CHAPTER 1

NEED AND PURPOSE FOR PROPOSED ACTION

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CHAPTER 1
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1.0 INTRODUCTION

Transportation improvements are necessary within the downtown area of the City of Dallas to address current and projected transportation needs and deficiencies in existing roadway facilities. The primary purpose of the Trinity Parkway is to provide a safe and efficient transportation solution to manage traffic congestion and improve safety in the area of the Dallas Central Business District (CBD). The project particularly focuses on managing congestion in the Interstate Highway (IH)-30/IH-35E interchange (Mixmaster) on the west edge of downtown Dallas; the depressed segment of IH-30 (Canyon) south of the CBD; and the segment of IH-35E from the Mixmaster north to the Dallas North Tollway (DNT) (Lower Stemmons Freeway).

The Federal Highway Administration (FHWA), the Texas Department of Transportation (TxDOT), and the North Texas Tollway Authority (NTTA) have prepared this Final Environmental Impact Statement (FEIS) as joint lead agencies for achieving compliance with the National Environmental Policy Act (NEPA, 42 United States Code (U.S.C.) Sections 4321-4375) for the proposed Trinity Parkway reliever route project. The FHWA is the lead federal agency for this study. The U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE) have agreed to be cooperating agencies in the preparation of this Environmental Impact Statement (EIS).

This chapter provides an overview of the project setting and history, discusses the need for the project and the intended purposes of the proposed transportation improvements, and describes the project-specific planning process in the context of long-range local and regional transportation goals and plans. The chapter also provides an update regarding the project development process that has been coordinated among the partner agencies since the publication of the Supplemental Draft EIS (SDEIS) in February 2009 and the Limited Scope Supplemental (LSS) to the SDEIS in March 2012. Certain sections of the SDEIS and LSS are incorporated by reference throughout this FEIS. Any cross references to previous versions of the EIS will be preceded by DEIS, SDEIS, or LSS in bold text; internal cross references to the FEIS are generally not preceded by “FEIS” throughout this document.

1.1 PROJECT OVERVIEW

1.1.1 Project Setting and Scope

The proposed Trinity Parkway (TxDOT Dallas District Control-Section-Job (CSJ) Number 0918-45-121) is located in the Dallas-Fort Worth (DFW) Metroplex of the north central Texas region (see **Figure 1-1**). The Trinity Parkway project area, shown in **Figure 1-2**, comprises approximately 7,474 acres and is located on the west side of the Dallas CBD in central Dallas County. The project area boundary extends from the Dallas CBD on the east to West Dallas on the west. The southern boundary extends slightly beyond the U.S. Highway (US)-175/State Highway (SH)-310 interchange, and the northern boundary extends slightly north of the IH-35E/SH-183 interchange. The project area includes the Dallas Floodway, a federal flood conveyance and levee system carrying the main stem drainage flows of the Trinity River. The northern project area boundary along IH-35E (Lower Stemmons Freeway) and SH-183 was extended approximately 0.5 mile north from that originally presented in the Draft Environmental Impact Statement (DEIS), SDEIS, and LSS documents. The expansion of the Trinity Parkway project area was necessary to accommodate the deferral of the IH-35E at SH-183 portion of Project Pegasus from the financially-constrained regional Metropolitan Transportation Plan (MTP), *Mobility 2035 – 2013 Update* (NCTCOG, 2013a). Project Pegasus received environmental clearance (Finding of No Significant Impact (FONSI)) in July 2005. Additional discussion related to this project area expansion is presented in **FEIS Sections 1.1.2** and **2.9.1**.

FIGURE 1-1. REGIONAL VIEW OF PROJECT AREA

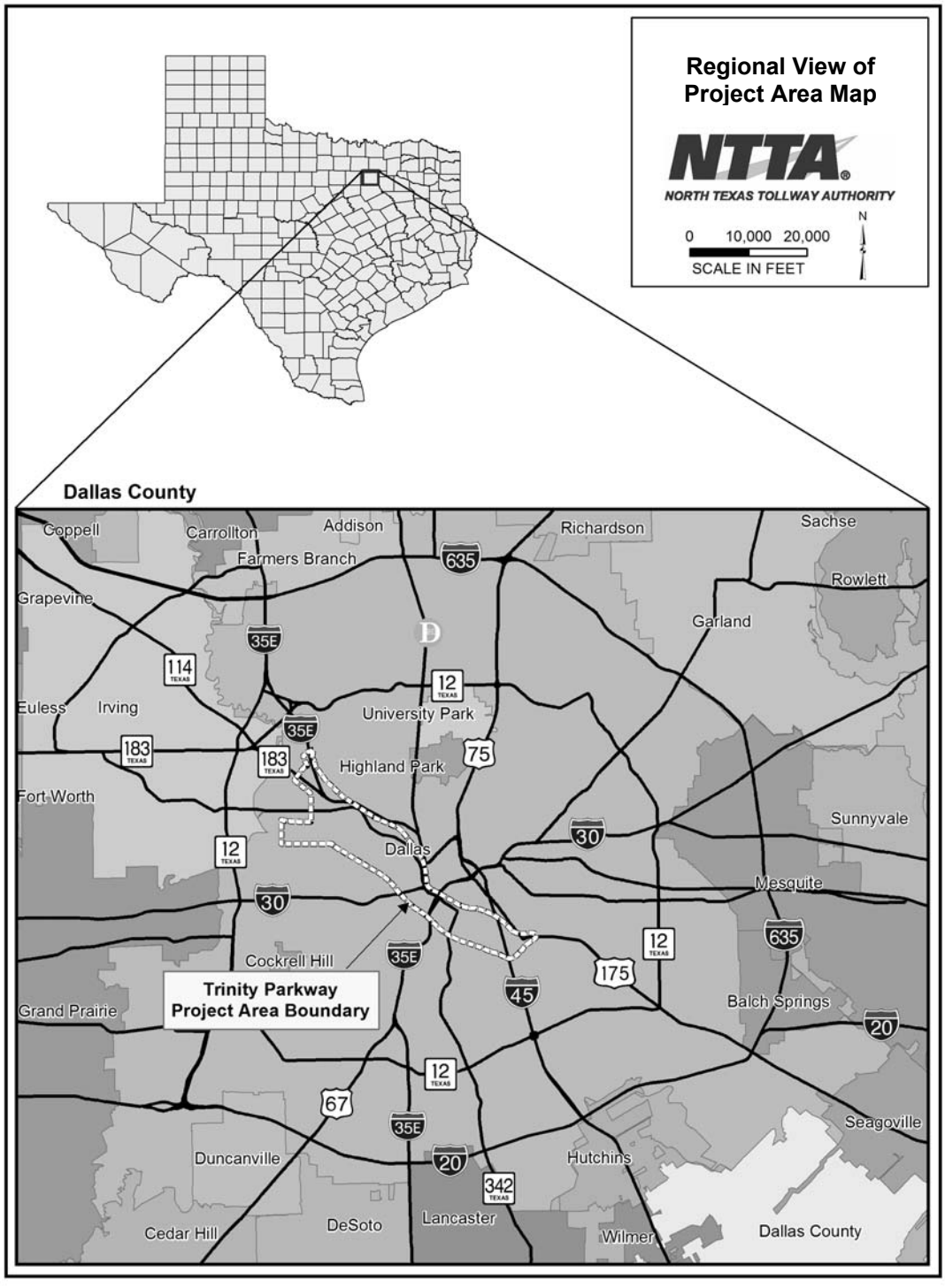
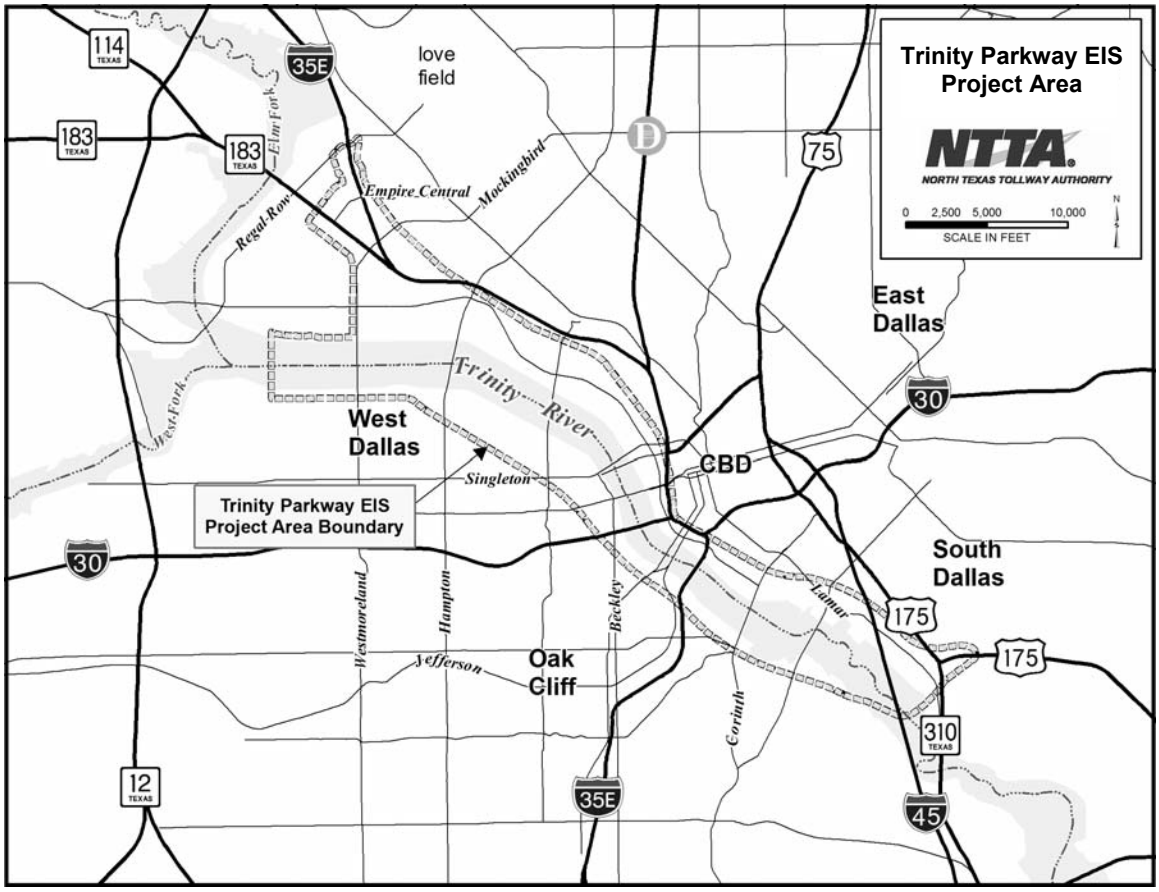
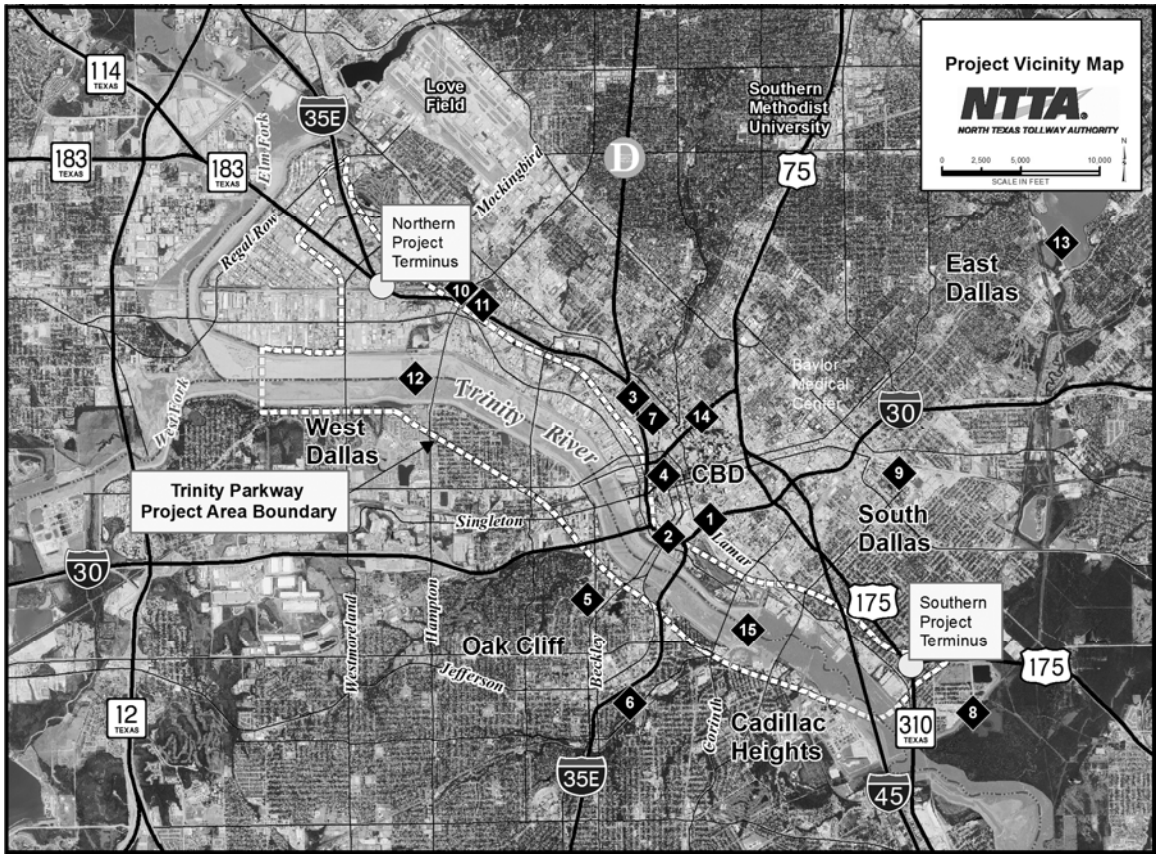


FIGURE 1-2. TRINITY PARKWAY EIS PROJECT AREA



Roadway traffic within the project area is influenced by a number of important traffic generators, including the Dallas CBD, Lower Stemmons Corridor, and communities in South and West Dallas. In addition, major tourist/visitor attractions are located near the project area, including the American Airlines Center Arena/Victory Park and the Dallas West End Historic District. The West End Historic District includes the Sixth Floor Museum, located in the Texas School Book Depository, and Dealey Plaza. **Figure 1-3** shows the project area against an aerial photograph background and provides a geographic reference for place names used throughout this FEIS.

