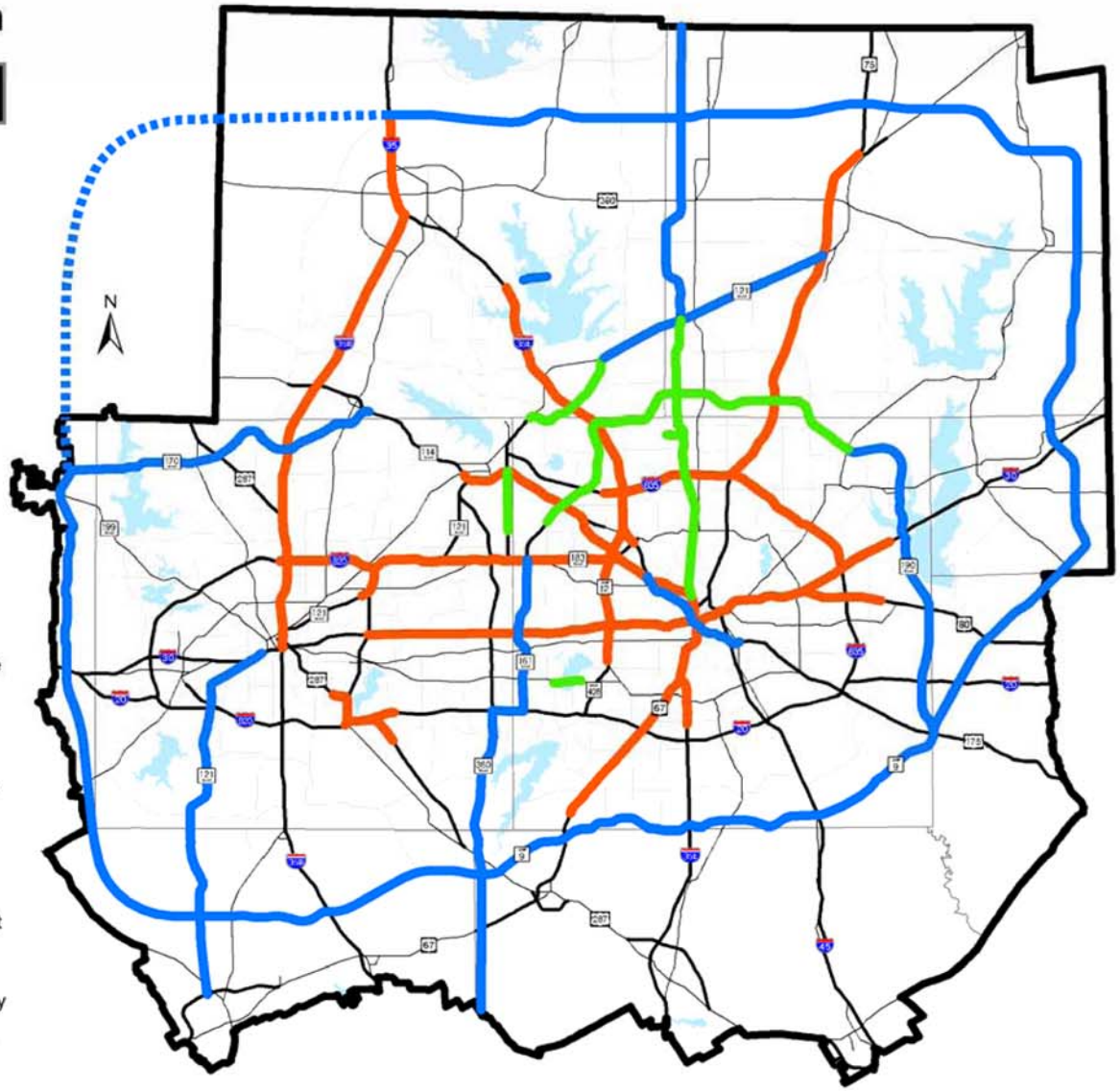
Additional and improved Freeway/Tollway interchanges and service roads should be considered on all Freeway/Tollway facilities in order to accommodate a balance between mobility and access needs.