FIGURE 1-3. PROJECT AREA AND VICINITY MAP



Places of Interest

1 - Canyon (IH-30)
2 - Mixmaster (IH-35E/IH-30)
3 - Lower Stemmons (IH-35E)
4 - West End and Dealey Plaza
5 - Methodist Medical Center
6 - Dallas Zoo
7 - American Airlines Center
8 - Rochester Park
9 - Fair Park
10 - Parkland Hospital
11 - Dallas Market Center
12 - Dallas Floodway
13 - White Rock Lake
14 - Woodall Rodgers Freeway
15 - DART Rail River Crossing

The proposed project is the construction of a limited-access toll facility from the IH-35E/SH-183 interchange (northern terminus) to the US-175/SH-310 interchange (southern terminus), a distance of approximately 9 miles, in the City of Dallas, Dallas County, Texas. This project would provide a needed reliever route around the existing freeway loop which encircles downtown Dallas. The proposed tollway would ultimately consist of six mixed-flow mainlanes, local street interchanges, and interchanges between the tollway and freeways at the northern terminus, southern terminus, Woodall Rodgers Freeway, and IH-45. Additional interchange connections are included, but vary between each of the Build Alternatives evaluated. Funding for the proposed project is anticipated to be provided by local, state, and federal sources, and through the collection of tolls. The design features for the proposed tollway are discussed in **FEIS Chapter 2**.

The FHWA has developed general criteria that must be met in the selection of logical termini for a transportation project and in the documentation of its independent utility (23 Code of Federal Regulations (CFR) Section 771.111(f)). These criteria state that a proposed action shall:

- Connect logical termini (major crossroads, population centers, major traffic generators, or major highway control elements) and be of sufficient length to address environmental matters on a broad scope (ensure a meaningful analysis);
- Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made); and
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

As presented in this FEIS, the logical termini for the purpose of evaluating alternatives and impacts of the proposed improvements are the junctions at IH-35E/SH-183 and US-175/SH-310. The proposed action has independent utility and would not preclude other foreseeable transportation improvements.

Various municipalities and agencies such as the North Central Texas Council of Governments (NCTCOG), TxDOT, Dallas Area Rapid Transit (DART), Dallas County, and the City of Dallas have demonstrated long-term support for the project. The proposed project is included as part of a regional freeway/tollway plan in *Mobility 2035 – 2013 Update* (NCTCOG, 2013a), which is the regional MTP covering all modes of transportation and transportation system improvements. The inclusion of the Trinity Parkway in *Mobility 2035 – 2013 Update* indicates regional governmental support. Additional discussion relating to the historical background of the MTP and its relationship with the proposed project is included within **FEIS Section 1.6.1.1**.

1.1.2 Project History

The proposed Trinity Parkway reliever route has been part of the long-range transportation plan in the Dallas area since the mid-1960s, and remains an integral component of current transportation plans and programs. The paragraphs that follow provide a brief description of important events in the history of the project and its predecessor proposals. Important historical aspects of the project are also discussed throughout this FEIS in the context of EIS-related topics and community-involvement processes. Additional discussion of key planning milestones in the project history is provided at the end of this chapter in **FEIS Section 1.6**.

- The 1967 *DFW Regional Transportation Study*, prepared by local government agencies and the State Department of Highways and Public Transportation (SDHPT) (predecessor of TxDOT), identified a major thoroughfare corridor extending westward from the Dallas CBD along the Trinity River to a point west of Belt Line Road in the City of Irving. The plan called for a new freeway or "River Freeway," which would serve as an extension of Woodall Rodgers Freeway westward along the east levee of the Dallas Floodway.

- In 1969, the Dallas Park Board published the *Coordinated Plan - Open Space Development Trinity River System in Dallas, Texas*. This plan called for multiple uses of the Dallas Floodway, including recreation, drainage, transportation, water supply, flood control, effluent disposal, and utility service. One of the major non-recreation components specified in the plan was the proposed Trinity River Freeway.

- In 1972, the Industrial Properties Corporation donated a major portion of the Dallas Floodway land to the City of Dallas for use as park and transportation facilities, including roadways, navigation, and flood protection. The donation was a 930-acre tract of land situated between the Dallas Floodway east and west levees, from approximately 2,100 feet west of Hampton Road to the Atchison, Topeka, and Santa Fe (AT&SF) Railroad Bridge at the southern end of the Dallas Floodway. The City of Dallas used the donation to request a $2.23 million grant from the U.S. Department of Housing and Urban Development (HUD) to acquire the remaining privately-owned property between the Dallas Floodway levees. The city acquired the properties between the levees by January 1, 1974, and included in the deeds of purchase a provision for use as both park and transportation facilities.

- In 1973, the Texas Turnpike Authority (TTA) (predecessor of NTTA) completed the first detailed study of this corridor. The study, titled *Trinity Route of the Dallas-Fort Worth Turnpike*, included a schematic design for a facility to serve the projected increase in traffic volumes within the Dallas to Fort Worth Corridor. The schematic design showed a multi-lane highway generally following the Trinity River floodplains between Dallas and Fort Worth, having a length of over 27.5 miles (TTA, 1973).

- In 1975, the City of Dallas published *A Preliminary Design Report for Town Lake for the City of Dallas, Texas*. This plan provided details for construction of a lake and surrounding parks in the floodplain of the Trinity River between downtown Dallas and Oak Cliff. According to the report, the Town Lake project could make a major contribution to regional transportation system through its assistance to the proposed

Trinity River Freeway. The report indicated that widening the east levee upstream from the lake could provide a foundation for the thoroughfare (City of Dallas, 1975).

- In 1980, the Dallas County Commissioners Court published the *Dallas County Open Space Plan*. One of the planned major public works projects described in the plan was the proposed "Trinity Valley Parkway." The plan showed a general alignment following the Trinity River floodplain from the western limits of Dallas County to IH-45 southeast of downtown Dallas (Marvin Springer and Associates and Schrickel, Rollins, and Associates, 1980).

- In 1984, the City of Dallas published the *Chain of Lakes Park Plan*. According to this plan, the Chain of Lakes Park would encompass a series of lakes, recreational facilities, outdoor special event areas, athletic facilities, and open space areas, extending from Oak Cliff to the confluence of the Elm Fork and West Fork of the Trinity River. The plan indicated that a "reserved zone," approximately 150 feet in width along the inside of each levee from Corinth Street upstream to the confluence of the Elm Fork and West Fork, had been reserved for future roadways (City of Dallas, 1984).

- In 1986, the NCTCOG approved a MTP (*Mobility 2000*) for the DFW metropolitan area as part of a federally-mandated program. The "Trinity River Parkway" was among the new projects recommended in *Mobility 2000* (NCTCOG, 1986).

- In 1988, the TTA completed an exploratory investigation of possible routes for the "Trinity Turnpike." The West Fork and Trinity River segments connected SH-121 northeast of the Fort Worth CBD with US-175 and IH-35E southeast of the Dallas CBD.

- In 1991, a new MTP named *Mobility 2010* also included a proposed limited-access roadway in this corridor called the Trinity Freeway. The Trinity Freeway was also a part of 1993's *Mobility 2010 Update*.

- In 1996, the TxDOT initiated the *Trinity Parkway Corridor Major Transportation Investment Study* (MTIS) (TxDOT, 1998a). The Trinity Parkway Corridor is the study area defined in the MTIS, which encompassed IH-35E, IH-30, and other major highways in and surrounding the Dallas CBD (see **FEIS Section 2.1.2**). The MTIS developed a locally-preferred plan (LPP) to address transportation problems within the Trinity Parkway Corridor, and to integrate with community plans and goals for the Dallas Floodway. This

MTIS developed a seven-element, multi-modal plan of action for the corridor, one of which was the Trinity Parkway reliever route (proposed action) (see **FEIS Section 2.1**).

- On September 10, 1997, the Dallas City Council approved the *Trinity Parkway Corridor MTIS*, including endorsement of the "Split Parkway Riverside" route of the Trinity Parkway as the LPP. The Dallas County Commissioners Court on September 30, 1997, and the DART Board of Directors also approved this plan on October 28, 1997.

- In 1996, *Mobility 2020* was developed, which was the first MTP to list the Trinity Parkway as a toll road, pending the completion of the corridor's Major Investment Study (MIS) (NCTCOG, 1996). On March 12, 1998, the Regional Transportation Council (RTC) for the DFW Metropolitan Planning Organization (MPO) adopted a resolution officially integrating the Trinity Parkway proposed action plan into *Mobility 2020*. Since that time, the Trinity Parkway has been integrated as a tolled facility into subsequent MTPs, which include *Mobility 2025* (NCTCOG, 2000a), *Mobility 2025 Update* (NCTCOG, 2001), *Mobility 2025 – 2004 Update* (NCTCOG, 2004), *Mobility 2025 – Amended April 2005* (NCTCOG, 2005a), *Mobility 2030* (NCTCOG, 2007), *Mobility 2030 – 2009 Amendment* (NCTCOG, 2009a), *Mobility 2035* (NCTCOG 2011a), and *Mobility 2035 – 2013 Update* (NCTCOG, 2013a).

- On May 2, 1998, Dallas voters authorized the issuance of General Obligation Bonds, which included $84 million for the Trinity Parkway reliever route and $34 million for other proposed transportation improvements in the corridor.

- In 1998, in view of substantial regional shortfalls and delays in funding of needed highway projects, and of the perceived feasibility of the Trinity Parkway reliever route as a toll road, a decision was made among local transportation funding agencies to assign the advanced development of the Trinity Parkway to NTTA. This was followed by resolutions of the Dallas City Council and the Dallas County Commissioners Court requesting that NTTA "take such actions and conduct such studies as may be necessary to determine the viability of jointly developing and financing all or some portion of the Trinity Parkway with a combination of turnpike revenue bonds, city bonds, and federal and/or state transportation funds." Subsequently, on November 18, 1998, the Dallas City Council authorized entering into an Interlocal Agreement with the NTTA for completion of an EIS and preliminary design schematics. An Interlocal Agreement between the City of Dallas, the NTTA, and TxDOT concerning the development of the Trinity Parkway was fully executed in 1999.

- On June 16, 1999, the FHWA, in cooperation with the NTTA, TxDOT, and the City of Dallas, issued a Notice of Intent (NOI) in the *Federal Register* to officially begin preparation of the Trinity Parkway Draft EIS.

- On December 12, 2000, the FHWA issued a supplementary NOI in the *Federal Register* to include in the DEIS an evaluation of the proposed City of Dallas Lake Plan, which is located in the Dallas Floodway portion of the Trinity Parkway project area. The supplementary NOI was issued because additional analysis would be needed to fully address the impacts of coordinated development of these projects.

- On August 18, 2004, the U.S. Department of Transportation (USDOT) announced that the Trinity Parkway had been selected as one of six new nationwide priority projects subject to Executive Order (EO) 13274 (Environmental Stewardship and Transportation Infrastructure Project Reviews) (2002), signed by President Bush on September 18, 2002. This EO was issued to enhance environmental stewardship while streamlining the decision-making process for major transportation projects. For priority projects on the USDOT list, the EO requires that "… agencies shall to the maximum extent practicable expedite their reviews for relevant permits or other approvals, and take related actions as necessary, consistent with available resources and applicable laws, including those relating to safety, public health, and environmental protection."

- On January 28, 2005, the FHWA approved the Trinity Parkway DEIS for public release, and the DEIS was subsequently released for public review in February 2005. On March 29, 2005, a public hearing for the Trinity Parkway DEIS was held at the Dallas Convention Center Arena. The public comment period for the DEIS ended on April 8, 2005 (FHWA, 2005a).

- On April 13, 2005, the City of Dallas Council affirmed support for Trinity Parkway as an NTTA toll road, and recommended Alternative 3B (Combined Parkway Modified) as the locally-preferred alignment (see **FEIS Section 2.3.1.2**). On April 20, 2005, the NTTA Board of Directors issued a resolution in support of Alternative 3B as the interim locally-preferred alternative, with the acknowledgement that "the locally-preferred alternative may require modification…" and that selection of a Build Alternative was subject to completion of the environmental review and documentation process followed by a final decision by the FHWA.

- On November 17, 2005, the FHWA, in consultation with the USACE, agreed to publish a SDEIS for the Trinity Parkway (see **FEIS Section 1.6.2**).

- On June 29, 2007, a group named "Trinity Vote Committee" submitted a petition to the City of Dallas calling for prohibition of construction, maintenance, or improvement of certain roadways within the Trinity River levees from Westmoreland Road to IH-45. On August 15, 2007, the City Secretary reported to the Dallas City Council that the petition had been signed by the requisite number of qualified voters. The Council then ordered a special election to be held on the matter on November 6, 2007. The petition, if supported by Dallas voters, would have prohibited city adoption of Trinity Parkway Build Alternatives located within the Dallas Floodway. After extensive media coverage and public debate (see **FEIS Appendix A-4**), the petition failed to gain voter approval, thus allowing continued consideration of Trinity Parkway alignment alternatives within the Trinity River levees.

- In 2009, subsequent to the publication of the SDEIS, the southbound IH-45 to southbound US-175 direct connect (DC) ramp and the northbound US-175 to northbound IH-45 DC ramp, which were originally proposed to be constructed as part of the Trinity Parkway, were instead incorporated into the Phase I portion of the SM Wright Project being advanced by TxDOT. The SM Wright Project is an independent project with its own logical termini, but dovetails the proposed Trinity Parkway project near its southern project terminus (US-175/SH-310). On December 18, 2013, the FHWA approved the SM Wright Project Environmental Assessment (EA) for public release (TxDOT CSJs: 0092-01-052, 0197-02-108 and 0092-14-081), and a public hearing was held on January 31, 2013. Due to requested design modifications and the new MTP, *Mobility 2035 – 2013 Update*, the SM Wright Project EA was revised and a consistency report was prepared that determined that the SM Wright Project EA was consistent with *Mobility 2035 – 2013 Update*. The FHWA approved the revised SM Wright Project EA for public release and held a second public hearing on June 27, 2013. The NEPA process was completed for the SM Wright Project on September 13, 2013. The removal of design elements from the Trinity Parkway that are part of the SM Wright Project have a minor effect on the overall design of the Trinity Parkway. These minor design changes and associated environmental impacts are reflected in the discussion and analysis presented in this FEIS.

- On February 19, 2009, the FHWA approved the Trinity Parkway SDEIS for public release. On May 5, 2009, a public hearing for the Trinity Parkway SDEIS was held at the

Dallas Convention Center Arena with an extended comment period from March 20 through June 30, 2009.

- On April 1, 2009, the USACE released the *Periodic Inspection Report, Dallas Floodway, Trinity River, Dallas, Dallas County, Texas (Periodic Inspection Report No. 9)* which cited deficiencies in the Dallas Floodway levee system, including segments adjacent to the Trinity Parkway Build Alternatives (USACE, 2009b). Because the SDEIS was released prior to the USACE *Periodic Inspection Report No. 9*, it did not include a discussion of the reported deficiencies and any impacts that these may have on the Trinity Parkway Build Alternatives; however, the *Periodic Inspection Report* was acknowledged during the May 5, 2009 public hearing on the SDEIS. Subsequently, the FHWA, TxDOT, and NTTA stated their intent to further evaluate the levee deficiencies and a future Levee Remediation Plan (LRP) being developed by the City of Dallas and USACE as it relates to the Trinity Parkway. This further analysis of levee deficiencies and remediation, along with an enhanced evaluation of the practicability of the Trinity Parkway alternatives in accordance with EO 11988 (Floodplain Management) and EO 11990 (Protection of Wetlands) and an update on activities performed in compliance with Section 106 of the National Historic Preservation Act (NHPA), were completed as part of a LSS to the SDEIS.

- On March 7, 2012, the FHWA approved the Trinity Parkway LSS to the SDEIS for public release. On May 8, 2012, a public hearing for the Trinity Parkway LSS was held at the Dallas Convention Center Arena. The public comment period for the LSS ended on May 18, 2012.

- In March 2013, project partners agreed on the expansion of the Trinity Parkway project area to the north by approximately 0.5 mile along IH-35E (Lower Stemmons Freeway) and SH-183. The expansion of the Trinity Parkway project area was needed to accommodate the deferral of the IH-35E at SH-183 portion of Project Pegasus from the financially-constrained MTP, *Mobility 2035 – 2013 Update* (NCTCOG, 2013). Environmental approval for Project Pegasus was obtained in July 2005. Project Pegasus included improvements to portions of IH-35E (Lower Stemmons Freeway) and SH-183 immediately adjacent to the Trinity Parkway northern project terminus. Accordingly, the deferral of the IH-35E at SH-183 portion of Project Pegasus necessitated modifications to the Trinity Parkway design in order to ensure the functional transition of the Trinity Parkway onto IH-35E (Lower Stemmons Freeway) and SH-183. The addition of design elements to the Trinity Parkway that were part of Project Pegasus has a minor effect on

the overall design of the Trinity Parkway. These minor design changes and associated environmental impacts are reflected in the discussion and analysis presented in this FEIS.

1.2 SUMMARY OF PROJECT NEED AND PURPOSE

The transportation needs in the Trinity Parkway project area, are summarized below:

- There is insufficient transportation capacity (e.g., freeway lanes, city streets, transit) in the Lower Stemmons/Canyon/Mixmaster area near downtown Dallas to carry needed trips flowing north-south (generally along IH-35E) and east-west (generally along IH-30). This is most evident in the morning and evening rush hours on weekdays, with the heaviest traffic flows northbound and westbound in the morning hours, and southbound and eastbound in the evening hours.

- The traffic problems in the Canyon and Mixmaster are intensified by the layout of mainlanes, service roads, ramps, and surface streets in the area, which fail to properly provide for the routes and destinations of the traveling public. Secondary problems include forced lane changes; abrupt and unexpected merges, weaves, and exits; missing connections for direct freeway-to-freeway movements; high accident rates; and poor access for emergency response vehicles.

The existing transportation problems in the corridor are the result of various urban influences, including high population growth, increased suburbanization, changing employment patterns, trade-related transportation, lack of alternative routes, and high use of single-occupant vehicles. These influences, discussed further in **FEIS Section 1.3.2**, result in many effects, including slow travel speeds, extended hours of congestion, accidents, and reduced air quality due to congestion. Population and economic growth projections for the region indicate that corridor congestion problems would continue to worsen unless action is taken.

Congestion in the Trinity Parkway Corridor also slows travel for many miles along freeways feeding into the Dallas CBD center, such as IH-35E (Lower Stemmons and South R.L. Thornton Freeways), IH-30 (Tom Landry Freeway and East R.L. Thornton Freeway), SH-183 (Airport Freeway), SH-114, and IH-45. In fact, segments of IH-35E (Lower Stemmons portion - from SH-183 to the Jefferson Street Viaduct), IH-30 (through the Canyon area), and IH-35E (from US-67 to the Jefferson Street Viaduct) all leading into the CBD were ranked in the top 25 of TxDOT's top 100 congested roadway segments in the State of Texas for 2013 (see additional discussion in

FEIS Section 1.3.4.3). Proposals for improving outlying segments of these freeways would not be entirely effective until traffic capacity is increased in and around the downtown area. The primary purpose for the Trinity Parkway is to manage congestion on existing highways through the downtown Dallas area by creating a tollway that would effectively bypass the CBD. The proposed Trinity Parkway reliever route would help manage congestion on IH-35E (Lower Stemmons and South R.L. Thornton Freeways), IH-30, and other major transportation facilities within the Trinity Parkway project area to improve mobility and safety, and thereby increase accessibility to businesses and public facilities. The proposed Trinity Parkway would address localized congestion in and near the Dallas CBD, and would thereby alleviate a major traffic bottleneck that affects mobility throughout the DFW region.

1.3 PROJECT NEED: MOBILITY

The effects of traffic congestion in the DFW Metroplex are widespread. Congestion directly affects the mobility of people and goods, and contributes to poor air quality. Other effects include increased travel time, increased fuel consumption, and lost productivity of people and businesses. The sections below analyze regional traffic conditions, first evaluating the progression of traffic congestion over time (see **FEIS Section 1.3.1**), and then analyzing various contributing factors influencing increased congestion and the overall declining state of transportation system performance (see **FEIS Section 1.3.2**). This is followed by a discussion of existing and projected regional traffic conditions, as well as local traffic conditions that illustrate horizon-year (2035) traffic conditions in the Trinity Parkway Corridor if the proposed project is not constructed (i.e., No-Build Alternative) (see **FEIS Sections 1.3.3** and **1.3.4**).

1.3.1 Historic Traffic Conditions

Each year since 1982, the Texas Transportation Institute (TTI) has published the *Urban Mobility Report* for metropolitan areas throughout the U.S. transportation systems, including the Dallas-Fort Worth-Arlington region. The most recent *2011 Urban Mobility Report* examined the transportation systems in 439 metropolitan areas in terms of a variety of measures of transportation efficiency and costs of congestion (TTI, 2011). The *2011 Urban Mobility Report* indicates that in 2010 the Dallas-Fort Worth-Arlington area experienced a total of nearly 164 million hours of travel delay, over 80 million gallons of fuel consumed, and economic costs (e.g., fuel cost and time lost) to commercial trucks totaling $666 million as a result of traffic congestion. Collectively, these three indicators of the costs of congestion (as compared to free-flow traffic conditions) in the Dallas-Fort Worth-Arlington area accumulate to an estimated annual total cost of congestion that is nearly $3.4 billion (TTI, 2011). The transportation system performance data

shown in **Table 1-1** show an overall worsening trend in key measures of transportation efficiency for the Dallas-Fort Worth-Arlington area over the 29 years of TTI *Urban Mobility Reports* (TTI, 2012). Indicators of system-wide efficiency and per commuter costs (i.e., both fuel and delay) demonstrate an overall trend of increasing congestion as measured in terms of performance measures and/or the rank of the region as compared to 439 other metropolitan areas.

TABLE 1-1. MEASURES OF REGIONAL TRANSPORTATION SYSTEM PERFORMANCE

Measure of Transportation System Performance	Mobility Data for the Dallas-Fort Worth-Arlington Area								
	1982	1986	1990	1994	1998	2002	2006	2010	2011
Congested Travel (% of travel during congested times)	15	26	33	37	50	58	67	68	70
Congested System (% of lane miles congested)	13	17	18	26	36	41	43	43	44
Annual Excess Fuel Per Auto Commuter (gallons) *(Rank among the 439 metropolitan areas studied)*	3 *(26)*	7 *(15)*	9 *(18)*	13 *(16)*	16 *(13)*	21 *(14)*	27 *(6)*	22 *(7)*	20 *(19)*
Annual Congestion Delay Per Auto Commuter (hours) *(Rank among the 439 metropolitan areas studied)*	7 *(45)*	14 *(29)*	19 *(31)*	27 *(22)*	33 *(20)*	43 *(16)*	53 *(10)*	45 *(10)*	45 *(13)*
Source: Data are from selected annual *Urban Mobility Reports* prepared by the TTI (2012).									

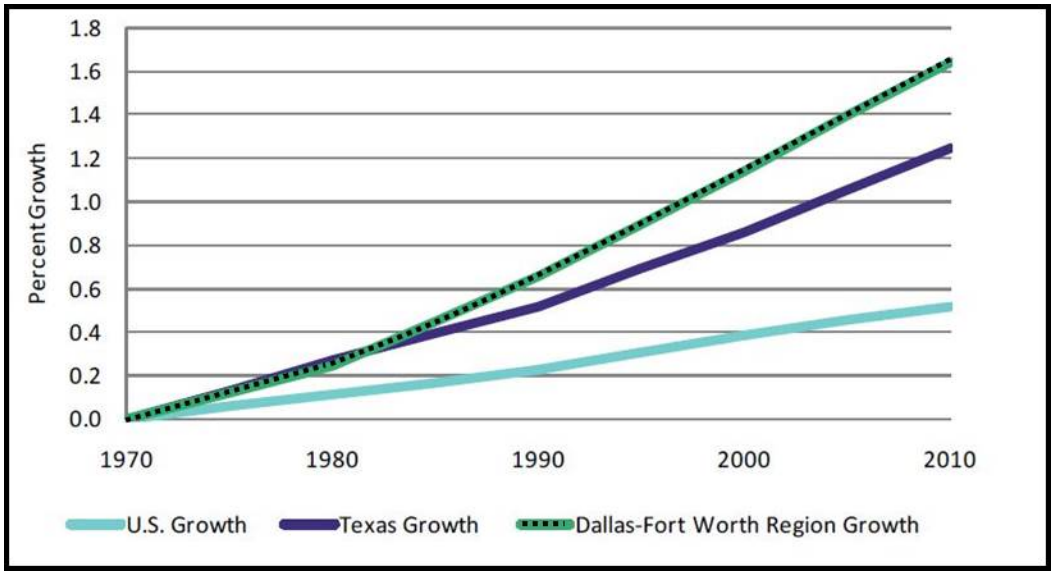
1.3.2 Contributing Factors Influencing Traffic Conditions

1.3.2.1 Regional Population and Employment Growth

Population and Employment

According to the U.S. Census Bureau, the 2010 population of the NCTCOG region (centered around the urban centers of Dallas and Fort Worth) was just over 6.5 million, which was larger than the population of 38 U.S. states (NCTCOG, 2012a). The NCTCOG region grew by 1,230,673 people or 23.2 percent between 2000 and 2010, which is more than twice the national growth rate of approximately 10 percent during the same period. This represents an average annual growth rate of approximately 2.3 percent. **Figure 1-4** shows the percentage of population increase in the DFW region by decade from 1970 through 2010.

FIGURE 1-4. PERCENTAGE OF POPULATION GROWTH (1970-2010)



Source: NCTCOG, 2011a.

Since the 1970s, the DFW region has grown by more than 150 percent, and is now the fourth largest metropolitan area in the U.S. (NCTCOG, 2011a). From 2000 to 2010, the DFW region was among the nation's fastest growing areas in the U.S., attracting significant job and population growth (U.S. Census Bureau, 2011a).

In 2012, regional employment was estimated at approximately 4.2 million jobs (NCTCOG, 2011a). According to Downtown Dallas, Inc., Downtown Dallas is the largest workforce in North Texas with an employment population of roughly 135,000 (City of Dallas, 2013c). The Stemmons Corridor also accommodates a large employment population of roughly 170,000 (SCBA, 2013). Overall, the region currently represents 34 percent of the Texas economy (NCTCOG, 2012a). The region is a major economic, social, and political center for both Texas and the U.S., with rapid growth in population and employment expected to continue.

Continued growth in population and employment has created a need for improvements to the transportation system in the Dallas-Fort Worth (DFW) area. **Table 1-2** provides a summary of projections for DFW metropolitan area population and employment for 2005 and 2035. The DFW metropolitan area demographic forecast is conducted by NCTCOG for the 12 counties (including Wise, Denton, Collin, Hunt, Parker, Dallas, Rockwall, Tarrant, Kaufman, Hood, Johnson, and Ellis Counties) surrounding the DFW urban core.

TABLE 1-2. NORTH CENTRAL TEXAS REGIONAL PROJECTIONS

Year	2005	2035	Percent Change 2005-2035
Household* Population	5,777,272	9,833,378	70.2
Employment	3,624,051	6,177,016	70.4

Source: NCTCOG, 2011b
Note: * Excludes group quarters such as dormitories, correctional facilities, and nursing homes.

As shown in **Table 1-2**, the DFW metropolitan area is expected to have approximately 9.8 million residents in 2035, supporting approximately 6.2 million jobs. On average, the region is expected to add population at a rate of approximately 135,000 persons per year and employment at a rate of approximately 85,000 jobs per year from 2005 to 2035. This is equivalent to adding approximately eight cities the size of Dallas, or nearly thirteen cities the size of Fort Worth, in this time period (NCTCOG, 2011b). In many instances, rapid population and employment growth in the DFW Metropolitan Area is surpassing the existing transportation system's ability to help manage it, resulting in increased traffic congestion. These rapid increases in population and employment growth necessitate the need for managed traffic congestion by improved transportation efficiency.

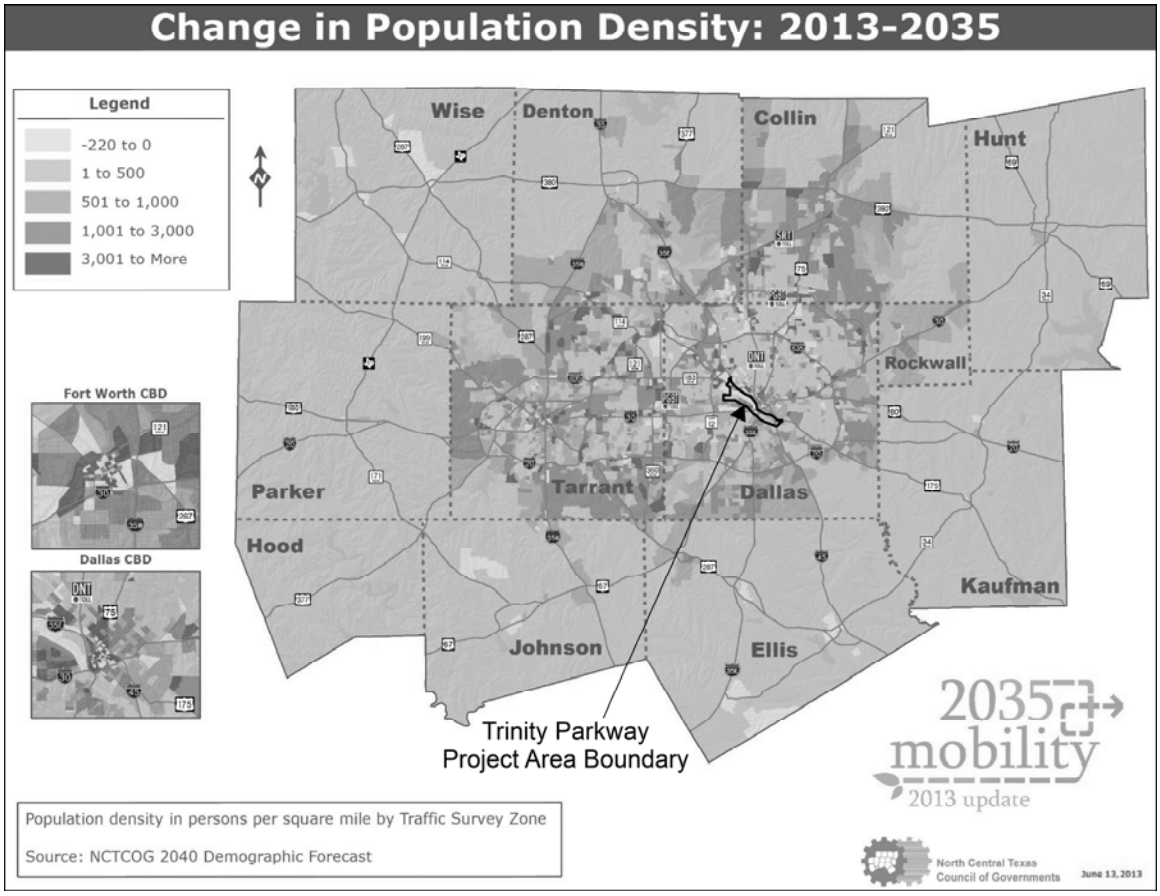
1.3.2.2 Increased Suburbanization and Reduction in Vehicle Occupancies

Increased Suburbanization

The travel patterns of area residents have been altered due to changes in land use associated with suburbanization, a growth pattern sometimes referred to as "urban sprawl." In the past, commuting patterns involved a high percentage of trips to the central city. Today's commuting patterns are more widely scattered as inter- and intra-suburban travel has increased. There is a reduced ability to provide effective transit service for this type of travel because of the dispersal of destinations. As a result, the private automobile has become the dominant mode of travel in the DFW metropolitan area (see **Section 1.3.2.4**).