All Freeway/Tollway corridors require additional study for capacity, geometric, and safety improvements related to truck operations.

New facility locations indicate transportation needs and do not represent specific alignments

Operational strategies to manage the flow of traffic should be considered in the corridors where additional freeway or tollway lanes are being considered.

* Existing lanes in corridor remain free. Toll charged on new capacity only and will include HOV incentives.



North Central Texas Council of Governments
Transportation

$17.7 Billion of Innovative Funding Strategies

Exhibit 12

January 11, 2007

The Metropolitan Transportation Plan

Passenger Rail Recommendations

Legend

- Light Rail
- Light Rail - New Technology
- Regional Rail
- Regional Rail - Special Events Only
- Existing Rail Corridors
- Highways

Fort Worth CBD

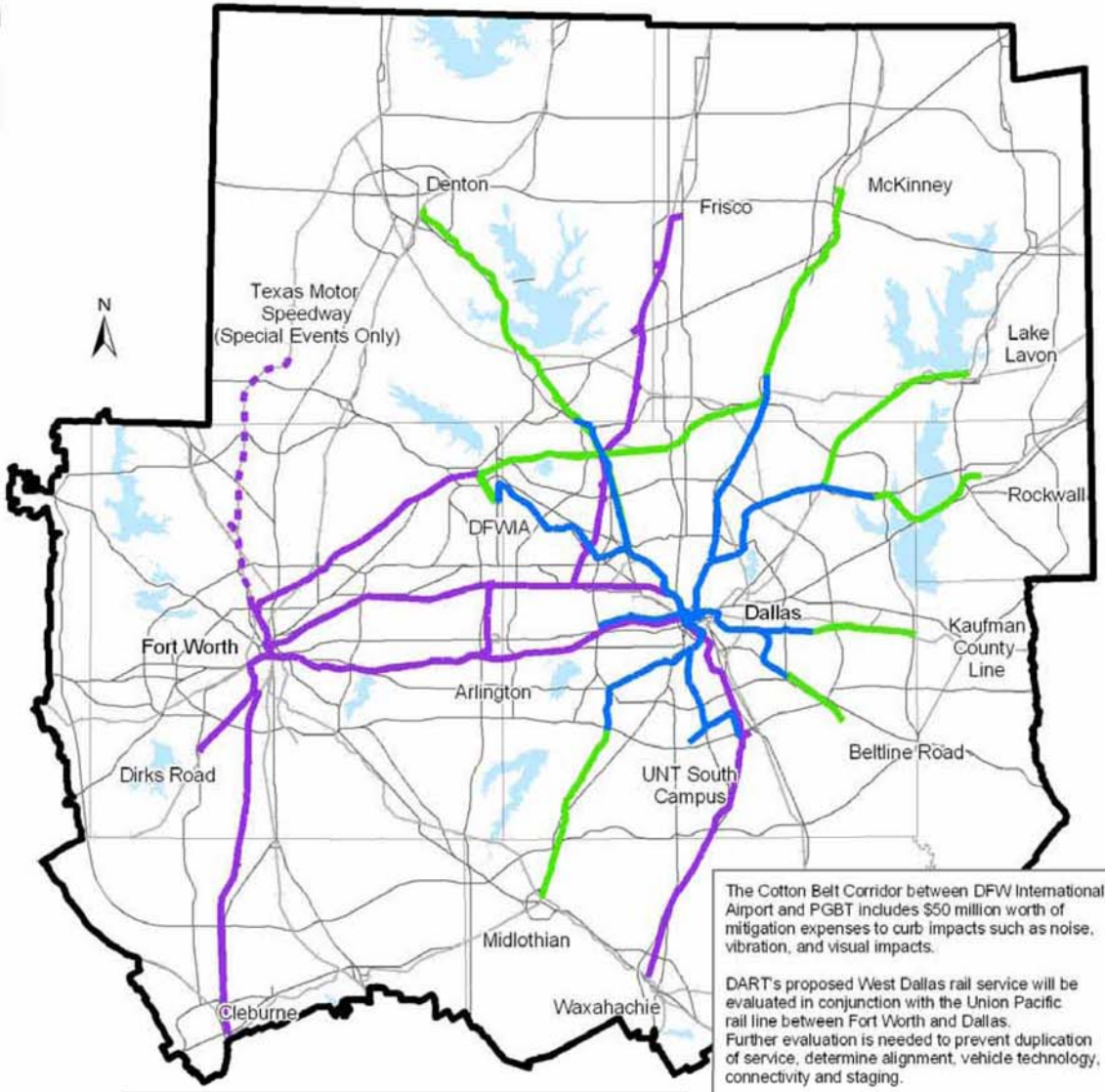
Dallas CBD

Corridor specific design and operation characteristics for the Intercity Passenger, Regional Passenger and Freight Rail Systems will be determined through capacity evaluation and ongoing project development. Refined rail forecasts are necessary to determine technology and alignment in Future Rail corridors.

All existing railroad rights-of-way should be monitored for potential future transportation corridors. New facility locations represent transportation needs and do not reflect specific alignments.

Institutional structure being reviewed for the region.