Since distances between employment, retail, and residential areas tend to be greater in suburban areas, trip frequencies, trip lengths, and travel times also tend to be greater. **Figure 1-5** demonstrates that population increases will continue to occur over the next 20 plus years throughout an expansive area of the region.

FIGURE 1-5. CHANGE IN POPULATION DENSITY FROM 2013 TO 2035



Source: NCTCOG, 2013a

From 2000 to 2010, 52 percent of the regional growth in the Dallas-Fort Worth area was in eight cities. Regional forecasts indicate that population density (persons per square mile) for the 12-county Metropolitan Planning Area (MPA) will increase by 45 percent between 2013 and 2035; from 718 to 1,042 persons per square mile (NCTCOG 2013a). As suburbanization occurs, commuters' traffic patterns will continue to facilitate the use of private automobiles while driving further distances, causing more congestion within the current transportation system.

Reduction in Vehicle Occupancies

Historically, the proportion of travel by people driving alone has generally increased for Dallas County, with a corresponding decline in average vehicle occupancies. Average vehicle occupancy in Dallas County exhibited a steady decline throughout the 1970s and 1980s, and then leveled out throughout the 1990s. In 1990, approximately 79 percent of residents within the region were single-occupancy drivers. Recent decades have seen an increase in alternative modes of transportation and the implementation of various travel demand management strategies as a means to reduce the large number of single-occupancy vehicles on the roadways, and

thereby, reducing congestion. Such methods include the implementation of higher-occupancy travel modes such as DART Rail and HOV/managed lanes (NCTCOG, 2011a). However, even with increased regional support and the active implementation of such methodologies, commuting modes in the Dallas-Fort Worth-Arlington Metro Area remain largely focused on motorized transportation, as shown in **Table 1-3**.

TABLE 1-3. COMMUTING CHARACTERISTICS

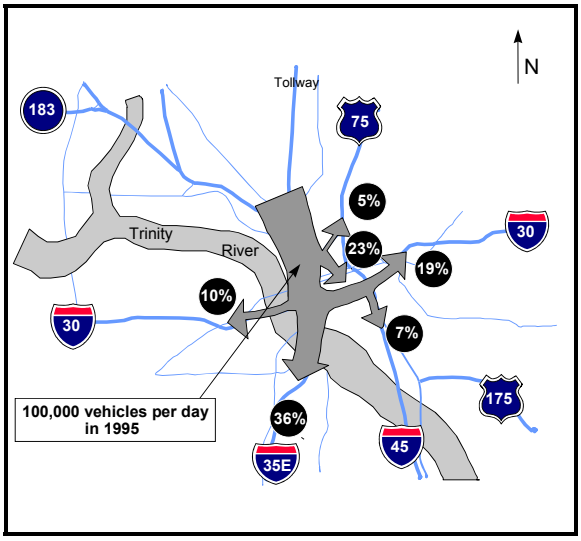
Transportation Mode	Dallas-Fort Worth-Arlington Metro Area	
	Percent Utilization in 2007	Percent Utilization in 2011
Drive Alone	80.7	81.3
Carpooled	10.9	10.2
Public Transportation	1.6	1.4
Walked	1.1	1.1
Bicycle	0.2	0.1
Other Means	1.4	1.1
Worked from Home	4.1	4.7
Source: U.S. Census Bureau (USCB, 2011a; USCB, 2011b)		

Although congestion mitigation strategies, such as transit and rideshare programs, are available to reduce the need for single-occupancy vehicle travel on roadways, approximately 81 percent of the Dallas-Fort Worth-Arlington Metro Area's population are single-occupancy vehicle commuters, which increases the amount of traffic. The continued high level use of single-occupancy vehicles is expected to continue, contributing to more congestion.

1.3.2.3 Changes in Traffic Flow near the Dallas CBD

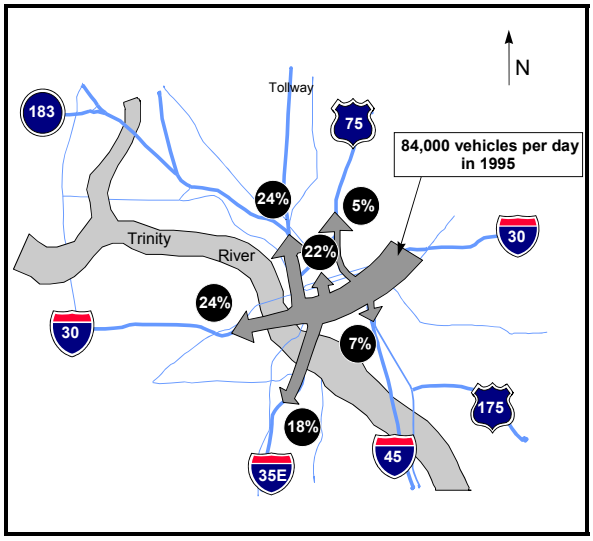
Figures 1-6 through **1-9** are from the *Trinity Parkway Corridor MTIS*, which is briefly mentioned from a historic standpoint in **FEIS Section 1.1.2** and further detailed in **FEIS Section 2.1**. These figures show the directional distribution of traffic originating from the radial freeways around the Dallas CBD and were based on 1995 traffic data provided by NCTCOG.

FIGURE 1-6. DAILY TRAFFIC ENTERING THE MIXMASTER FROM THE NORTH



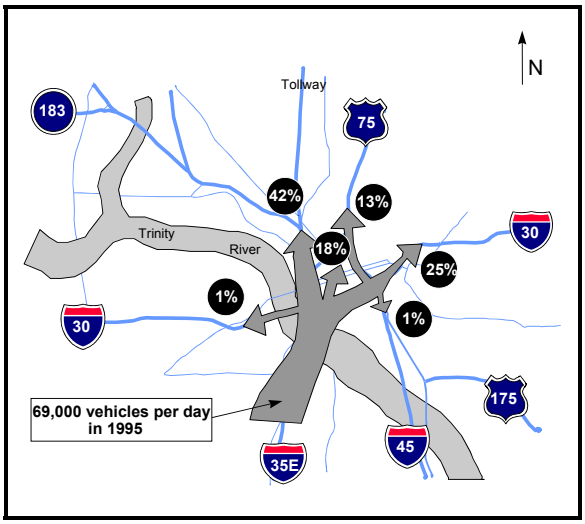
Note: Not to scale

FIGURE 1-7. DAILY TRAFFIC ENTERING THE MIXMASTER FROM THE EAST



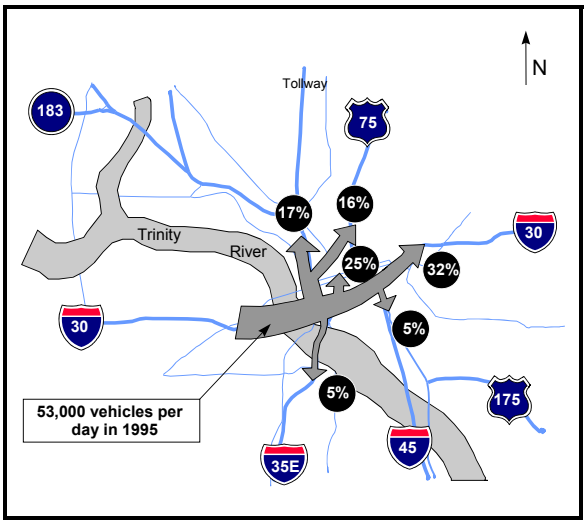
Note: Not to scale

FIGURE 1-8. DAILY TRAFFIC ENTERING THE MIXMASTER FROM THE SOUTH



Note: Not to scale

FIGURE 1-9. DAILY TRAFFIC ENTERING THE MIXMASTER FROM THE WEST



Note: Not to scale

Figures 1-6 through **1-9** indicate that approximately one out of every five drivers on the Canyon/Mixmaster system was destined for downtown Dallas. The remaining four out of five drivers were destined to travel past downtown to other destinations. This travel pattern is very different from the original intent and use of the freeway system in the 1960s, which was focused on downtown as the primary destination of travelers (TxDOT, 1998b).

Although average daily traffic volumes on the freeway system have increased since 1995, the availability of travel lanes has altered little. In addition, the directional distribution of traffic flow at the time of the MTIS is still expected to be reasonably representative of current traffic flow directional distribution. Under current conditions, the Canyon, Mixmaster, and Lower Stemmons segments are critically congested and operate in a stop-and-go traffic condition every business day. Traffic conditions on a typical weekday morning result in traffic queues for extended distances on project area roadways, including the following: northbound traffic on IH-35E queues for approximately 4.3 miles extending from the Dallas Zoo (12th Street) to the DNT exit; eastbound traffic queues for approximately 3.3 miles extending from west of the Trinity River Bridge (Wycliff/Sylvan Avenue) through the entire Canyon area on IH-30; and westbound queues stretch for approximately 5.0 miles from Ferguson Road to the Mixmaster. Similar queuing problems occur during the evening rush hours on IH-35E and IH-30 in the opposite directions.

The Canyon, Mixmaster, and Lower Stemmons Freeway segments were built between 1958 and 1962. These freeway segments present numerous shortfalls when measured against current design standards. Some of the most notable shortfalls are:

- Traffic going southbound on IH-35E through the Mixmaster must make an exit movement (from the right lanes) in order to stay on IH-35E south of the Mixmaster.
- Traffic traveling between the southern segment of IH-35E (South R.L. Thornton Freeway) and the western segment of IH-30 (Tom Landry Freeway) must exit the freeway to Riverfront Boulevard in order to access the interchange.
- There are numerous left-hand entries and exits, such as the northbound entrance from Commerce Street to IH-35E and the westbound exit from IH-30 to south IH-35E.

Without providing alternate routes to improve traffic flow around the City of Dallas, congestion will continue to increase in the Canyon, Mixmaster, and Lower Stemmons segments.

1.3.2.4 Travel Demand from Interstate Through-Traffic

The National System of Interstate and Defense Highways was initiated after World War II to provide a nationwide network of limited-access highways to link key population centers. These highways serve a vital role in the Dallas metropolitan area and in the entire north central Texas region.

The IH-35 Corridor serves the central U.S. from Mexico to Canada. Interstate traffic travels along IH-35E through the Dallas area from Mexico and cities such as Laredo, San Antonio, and Austin

to the south, and the cities of Denton, Oklahoma City, Kansas City, Des Moines, Minneapolis, and Duluth to the north. The IH-35E segment in Dallas has also become a main thoroughfare for residents and commuters. Interstate travelers and truck drivers must compete with Dallas commuters for limited capacity on the Interstate Highways in and around the city, especially in the Canyon, Mixmaster, and Lower Stemmons Corridors. Even when drivers plan well to avoid peak hours in the Dallas area, they must travel Interstates with congestion problems and a high number of accidents and incidents during a major portion of daylight hours.

After the ratification of the North American Free Trade Agreement (NAFTA) in 1993, accommodating increases in trade traffic has become an important issue for the region. Since NAFTA was enacted, trade from the DFW area to Mexico and Canada has increased substantially. Approximately 80 percent of overland trade between the U.S. and Mexico travels through Texas (NCTCOG, 2007). By 2011, trade from the DFW Metropolitan area to Mexico and Canada totaled $9 billion (U.S. Department of Commerce, 2012).

The IH-35 Corridor was identified in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 (Public Law (P.L.) 102-240) as Corridor 23, which designates IH-35 as a national high-priority trade route. Approximately 37 percent of all NAFTA truck traffic in the state is carried on the IH-35 Corridor (TxDOT, 2007b). Referred to as the NAFTA "Superhighway," this major north-south route represents a "backbone" of goods movement. The Interstate also connects to other major regional trade routes, such as IH-20, IH-30, IH-45, IH-635, IH-820, and US-75.

As IH-35 Corridor trade increases in the future, the travel demands will continue to grow, placing additional pressures on a burdened Interstate system and arterial facilities in the areas around Dallas. In order to prevent an overburdening of the local roadway network, additional capacity must be provided to serve the current and future demands for the movement of people and goods within the region.

1.3.2.5 Travel Demand from Intermodal Facilities

Intermodal freight facilities provide an economical means for goods to reach distant markets and distribution points by linking two or more methods of transport. North Central Texas has one of the most extensive surface and air transportation networks in the world, providing extensive trade opportunities for the more than 700 motor/trucking carriers and freight forwarders that operate out of the area (NCTCOG, 2011a).

The U.S. class I railroads coordinate shipping activities with trucking companies at four intermodal freight centers located on or near major highway corridors around Dallas. Several of these facilities are serviced by major highways and freight rail lines, such as Union Pacific (UP), Burlington Northern and Santa Fe (BNSF), and Kansas City Southern (KCS). At these intermodal facilities, containers and truck trailers are transferred between truck and rail modes. The BNSF Intermodal and Carload Transportation Center at Alliance Airport north of the City of Fort Worth is one of the largest facilities of its kind in the U.S. The nearest intermodal freight facility to the Trinity Parkway Corridor is the old Southern Pacific Miller Yard (now operated by UP Railroad Company), located at IH-45 and Linfield Road, approximately 2.0 miles south of the southern terminus (US-175/SH-310). In late 2005, UP Railroad also opened a new 350 acre intermodal container facility on IH-45 in the cities of Wilmer and Hutchins, Texas located approximately 10.0 miles south of the proposed project's southern terminus.

DFW International Airport is located approximately 11 miles northwest of the project area. The airport is a major national and international hub, ranked third in the U.S. in total passenger activity. The airport covers more than 26.9 square miles, ranking it as the second largest in the U.S. in terms of land area. In 2011, the airport handled 57,806,918 passengers, 646,803 operations (take-offs and landings), and 652,655 tons of cargo. The airport is host to a 2,500-acre foreign trade zone, and $16.6 billion of the north Texas economic activity is attributable to DFW International Airport. From 2011 through 2018, the airport plans to spend approximately $1.9 billion to improve four terminals with enhanced concessions, security checkpoints, self-service ticketing, improved parking, and green technology implementation (DFW International Airport, 2012). Dallas Love Field, located approximately 2.0 miles north of the project area, also maintains air cargo facilities and handles approximately 24,000 tons per year. The airport serves a mix of commercial flights and general aviation. In 2011, the airport served approximately 7.9 million passengers and 149,744 aircraft operations (Dallas Love Field, 2012). From 2010 to 2014, the airport plans to spend $519 million for The Love Field Modernization Program, which will renovate and expand Love Field to include a new centralized concourse with 20 gates, a remodeled lobby, expanded baggage claim area and a new ticketing wing (Dallas Love Field, 2013).

As demand increases for use of intermodal transportation sources, additional pressures would be placed on a burdened Interstate system and arterial facilities in the areas around Dallas. In order to prevent an overburdening of the local roadway network, additional capacity must be provided to serve the current and future demands for the movement of people and goods within the region.

1.3.2.6 Travel Demand from Tourists and Visitors

According to the Dallas Convention and Visitors Bureau, the City of Dallas is the number one visitor destination in Texas for both large conventions and tourists. Dallas attracts over 29.9 million visitors annually with an economic impact of $9.6 billion. Tourism is estimated to provide 87,000 jobs to the Dallas area (Dallas Convention and Visitors Bureau, 2012a). The majority of conventions are held in the Dallas CBD, which includes the Dallas Convention Center and other major hotel/convention facilities. There are more than 30,000 hotel rooms in Dallas and approximately 75,000 hotel rooms in the Dallas area (Dallas Convention and Visitors Bureau, 2012b).

One notable tourist attraction in Dallas is the West End Historic District, a National Register of Historic Places (NRHP) district comprising over 20 city blocks in the northwest section of downtown, adjacent to IH-35E and Woodall Rodgers Freeway. The district features a renovated warehouse district and includes Dealey Plaza, the location of the President John F. Kennedy assassination. Tourist attractions in and around Dealey Plaza include the historic Texas School Book Depository and 6th Floor Museum, and the John F. Kennedy Memorial Plaza. Expanding north from the West End Historic District is the 70-acre "Victory Park" development, which includes the American Airlines Center Arena used for professional ice hockey, basketball, concerts, and other public events.

Another attraction within the downtown Dallas area is the Dallas Arts District. At 68 acres, it is the largest arts district in the nation and includes ten cultural facilities. It is situated east of the West End Historic District and is bounded by Woodall Rodgers Freeway, IH-45/US-75, Ross Avenue, and St. Paul Street. Dallas' most significant cultural landmarks are within this District and include facilities for visual, performing, and developing arts such as the following:

- AT&T Performing Arts Center
- Belo Mansion
- Booker T. Washington High School for the Visual and Performing Arts
- Cathedral Shrine of the Virgin of Guadalupe
- Crow Collection of Asian Art and Trammell Crow Center
- Dallas Black Dance Theatre
- Dallas City Performance Hall
- Dallas Museum of Art
- Elaine D. and Charles A. Sammons Park
- Klyde Warren Park

- Morton H. Meyerson Symphony Center
- Nasher Sculpture Center
- One Arts Plaza
- Perot Museum of Nature and Science
- St. Paul United Methodist Church
- Winspear Opera House
- Wyly Theatre

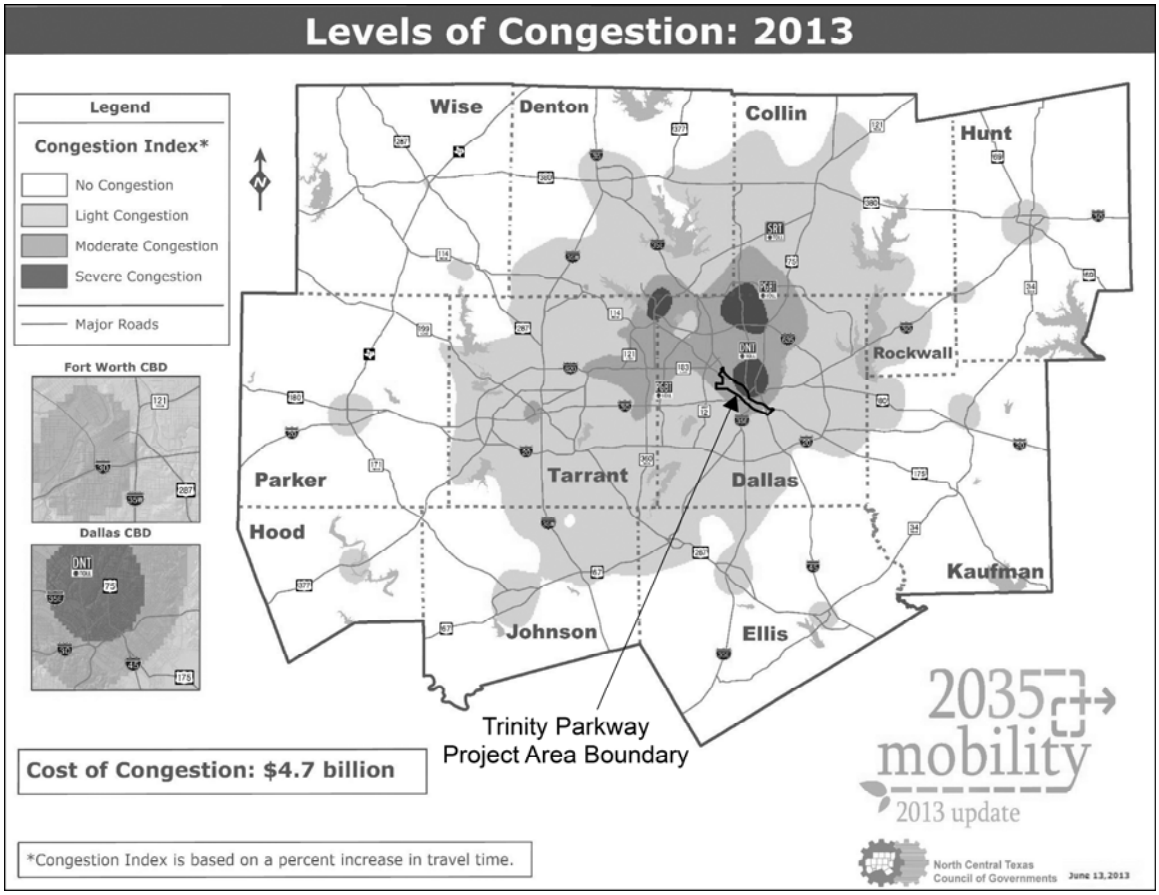
These cultural landmarks and event venues cause more congestion at and around these areas. As tourism increases, it is important to manage congestion in order to maintain the attractiveness of tourism in the Dallas area.

1.3.3 Existing and Forecasted Regional Traffic Conditions

Travel demand forecasting is the process used to predict travel behavior and resulting demand for a specific future horizon year, based on assumptions dealing with land use, the number and character of trip makers, and the nature of the transportation system. The travel demand forecasting for the NCTCOG region, as well as for the Trinity Parkway (see **FEIS Section 1.3.4**), has been carried out by NCTCOG using the Dallas-Fort Worth Expanded Travel Model (DFX). All proposed congestion management strategies, rail and bus transit recommendations, bicycle and pedestrian facilities, intelligent transportation system (ITS) technology, roadway improvements, and HOV and managed facility recommendations are included in the baseline conditions. The DFX is validated for the year 2004 using 2004 traffic saturation counts (NCTCOG, 2011c).

As previously discussed, rapid growth in the DFW region is surpassing the transportation system's ability to accommodate it, resulting in increased traffic congestion. Recent travel forecasting conducted for the MTP illustrates various scenarios of congestion in the DFW metropolitan area based on assumptions regarding the extent of transportation improvements in place. **Figure 1-10** illustrates the baseline condition, representing congestion levels under the committed system for 2013, for which the Dallas CBD shows a severe congestion level.

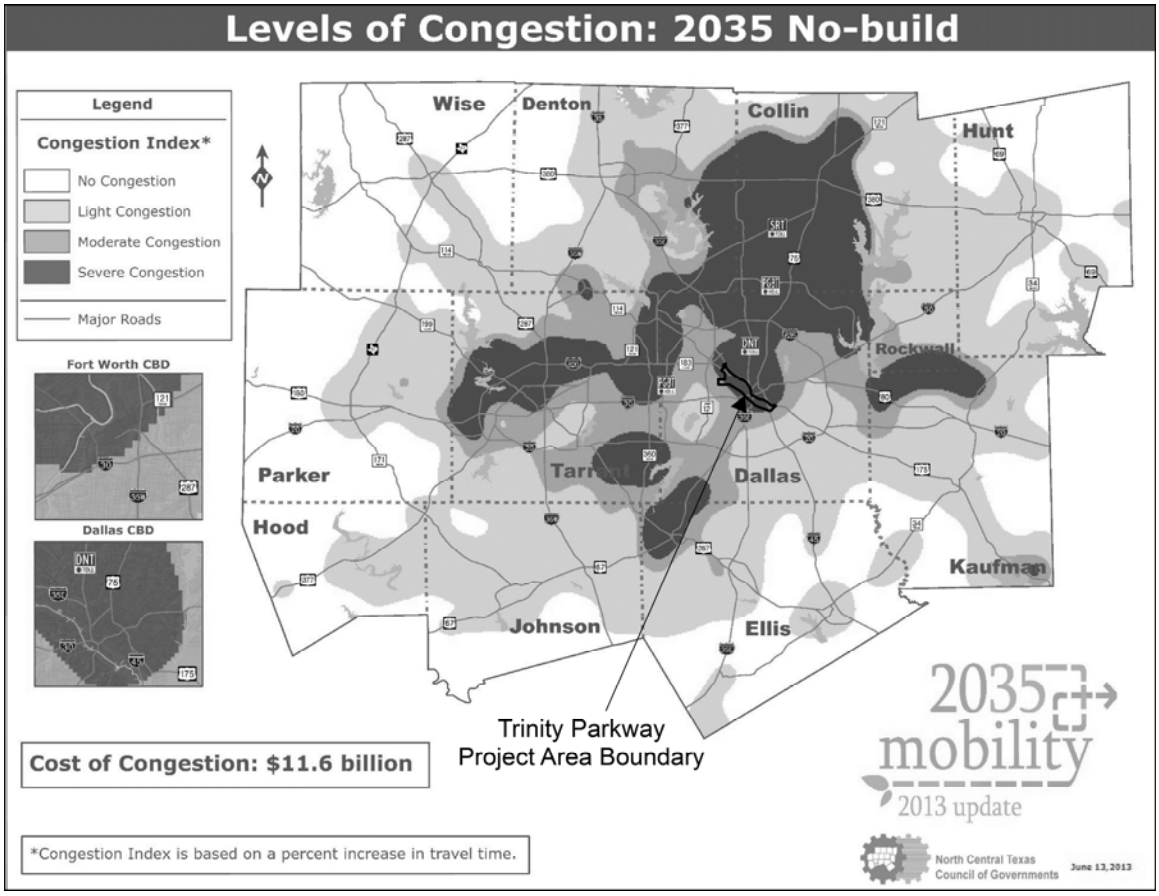
FIGURE 1-10. 2013 CONGESTION LEVELS



Source: NCTCOG, 2013a

Figure 1-11 shows projected congestion levels in 2035 if no new transportation projects are built after 2013. This MTP "No-Build" scenario illustrates the deterioration in congestion levels in the unlikely event that transportation investments are stopped completely, and demonstrates the need for additional transportation improvements. The figure also illustrates the public cost of the MTP No-Build scenario, since the regional annual cost of congestion will rise from $4.7 billion in 2013 to $11.6 billion in 2035. Under the MTP No-Build scenario, severe traffic congestion in horizon-year 2035 will envelope much of the DFW Metroplex, including the Dallas CBD and the Trinity River Corridor.

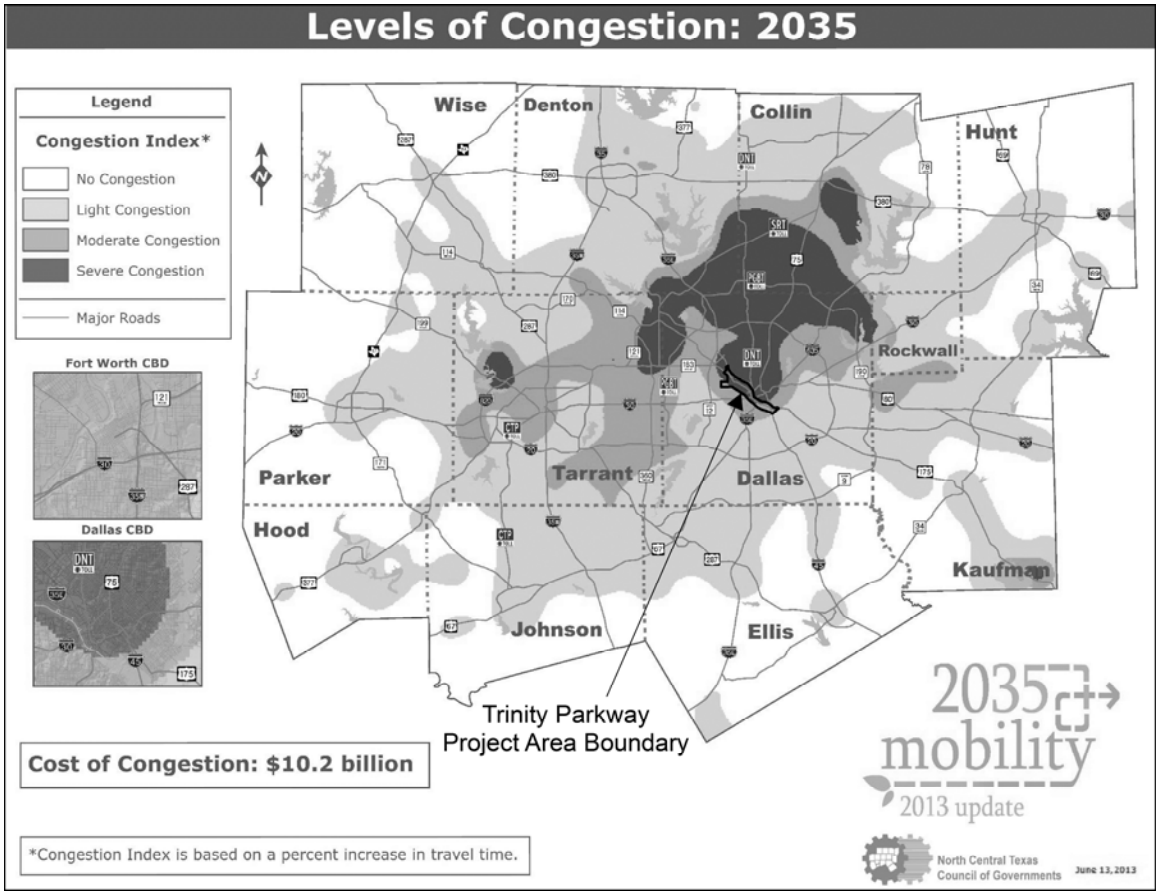
FIGURE 1-11. 2035 CONGESTION WITH 2013 NETWORK ONLY



Source: NCTCOG, 2013a

The MTP includes nearly $98.7 billion in recommended, funded improvements and comprises approximately 25 percent of the total transportation improvements necessary (nearly $395.3 billion) to address severe traffic congestion between now and 2035. The $98.7 billion in recommended improvements represents a blueprint for continued maintenance and development of the regional transportation system over the next 20 years. **Figure 1-12** illustrates the congestion level for 2035 with the recommended improvements, which includes the proposed Trinity Parkway. In this MTP Build scenario, there is less severe congestion throughout the DFW Metroplex compared to the MTP No-Build scenario (**Figure 1-11**), including within the Dallas CBD and the Trinity River Corridor.