The need for additional rail capacity in the Dallas CBD, Fort Worth CBD, DFW International Airport, and other inter-modal centers will be monitored. A grade separation is needed for the Dallas CBD second alignment.



397 Additional Rail Miles
$9.6 Billion

The Cotton Belt Corridor between DFW International Airport and PGBT includes $50 million worth of mitigation expenses to curb impacts such as noise, vibration, and visual impacts.

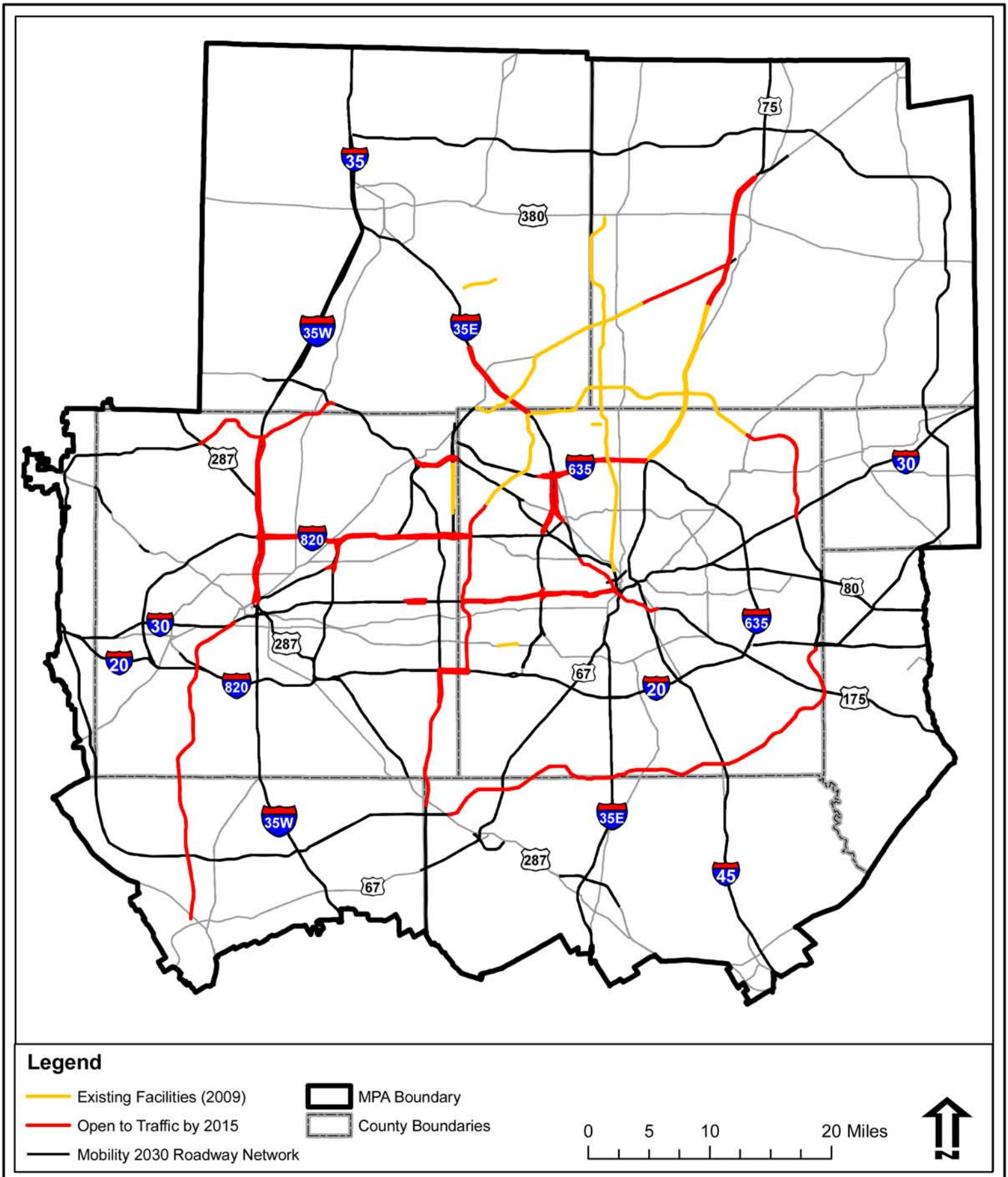
DART's proposed West Dallas rail service will be evaluated in conjunction with the Union Pacific rail line between Fort Worth and Dallas. Further evaluation is needed to prevent duplication of service, determine alignment, vehicle technology, connectivity and staging.