FIGURE 1-12. 2035 CONGESTION WITH IMPLEMENTATION OF MTP PROJECTS



Source: NCTCOG, 2013a

Continued growth between 2013 and 2035 is anticipated to result in the addition of approximately 3.2 million residents (the equivalent of adding the existing populations of Arlington, Dallas, Fort Worth, Grand Prairie, Garland, Irving, and Plano), 2 million jobs, and 101 million vehicle miles of travel daily, in addition to an approximate 116 percent increase in vehicle hours spent in delay for the region (NCTCOG, 2013b). **Table 1-4** below presents a summary of the regional transportation system's performance for current conditions (2013), future conditions with MTP recommendations implemented (2035 Build), and future conditions if MTP recommendations are not implemented (2035 No-Build).

TABLE 1-4. NCTCOG REGIONAL SYSTEM PERFORMANCE

PERFORMANCE MEASURE	2013	2035 Build	2035 No-Build
Population	6,778,201	9,833,378	9,833,378
Employment	4,292,516	6,177,016	6,177,016
Vehicle Miles of Travel (Daily)	181,476,933	282,469,249	253,010,150
Hourly Capacity (Miles)	42,615,843	51,271,137	42,244,248
Vehicle Hours Spent in Delay (Daily)	1,164,213	2,518,324	2,849,352
Increase in Travel Time Due to Congestion	32.1%	45.9%	55.9%
Annual Cost of Congestion (Billions)	$4.7	$10.2	$11.6
Source: NCTCOG**,** 2013b.			

While vehicle miles of travel (VMT) have continued to increase in the DFW region over time, revenues to support construction and maintenance of the roadway system have not kept pace with the resulting travel demand. From a historic perspective, even with a substantial increase in VMT from 1980 (66 million) to 1999 (125 million), highway expenditures during the same period remained relatively constant. Such an imbalance between travel demand and roadway supply continues today and has resulted in a substantial increase in congestion and roadway maintenance needs, prompting the need to manage congestion by improving transportation system efficiency.

1.3.4 Existing and Forecasted Local Traffic Conditions

1.3.4.1 Assumed Horizon Year System

As previously mentioned, the projection of future traffic conditions was derived by NCTCOG using the DFX travel demand model based on improvements included in *Mobility 2035 – 2013 Update.* Forecasting future traffic conditions is based on many assumptions, which have to be estimated from current, best available information. These assumptions include population growth, modal choices in future years, projected vehicle occupancies, and an assumption of what improved facilities will be in place in future years. The following paragraphs discuss these factors as they apply to Trinity Parkway Corridor modeling.

The horizon-year for the Trinity Parkway has been set at the year 2035. This matches the adopted planning horizon used by NCTCOG in the current MTP (*Mobility 2035 – 2013 Update)*. The MPA used in *Mobility 2035 – 2013 Update* covers almost 9,500 square miles and includes Collin, Denton, Dallas, Ellis, Hood, Hunt, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties.

The NCTCOG 2040 Demographic Forecast was adopted in 2011. This 2040 forecast was used to develop the 2035 forecast which was used in *Mobility 2035 – 2013 Update.* These demographic forecasts were developed collaboratively by the Research and Information Services

and Transportation Departments of the NCTCOG, with input from city and county stakeholders. Demographic forecasts include population and employment projections for the DFW region to the year 2040, including new projections for earlier years 2030 and 2035.

Assumptions regarding the road and transit systems, which should be in place at the horizon year (2035), are based on existing and committed projects and improvements planned in the financially-constrained *Mobility 2035 – 2013 Update*. The system improvements accounted for within *Mobility 2035 – 2013 Update* make up the Travel Demand Model Network.

The NCTCOG utilized projections from the 2040 Demographic Forecast, statistical data on trip patterns and purposes, and the Travel Demand Model Network to develop traffic modeling for future years in the Trinity Parkway project area. The following list summarizes the other assumptions included in the future conditions model:

- DART rail transit is assumed to be in place to the full extent shown on the *Funded Recommendations - Passenger Rail Improvements* map within *Mobility 2035 – 2013 Update*. This includes the following light rail lines located nearby or extending within the Trinity Parkway project area: the Blue Line extension to UNT (South Oak Cliff Corridor), the Orange Line extension to DFW Airport (Northwest Corridor), the Green Line extension to Pleasant Grove (Southeast Corridor), and the Downtown Dallas Second Alignment located within the Dallas CBD. Also included are the Scyene Road Corridor interlining with the Orange Line through downtown Dallas, the East/West local regional rail and high-speed rail corridor extending west outside of the project area towards Fort Worth, and the proposed Dallas Streetcar extending from Union Station to Oak Cliff via the Houston Street Viaduct.

- All committed road improvements included in the *2013-2016 Transportation Improvement Program* (TIP) (TxDOT, 2012) are assumed to be in place. This includes the Dallas Horseshoe Project and the SM Wright Project (see **FEIS Section 3.2.6**).

- All freeway and HOV improvements in the *2013-2016 TIP* outside of the project area are assumed to be in place. For the purposes of traffic modeling, freeway and HOV improvements in the Mixmaster are assumed to be in place by year 2035.

- Trip reduction programs under the regional Congestion Management Process (CMP) are assumed to be in place and having effect. This includes programs for car pools, van pools, and employer transit pass subsidies.

- The system management initiatives programmed under the regional CMP are assumed to be in place. This includes reconstruction of intersections in the project area, upgrading and sequencing of signal light installations, and bottleneck removals on freeways.

- The projected average vehicle occupancy rate for all road vehicles in the project area is assumed to be 1.25 at the horizon year (2035).

The population and facility assumptions listed above form the baseline condition, against which all alternatives in the FEIS, including the No-Build Alternative, are modeled. Traffic modeling for the No-Build Alternative is presented in the sections that follow as evidence of the need for the proposed project. Traffic modeling for the recommended Build Alternative is presented in **FEIS Chapter 4.** Additionally, the current traffic modeling is based on toll conditions on the Trinity Parkway; traffic projections are reduced from those that might be expected on a "toll-free" (tax-supported) road to reflect the sensitivity of motorists to paying tolls.

1.3.4.2 No-Build Traffic Volumes and Level of Service

Traffic Volumes

In May 2013, NCTCOG completed the traffic study for the Trinity Parkway based on the modeling assumptions in *Mobility 2035 – 2013 Update* and as described above in **FEIS Section 1.3.4.1**. For the purposes of the study, traffic volumes are expressed as average daily traffic (ADT). The ADT volumes reflect average travel conditions on a particular highway rather than daily or seasonal variations. **Table 1-5** summarizes existing and forecasted traffic (horizon year 2035) for various segments of project area roadways if the Trinity Parkway is not constructed (i.e., No-Build Alternative)**.**

TABLE 1-5. AVERAGE DAILY TRAFFIC (ADT) FOR NO-BUILD ALTERNATIVE

Roadways	Existing Conditions ADT (2013)	Forecasted Conditions ADT (No-Build 2035)
IH-35E		
North of SH-183	138,000	149,000
SH-183 to DNT	303,000	346,000
DNT to IH-30	319,000	349,000
South of IH-30	234,000	310,000
IH-30		
West of IH-35E (South R.L. Thornton Freeway)	167,000	217,000
IH-35E (South R.L. Thornton Freeway) to IH-45 (Canyon)	250,000	234,000
East of IH-45	250,000	269,000
Mixmaster		
IH-30 & IH-35E At Houston-Jefferson	347,000	397,000
SH-183		
West of IH-35E (Lower Stemmons Freeway)	193,000	250,000
US-175		
East of SH-310	103,000	128,000
North of SH-310 (future SM Wright Parkway)	110,000	29,000
IH-45		
North of Trinity River	104,000	135,000
IH-345		
North of IH-30	203,000	226,000
US-75		
North of Woodall Rodgers	279,000	306,000
Source: NCTCOG DFX Model, 2013. **Note:** Based on *Mobility 2035 – 2013 Update* Travel Demand Model Network.		

As shown in the above table, increases in ADT volumes ranging from 7 to 32 percent are forecasted for the project area, further illustrating the need for mobility and capacity improvements.

Level of Service

Capacity analyses were conducted to determine Level of Service (LOS) for various segments of existing project area highways and arterials for the year 2035. LOS is a measure of the roadway's ability to handle traffic demand. Traffic parameters and roadway design factors such as ADT volumes, peak-hour volumes, truck percentages, number of driving lanes, lane widths, vertical grades, passing opportunities, presence or absence of traffic signals, and access type/spacing affect the LOS. The Transportation Research Board (TRB) has established guidelines for appropriate LOS on roadways. **Table 1-6** defines LOS ranges from "A" to "F" in order of decreasing operational quality for basic freeway/tollway sections.

TABLE 1-6. LEVEL OF SERVICE DEFINITIONS FOR FREEWAYS/TOLLWAYS

LOS	Density Range (passenger cars/mile/lane)	Minimum Speed (mph)	Description
A	0-11	70.0	The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by drive performances.
B	>11-18	70.0	Although the presence of other vehicles becomes noticeable, drivers have slightly less freedom to maneuver. Minor disruption in the traffic flow can be easily absorbed. Average speeds are the same as in LOS A.
C	>18-26	>50	The influence of traffic density on traffic operation becomes marked. The ability to maneuver is clearly affected. Minor disruption can be absorbed without extensive queues forming and the service deteriorating.
D	>26-35	45 - 60	The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced with the increase in traffic volume. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant disruption.
E	>35-45	42 -50	Represents operation at or near capacity, an unstable flow. The densities vary, depending on the free-flow-speed. Vehicles are operating with minimum spacing. Disruptions often cause queues to form and services deteriorate to LOS F.
F	> 45	<30	Represents forced or breakdown flow. Sections of the facility are operating at near capacity. Operations within the queues are highly unstable and vehicles experience stop-and-go operation and excessive delays.

Source: TRB, 2010.
Note: The traffic operation on freeways is characterized by three performance measures: Density which is defined as the number of passenger vehicles per mile per lane, Speed as defined in terms of mean passenger speed per mile per lane, and volume-to-capacity ratio. All these factors are interrelated and can be calculated if two of the measures are known. Each of these measures indicates how well the highway helps manage traffic flow.

Predicted future LOS for various roadway segments, as shown in **Table 1-7**, indicate that some roadway corridors in the project area would improve under the No-Build scenario, which is likely attributable to other planned transportation improvements in the area. However, the majority of roadway segments would operate at LOS “D”, “E,” or “F;” most notably segments of IH-35E from SH-183 south beyond IH-30 (including Lower Stemmons Freeway) and the segment of IH-30 east of IH-35E (i.e., the Canyon). These future LOS predictions would be characterized by slower travel speeds and unstable traffic flow operations, resulting in stop-and-go long backups and delay.

TABLE 1-7. LEVELS OF SERVICE UNDER THE NO-BUILD ALTERNATIVE

Roadway	Existing Conditions LOS (2013)	Forecasted Conditions LOS (No-Build 2035)
IH-35E		
North of SH-183	D-F	D-F
SH-183 to Dallas North Tollway	F	F
Dallas North Tollway to IH-30	D-F	D-F
South of IH-30	F	F
IH-30		
West of IH-35E (South R.L. Thornton Freeway)	F	DE
IH-35E (South R.L. Thornton Freeway) to IH-45 (Canyon)	F	D-F
East of IH-45	F	F
Mixmaster		
IH-30 & IH-35E at Houston-Jefferson	D-F	D-F
SH-183		
West of IH-35E (Lower Stemmons Freeway)	D-F	F
US-175		
East of SH-310	F	A-C
North of SH-310	DE	D-F
IH-45		
North of Trinity River	D-F	DE
IH-345		
North of IH-30	DE	DE
US-75		
North of Woodall Rodgers	F	F
Source: NCTCOG DFX Model, 2013. **Note:** Based on *Mobility2035 – 2013 Update* Travel Demand Model Network.		