DART's proposed SouthPort rail line extension will be evaluated in conjunction with the Dallas to Waxahachie rail service. Further evaluation is needed to prevent duplication of service, determine alignment, vehicle technology, connectivity and staging.

North Central Texas Council of Governments Transportation

Exhibit 13

January 11, 2007



Texas Department of Transportation

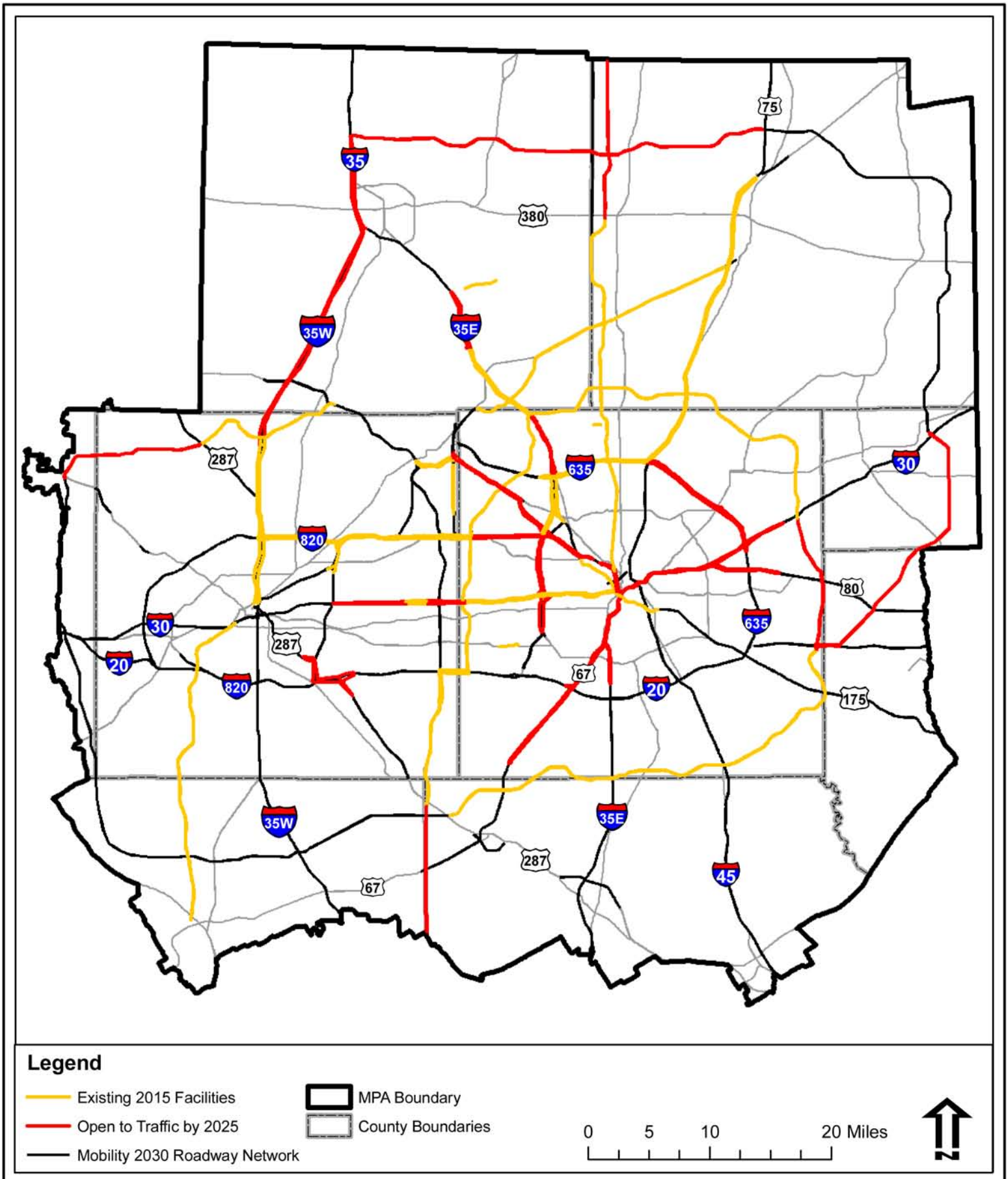
Texas Department of Transportation
Tarrant County

2015 Priced Facility Network

SH 121 from IH 30 to FM 1187

Exhibit 14

Date Created: May 2008 v2



Texas Department of Transportation

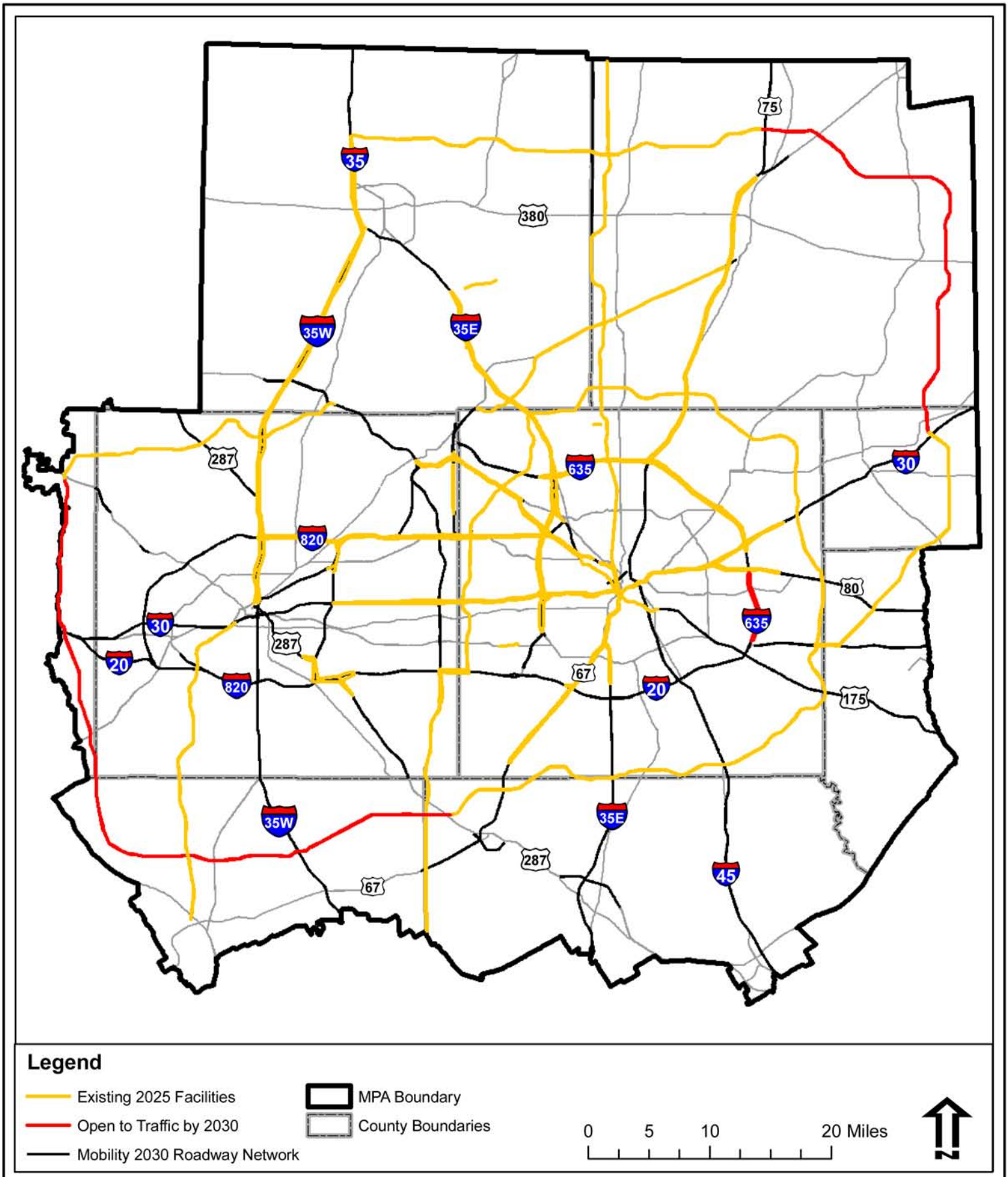
Texas Department of Transportation
Tarrant County