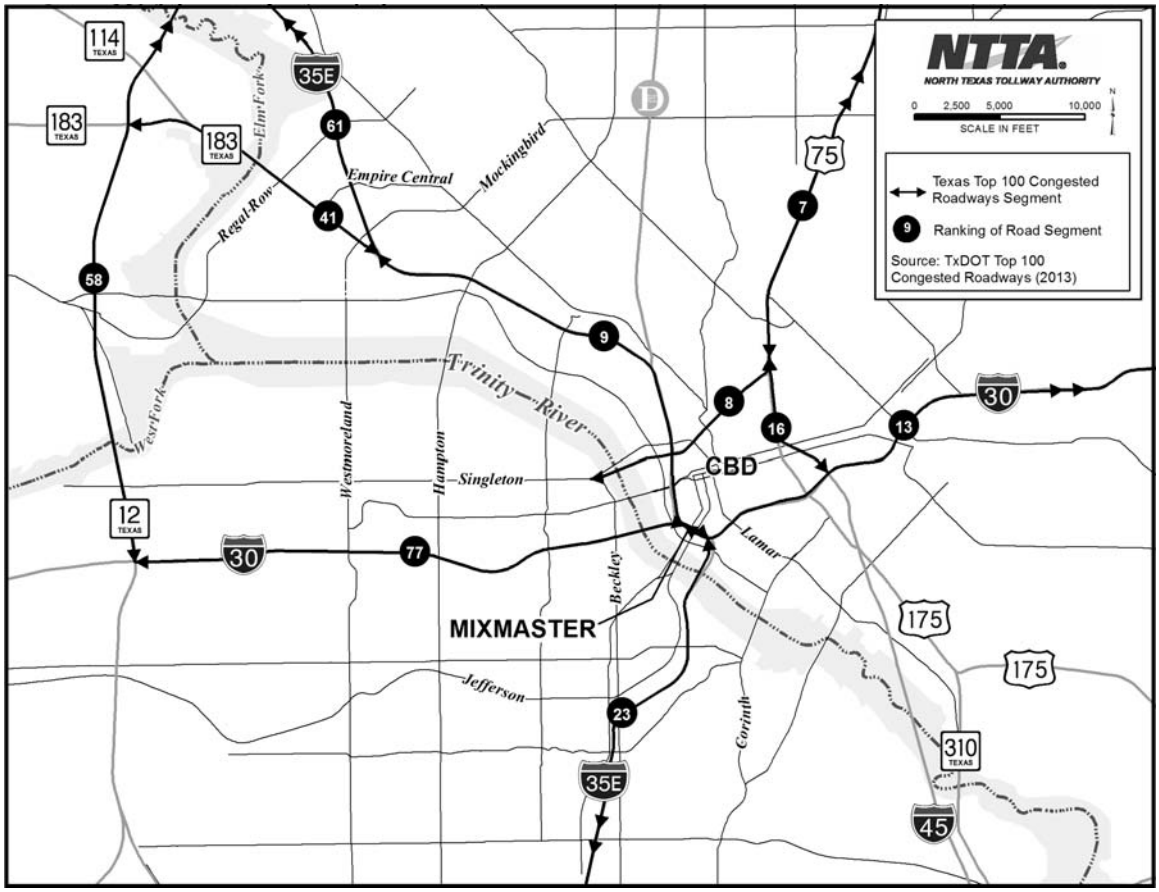
Under these conditions it is likely that some traffic would continue to divert to local city streets and other secondary roadways, placing additional traffic demands on routes not intended to function as regional, state, and national travel routes. The existing roadway network would not operate efficiently and accident frequency could increase.

1.3.4.3 Existing and Forecasted Travel Performance Measures

Existing Traffic Conditions

The following four major roadway segments leading into the Trinity Parkway project area were ranked in the top 25 of TxDOT's top 100 most congested roads in the state of Texas for 2013 (TxDOT, 2013): State Highway Spur 366 (Riverfront (Industrial) Boulevard to US-75) as the eighth most congested; IH-35E (Lower Stemmons Freeway and through the Mixmaster) as the ninth most congested; IH-30 (through the Canyon) as the 13th most congested; and IH-35E (South RL Thornton Freeway) as the 23rd most congested (see **Figure 1-13**).

FIGURE 1-13. ROAD SEGMENTS INCLUDED IN TEXAS' TOP 100 CONGESTED ROADS



The annual hours of delay spent by motorists on these four congested roadway segments, along with the annual costs of delay, are presented in **Table 1-8**. This table also presents the Texas Congestion Index (TCI) associated with each roadway segment, which describes how much longer a trip takes during rush hour compared to off-peak periods. A trip on IH-35E (Lower Stemmons Freeway and through the Mixmaster) would take approximately 76 percent longer to complete during rush hour compared to an off-peak travel time.

TABLE 1-8. STATISTICS FOR SEGMENTS IN TEXAS' TOP 100 CONGESTED ROADS [1]

2013 Rank	Roadway [2]	From	To	Annual Hours of Delay per Mile	TCI [3]	Annual Delay Cost (millions)
8	Spur 366	Riverfront (Industrial) Boulevard	US-75	479,864	2.22	$22.99
9	IH-35E (Lower Stemmons Freeway & Mixmaster)	IH-30	SH-183	476,605	1.776	$56.94
13	IH-30 (Canyon)	Jefferson Street Viaduct	South Loop 12 East	414,513	1.67	$73.02
23	IH-35E (South R.L. Thornton Freeway)	US-67	Jefferson Street Viaduct	312,734	1.54	$31.87

Source: TxDOT, 2013.
Notes:
1. Accuracy is limited to the validity of available data as of December 31, 2011.
2. See **Figure 1-13** for locations; labeled by 2013 project rank.
3. TCI = The Texas Congestion Index is a measure of how much longer a trip takes during the peak period than it would compared to an off-peak period (i.e., traffic flowing freely). For example, a TCI of 1.0 indicates there is no difference in travel time between peak and off-peak periods while a TCI of 1.35 suggests it takes about 35% longer to complete a trip during the peak period than it would in the off-peak period.

Future Year Traffic Conditions

Assuming that the baseline improvements are in place, the NCTCOG DFX model projections for year 2035 show very unfavorable traffic conditions within the project area. **Table 1-9** provides a summary of the modeled daily travel demand performance for the Trinity Parkway project area in the existing year 2013 and the horizon-year 2035 under the No-Build scenario. The model results show the effect of adding more population and traffic pressure to an already highly congested system of roads. The vehicle-hours of congestion delay would increase by 65 percent by the year 2035 despite a projected 7.5 percent increase in the number of roadway lane miles available. These indicators of future travel conditions under the No-Build scenario reflect a transportation system of roads that is only capable of metering through a limited amount of traffic per hour. As a result of the projected overwhelming effects of future travel demand and resulting congestion, people may have to substantially change their work hours, seek other longer routes through any available streets, or change jobs or residences in order to avoid protracted delays on the freeways.

TABLE 1-9. DAILY TRAVEL DEMAND PERFORMANCE FOR NO-BUILD ALTERNATIVE

Measure of Effectiveness (MOE) [1] Parameter	Existing Conditions (2013)	Forecasted Conditions (No-Build 2035)	Percent Change from 2013 to 2035
Vehicle Miles of Travel per Day [2]	5,636,254	7,022,833	+24.6%
Vehicle Hours of Travel per Day [3]	174,324	237,528	+36.3%
Average Speed (mph) [4]	32	30	-6.3%
Lane Miles	787	846	+7.5%
Congestion Delay (Vehicle-Hours) [5]	41,152	68,067	+65.4%
Percent Lane Miles at LOS D, E or F [6]	38	47	+23.7%

Source: NCTCOG DFX Model, 2013.
Notes: LOS = level of service; **mph** = miles per hour; Based on *Mobility 2035 – 2013 Update* Travel Demand Model Network.

1. MOEs focus on the identified project needs and also provide a method to determine the degree that traffic conditions, such as congestion and mobility, could be improved by the Trinity Parkway.
2. Vehicle Miles of Travel (VMT) = the total number of miles driven by all vehicles in the project area on an average day.
3. Vehicle Hours of Travel (VHT) = the total time spent driving vehicles in the project area on an average day.
4. Average Speed (mph) = VMT divided by the VHT.
5. Congestion Delay (Vehicle Hours) determines whether vehicles are experiencing delays on the roadways and gauges the degree that congestion could be managed by the various alternatives.
6. Percent Lane Miles at LOS D, E or F = percent of lane miles operating in congested conditions at LOS D, E or F.

1.4 PROJECT NEED: SAFETY

The volume of traffic in the Canyon, Mixmaster, and Lower Stemmons Corridors, along with the complexity of merges and weaving in the area has resulted in a high rate of accidents. In addition, the inefficient layout of ramps and service roads in the area slows emergency response vehicles and prevents efficient detouring of traffic around accident sites. The lane curvature and design speed at some locations has also caused a high number of truck overturns and load spills. On November 14, 1996, accidents in the Mixmaster involving two separate truck incidents completely shut down IH-35E for six hours. From February to June of 2007, four separate major accidents involving overturned semi-trucks occurred in the Mixmaster area, resulting in multiple lane closures and traffic delays of several hours. In particular, on February 14, 2007, an overturned truck that caused a fuel spill required over eight hours to remove (KXAS, 2007a; KXAS, 2007b; WFAA, 2007).

Table 1-10 shows the number of crashes per type for the roadway segments extending within the project area for the years 2010 and 2011. These data are reported by the TxDOT Crash Records Information System (CRIS).

TABLE 1-10. ROAD SEGMENT CRASHES WITHIN THE PROJECT AREA

Roadway Segment	Type of Crash	2010	2011
IH-30 from Sylvan Avenue to IH-35E (South R.L. Thornton Freeway)	Fatal Crashes	1	0
	Incapacitating Crashes	3	0
	Non-Incapacitating Crashes	17	18
	Possible Injury Crashes	37	35
	Unknown Severity Crashes	1	1
	Non-Injury Crashes	112	111
	Total	**171**	**165**
IH-30 from IH-35E (South R.L. Thornton Freeway) to IH-45 (Includes the Mixmaster and the Canyon)	Fatal Crashes	1	1
	Incapacitating Crashes	4	3
	Non-Incapacitating Crashes	50	24
	Possible Injury Crashes	59	42
	Unknown Severity Crashes	7	2
	Non-Injury Crashes	202	238
	Total	**323**	**310**
IH-35E (South R.L. Thornton Freeway) from Commerce Street to IH-30 (Includes the Mixmaster)	Fatal Crashes	2	0
	Incapacitating Crashes	4	5
	Non-Incapacitating Crashes	23	21
	Possible Injury Crashes	56	50
	Unknown Severity Crashes	1	2
	Non-Injury Crashes	112	108
	Total	**198**	**186**
IH-35E (South R.L. Thornton Freeway) from 8th Street to IH-30	Fatal Crashes	0	2
	Incapacitating Crashes	1	0
	Non-Incapacitating Crashes	24	25
	Possible Injury Crashes	58	37
	Unknown Severity Crashes	1	2
	Non-Injury Crashes	121	99
	Total	**205**	**165**
Total		**897**	**826**

Source: TxDOT CRIS (TxDOT, 2010b and TxDOT, 2011b).

As shown in **Table 1-10**, there were a total of 1,723 crashes in 2010 and 2011. Such large crash numbers are the result of the complex lane movements and heavily congested roadways exhibited throughout the Canyon, Mixmaster, and Lower Stemmons Corridors.

Crash rates, or the number of crashes per 100 million vehicle miles traveled (100M VMT), for the roadway segments within the project area are listed in **Table 1-11** for 2010 (at time of analysis, the most up-to-date year of traffic counts available through the TxDOT Statewide Planning Map). The crash rates were calculated for comparison to 2010 statewide crash rates as reported by TxDOT.

TABLE 1-11. 2010 CRASH RATES

Roadway Segment	Length (mi)	2010 AADT [1]	Crash Rate (Crashes per 100M VMT) [2]	2010 Texas Urban Interstate Statewide Crash Rate (Crashes per 100M VMT) [3]
IH-30 from Sylvan Ave. to IH-35E (South R.L. Thornton Freeway)	1.48	151,000	209.64	101.82
IH-30 from IH-35E (South R.L. Thornton Freeway) to IH-45	1.92	185,000	249.14	
IH-35E (South R.L. Thornton Freeway) from Commerce Street to IH-30	0.78	216,000	321.98	
IH-35E (South R.L. Thornton Freeway) from IH-30 to 8th Street	1.32	191,000	222.77	

Notes: AADT = Average Annual Daily Traffic; 100M VMT = 100 million vehicle miles traveled; mi = miles.
Sources:
1. TxDOT, 2010b.
2. Study Team, January 2013.
3. TxDOT, 2012.

When compared to the 2010 statewide crash rate (101.82M VMT), the 2010 crash rates within the project area are anywhere between two times greater (209.64M VMT) on IH-30 from Sylvan Avenue to IH-35E (South R.L. Thornton Freeway) to over three times greater (321.98M VMT) on IH-35E (South R.L. Thornton Freeway) from Commerce Street to IH-30. Note that crash rates for all roadway segments analyzed within the project area exceeded the statewide crash rate.

In summary, as traffic volumes increase on project area roadways, the number of accidents would also likely increase. Increased traffic volumes lead to increased congestion, which interrupts normal traffic flow, leads to a greater number of vehicle conflicts, and tends to result in a greater number of accidents. This trend is seen under existing conditions and is expected to continue. Accident rates at the project area roadway links and intersections are anticipated to increase in the future if no roadway improvements take place. In addition, as traffic continues to spread to other secondary roads to avoid congestion on major roads, these roads are likely to experience deterioration in safety as well. As a reliever route around the Canyon, Mixmaster, and Lower Stemmons area, the Trinity Parkway would serve to manage the congestion on surrounding roadways that tends to exacerbate traffic accidents and compromise safety.

1.5 PROJECT PURPOSE

The proposed project alternatives, including the No-Build Alternative, evaluated in this FEIS are considered in terms of how well each would meet the following aspects of the project purpose:

- **Enhance Mobility and Manage Traffic Congestion in the CBD and DFW Region**
  The basic purpose of the proposed Trinity Parkway is to construct a new controlled-access roadway through the downtown Dallas area to improve mobility and manage traffic congestion on existing roadways without incurring unreasonable costs. As described in **FEIS Section 1.3**, capacity constraints on existing streets, highways, and transit systems in the project area have resulted in severe congestion that is expected to worsen with future travel demands. The proposed Trinity Parkway reliever route would manage congestion on IH-35E, IH-30, and other transportation facilities within the Trinity Parkway project area by providing an alternative roadway for motorists wishing to bypass the downtown area heading to other regional destinations. This reliever route would improve mobility near downtown Dallas, thereby offering more efficient access to employment centers and greater reliability and travel time savings for those who use the other streets in the corridor. By thus addressing localized congestion in the Dallas CBD, the Trinity Parkway would also assist in alleviating a major traffic bottleneck that affects mobility throughout the DFW region. The proposed facility would address both existing transportation challenges as well as congestion management for projected future travel demand in the project area and region. The Trinity Parkway is a substantial and long-standing component of the MTP, and would enhance planned traffic capacity improvements on the radial freeways of IH-35E, IH-45, SH-183, SH-114, and IH-30.

- **Improve the Safety of Roadways in the CBD**
  The approach to enhancing mobility and managing congestion must also achieve the purpose of improving transportation safety in the CBD. As detailed in **FEIS Section 1.4**, capacity constraints on existing streets and highways in the project area have resulted in severe congestion that is linked with high accident rates. Finding a design solution that both manages heavily congested roadways in the Canyon, Mixmaster, and Lower Stemmons Corridors, and reduces the amount of complex lane movements on these and other CBD roadways is an important project purpose.