2025 Priced Facility Network

SH 121 from IH 30 to FM 1187

Exhibit 15

Date Created: May 2008 v2



Texas Department of Transportation

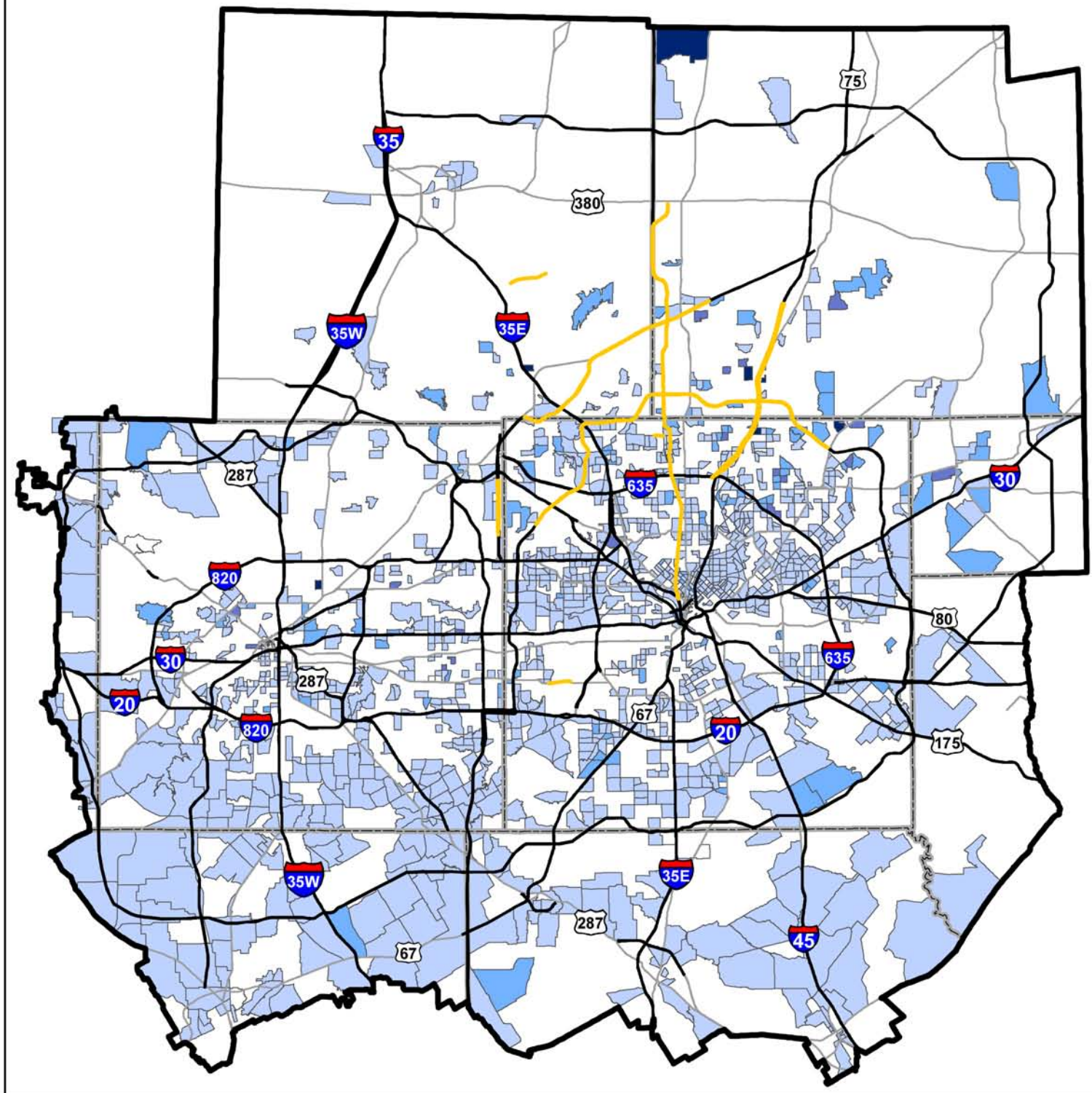
Texas Department of Transportation
Tarrant County

2030 Priced Facility Network

SH 121 from IH 30 to FM 1187

Exhibit 16

Date Created: May 2008 v2



Legend

- 2009 Priced Facilities
- Mobility 2030 Roadway Network
- MPA Boundary
- County Boundaries

Environmental Justice TSZs

TRIPS

- <1 Trip
- 1-50 Trips (19,099 EJ Trips, 52% of total EJ Trips)
- 51-150 Trips (10,018 EJ Trips, 28% of total EJ Trips)
- 151-300 Trips (4,390 EJ Trips, 12% of total EJ Trips)
- >300 Trips (2,893 EJ Trips, 8% of total EJ Trips

0 5 10 20 Miles

N

Texas Department of Transportation

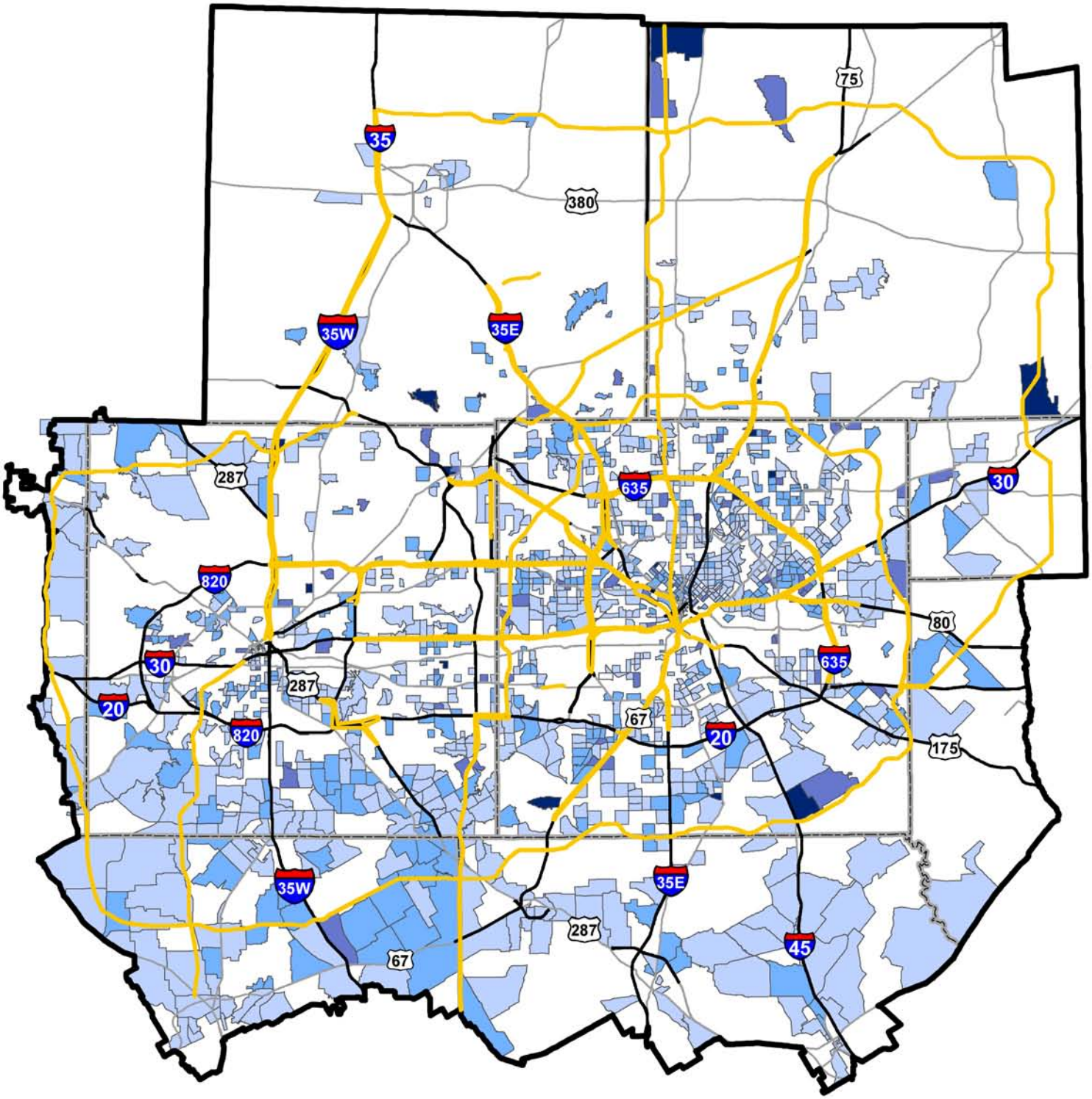
Texas Department of Transportation
Tarrant County

Environmental Justice
Traffic Survey Zones:
Daily Trips on Existing (2009) Priced Facilities

SH 121 from IH 30 to FM 1187

Exhibit 17

Date Created: May 2008 v2



Legend

- 2030 Priced Facilities
- Mobility 2030 Roadway Network
- MPA Boundary
- County Boundaries

Environmental Justice TSZs

Trips by TSZ

- <1 Trip
- 1-50 Trips (23,109 EJ Trips, 27% of total EJ Trips)
- 51-150 Trips (43,809 EJ Trips, 41% of total EJ Trips)
- 151-300 Trips (17,740 EJ Trips, 21% of total EJ Trips)
- >300 Trips (9,353 EJ Trips, 11% of total EJ Trips)

0 5 10 20 Miles

N

Texas Department of Transportation

Texas Department of Transportation
Tarrant County

Environmental Justice
Traffic Survey Zones:
Daily Trips on Future (2030) Priced Facilities

SH 121 from IH 30 to FM 1187

Exhibit 18

Date Created: May 2008 v3