- **Provide Enhancement of Modal Interrelationships**
  As previously mentioned, the proposed facility would help to manage traffic congestion along the major roadway corridors throughout the project area. This would have a direct beneficial effect in improving DART bus service because buses are currently experiencing the same congestion as other vehicles traveling throughout the project area, particularly during the peak periods. DART has a large number of bus routes within the project area serving local and commuter patrons (see **FEIS Plate 3-12**). Several of these routes cross the project area near planned interchanges and could provide additional intermodal connections.

In addition to the proposed project purpose, two major objectives have guided the planning and design of the proposed Trinity Parkway. First, due to multiple planning aspects under consideration in the project area (i.e., transportation, recreation, flood control, economic development, and environmental preservation), compatibility with local planning goals is an important objective of the proposed project. Achieving synergy with local development plans has been among the foremost of planning considerations. Throughout the project planning process, stakeholders have stressed that a major transportation improvement is likely to influence and shape local development. Local government agencies, as well as private residents and developers, all anticipate some improvements or changes with respect to traffic circulation and economic development within the Trinity Parkway Corridor. Second, the Trinity Parkway project area includes the environmental setting of the Dallas Floodway and the Trinity River. This major area of open space provides biological resources, water/wetland resources, recreation resources (existing and planned), and aesthetic resources. In addition, the project area includes certain areas that may be susceptible to adverse social, economic, and environmental impacts, including established businesses, residential neighborhoods, and cultural resources. Residents of these areas have expressed a high level of interest in the potential impacts (beneficial and/or adverse) associated with the Trinity Parkway. Therefore, avoiding, minimizing, and mitigating adverse impacts is an important objective in the development of the Trinity Parkway.

1.6 TRINITY PARKWAY DEVELOPMENT PROCESS

This section provides a description of past and future planning phases of the proposed project. It includes a brief overview of the planning context, starting with a description of other relevant agency actions in the Trinity River Corridor that have had an impact on the project development process for the Trinity Parkway, followed by an overview of the relationship of the *Trinity Parkway Corridor MTIS* and the Trinity Parkway DEIS, SDEIS, and LSS documents. A discussion of activities related to the evolution of the project development strategy to date is also included in

this section. An updated flowchart showing the coordinated process that would be followed by the partner agencies for evaluation of the proposed project and final decisions on the separate undertakings in the Trinity River Corridor is presented as **Plate 1-1** at the end of this chapter.

1.6.1 Planning Context

Several local, state, and federal government agencies are in the process of planning, implementing, or constructing various small- and large-scale projects within the Trinity River Corridor. Representative agencies include the City of Dallas, Dallas County, TxDOT, the NTTA, the NCTCOG, and the USACE. These projects include flood control, transportation, recreation, utilities, land use planning, and environmental restoration. A full list of projects within the Trinity River Corridor is provided in **FEIS Section 4.26.7.** Several of the proposed projects located within the Trinity River Corridor have parallel planning processes, overlapping objectives, and a design and project approval process that require close coordination with the Trinity Parkway. These closely coordinated projects, along with a discussion of how the Trinity Parkway fits within the transportation planning context for the region, are further discussed in the sections that follow. Assessments of the anticipated effects of the Trinity Parkway in regard to these other agency actions are provided in **FEIS Chapter 4**.

1.6.1.1 Regional Transportation Planning

Metropolitan Transportation Plan

NCTCOG and the RTC together serve as the MPO for North Central Texas. NCTCOG serves a 16 county region, however only the 12 counties centered around Dallas and Fort Worth are within the boundaries of its functions as the MPO. 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. There have been numerous MTPs in the DFW region, starting in 1974. As mentioned previously, the current plan is the *Mobility 2035 – 2013 Update.* In the DFW area, the RTC is the independent transportation policy body of the MPO. The RTC's 43 members include local elected or appointed officials from the metropolitan area and representatives from each of the area's transportation providers. The RTC approved the *Mobility 2035 – 2013 Update* on June 13, 2013.

Mobility 2035 – 2013 Update presents a system of transportation improvements needed to maintain mobility in the DFW area in the period up to year 2035, and serves as a guide for the expenditure of state and federal funds for the region. The MTP is constrained to match available

financial resources, as was first required by the ISTEA of 1991, followed by the Transportation Equity Act for the 21st Century (TEA-21) (enacted June 9, 1998, P.L. 105-178) and the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (enacted August 10, 2005, P.L. 109-59). The most recent enactment of a surface transportation authorization act occurred on July 6, 2012 when the Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law (P.L. 112-141). MAP-21 reauthorizes the federal-aid highway, highway safety, and transit programs that were last authorized by SAFETEA-LU in 2005. The MTP must also conform to the State Implementation Plan (SIP) for air quality as required by the federal Clean Air Act (CAA) (TCEQ, 2007 and TCEQ 2011b).

Mobility 2035 – 2013 Update was developed in accordance with federal planning requirements and its development was coordinated among local governments, transit authorities, NTTA, and TxDOT. The development of the plan was guided by a set of goals, which were presented and refined at technical workshops, policy meetings, and public meetings. The plan was formulated through a process of forecasting future travel demand, evaluating system alternatives, and selecting options which best meet the mobility needs of the region. The plan includes sustainable development initiatives, recognizing the relationship between community development and transportation. The MTP also recognizes the need to provide a balanced transportation system, responsive to all residents, including historically under-served populations.

The proposed project is included in and consistent with *Mobility 2035 – 2013 Update.* As previously described, the freeway and tollway system evaluation in *Mobility 2035 – 2013 Update* recommends the construction of the Trinity Parkway as a new tollway facility between the proposed termini locations of IH-35E/SH-183 and US-175/SH-310 in Dallas County, Texas. Inclusion of the Trinity Parkway in the MTP indicates regional support and demonstrates that the proposed project is seen as a needed component for the efficient operation of the radial freeways and HOV/managed lane systems that surround downtown Dallas. In addition to the NCTCOG and RTC, various municipalities and agencies such as TxDOT, DART, Dallas County, and the City of Dallas have demonstrated long-term support for the project. The USDOT (FHWA/Federal Transit Administration [FTA]) found the *Mobility 2035 – 2013 Update* to conform to the SIP on July 19, 2013. The appropriate MTP pages are provided in **Appendix I-2**.

Transportation Improvement Program (TIP)

The NCTCOG Fiscal Year (FY) 2013-2016 TIP for the DFW Metropolitan Area is a staged, multi-year program of projects proposed for funding by federal, state, and local sources within the DFW Metropolitan Area. The TIP is developed by the NCTCOG's RTC in cooperation with local governments, TxDOT, NTTA, and local transportation authorities. The TIP is developed in

accordance with the metropolitan planning requirements set forth in the Statewide and Metropolitan Final Rule (23 CFR Section 450, 49 CFR Section 613) promulgated in the October 28, 1993, *Federal Register* as required by the ISTEA of 1991, which was reauthorized by the TEA-21, SAFETEA-LU, and more recently reauthorized by MAP-21.

The projects included within the FY 2013-2016 TIP were selected to implement improvements consistent with the MTP. Roadway improvement plans for the project area identified within the TIP may provide additional traffic-carrying capability to respond to the projected population and employment growth. The proposed project is consistent with the FY 2013-2016 TIP, which received RTC approval on April 12, 2012. The USDOT (FHWA/FTA) found the TIP to conform to the SIP on November 1, 2012. The appropriate FY 2013-2016 TIP pages are provided in **Appendix I-2**.

1.6.1.2 Trinity River Corridor Planning

The following presents a description of other planned projects within the Trinity River Corridor that although independent, may be subject to coordinated planning and design along with the proposed Trinity Parkway. Coordinated planning and design involves integrating transportation infrastructure and non-highway uses into harmonious, multi-use actions that complement one another. Highway projects can be coordinated with the development of bikeways, parks, and other public or private undertakings and may fit better into the overall fabric of the community than if they were not coordinated. Projects discussed in the following paragraphs include the Trinity River Corridor Project, the Dallas Floodway Extension (DFE) Project, and the Dallas Floodway Project. Coordination of such projects provides cost efficiencies, important flood control benefits, and promotes the corridor as more than just a transportation link, but a vital part of regional tourism and local recreational resources.

The City of Dallas' "Trinity River Corridor Project" is the overall name for a series of proposed projects along the Elm Fork and main stem of the Trinity River, funded by the May 2, 1998 City of Dallas Bond election and supported by the city as part of an initiative to improve flood control, downtown access, aesthetic value, and the economic potential of the Trinity River Corridor and surrounding communities. This "Trinity River Corridor Project" has been widely publicized and is being managed by a consolidated interagency office at Dallas City Hall. Project elements each have independent purpose and utility and generally could proceed whether or not other projects in the program are successfully implemented. The following is a list of "Trinity River Corridor Project" elements for which various aspects have been completed, are under construction, or are still within the planning phase: Elm Fork improvements, Great Trinity Forest improvements,

Woodall Rodgers Extension (i.e., Margaret Hunt Hill Bridge – fully completed), Beckley Avenue improvements, Dallas Floodway Extension, Dallas Floodway improvements (i.e., Dallas Floodway Project), and the Trinity Parkway (i.e., proposed action). These project elements are described in detail on the City of Dallas website: www.trinityrivercorridor.org.

The Dallas Floodway Project and the DFE Project by the City of Dallas and the USACE are given substantial emphasis in this FEIS because the proposed Trinity Parkway alternatives and the City of Dallas/USACE Floodway initiatives are subject to cooperative environmental documentation and processing due to geographic proximity, as further described in **FEIS Section 1.6.4**. The Dallas Floodway Project is currently in the planning phase, whereas the DFE Project is federally-approved and certain elements of the project are in the construction phase. Final selection by the FHWA of a Trinity Parkway Build Alternative (through the issuance of an anticipated Record of Decision [ROD]) could potentially modify or alter the existing federal flood control project.

Federal statutory authority under 33 U.S.C. Section 408 (hereinafter "Section 408") requires a determination by the Secretary of the Army (delegated to the Chief of Engineers, USACE) that a proposed alteration, permanent occupation, or use of a federal flood control project is not injurious to the public interest and will not impair its usefulness. Extensive coordination among the project partners has occurred especially in recent years to ensure that the proposed Trinity Parkway would not interrupt flood control operations or impact the existing Dallas Floodway levees. In the event that a Trinity Parkway Build Alternative located primarily within the Dallas Floodway is selected in the anticipated ROD by the FHWA, USACE authorization under Section 408 would be required and areas of continued coordination with the proposed City of Dallas/USACE floodway improvements would include the following: (1) coordination of construction phasing to ensure protection of the levee system; (2) usage of borrow material from the floodway for tollway embankment; and (3) provision of uninterrupted access for floodway operations and maintenance, flood fighting, and surveillance. The major City of Dallas/USACE undertakings planned for the Dallas Floodway are summarized below.

Dallas Floodway Extension (DFE) Project

The DFE is a flood control project proposed by the USACE, with the City of Dallas as the local sponsor. As previously mentioned, it is currently under construction. The DFE Project provides for an extension of flood protection improvements downstream of the existing south end of the Dallas Floodway levee system. Major components of the project include construction of a chain of wetlands to supplement overbank flow capacity and extension of the levee system to provide flood protection for developed areas. The levee extension would involve construction of levees along the UP Railroad parallel to Lamar Street from the area of the DART Bridge downstream to

Rochester Park, and on the western edge of the floodplain around the Cadillac Heights neighborhood. Other elements of the project include recreation features, such as trails and access areas, as well as ecosystem restoration and environmental mitigation features. The DFE Project has been processed separately through an EIS and a ROD for the project was signed on December 1, 1999 (USACE, 1999). The USACE produced a *Final Supplement No. 1* to the EIS for the DFE Project in 2003 which concluded that the recommended plan should not be changed from the plan identified in the 1999 ROD (USACE, 2003a).

The DFE Project has independent purpose and utility, and focuses primarily on flood control and environmental restoration. It is separately funded by the City of Dallas and the USACE, and would not require the Trinity Parkway to be in place to be effective.

For purposes of this Trinity Parkway FEIS, the DFE is an approved, but not completely constructed, project. From the perspective of hydraulic and hydrologic analyses, the DFE Project is considered to be in place, so that projected flood levels can be accurately modeled. From the perspective of specific environmental effects (e.g., wetland loss, grassland impacts, and archeological impacts), the DFE Project is not considered to be in place, so that impacts are conservatively stated. This FEIS may actually double-count impacts compared to the environmental documentation for the DFE Project. However, this only applies in a short segment downstream of the DART Bridge, where the proposed DFE Lamar Levee and the proposed alignment of the Trinity Parkway cross each other. Similarly, due to uncertainties in the timing of construction of the USACE project, the cost estimates for earthwork, land acquisition, and related items shown in this FEIS (see **FEIS Chapter 6**) do not rely on the USACE project being in place prior to the proposed Trinity Parkway. With the DFE Project preceding the construction of the Trinity Parkway, and assuming that the No-Build alternative is not selected by the FHWA in the anticipated ROD, there may be some cost savings to the Trinity Parkway due to prior construction work and acquisitions associated with the DFE Project.

Potential coordinated project elements include the following:

- Lamar Levee - involves the construction of a new levee to the Standard Project Flood (SPF) plus 2 feet, which would provide flood protection benefits to the south Lamar Street area near the US-175/SH-310 interchange. Coordination with the USACE would be required for the area where a portion of the levee would parallel the proposed Trinity Parkway roadway embankment from the downstream end of the Dallas Floodway to the Martin Luther King, Jr. (MLK, Jr.) Bridge.

- Lamar Levee sump storage - includes the excavation of designated areas to produce borrow material for levee construction. Excavated areas would serve to enhance flood protection in the south Lamar Street area by providing interior floodwater storage. Coordination with the USACE would be required to ensure that the proposed Trinity Parkway avoids impacting the storage sump locations.

- Recreational amenities - primarily consists of constructing hike/bike trails to adjacent neighborhoods paralleling the Trinity River.

Additional details concerning the DFE Project are provided throughout this FEIS.

Dallas Floodway Project

The proposed Dallas Floodway Project is a multipurpose project sponsored by the USACE in partnership with the City of Dallas, and consists of levee remediation, flood risk management, ecosystem restoration, and recreation enhancement within and adjacent to the Dallas Floodway. The Dallas Floodway Project includes the following tasks (generally occurring in successive order with some overlap): Flood Risk Management (FRM) Conceptual Alternatives Design and Analysis, FRM Risk Assessment, FRM Plan Formulation and Evaluation, and a Comprehensive System Analysis to be incorporated into the DEIS for the Dallas Floodway Project. The DEIS will evaluate the technical soundness and environmental acceptability resulting from implementation of the aforementioned actions (e.g., levee remediation, flood risk management). The discussion that follows looks at the City of Dallas' master plan for the Dallas Floodway and the relationship of this master plan to the Trinity Parkway. A brief discussion of the levee remediation component of the Dallas Floodway Project is also presented; a more detailed discussion related to levee remediation is provided in **FEIS Section 2.7.1.1**.

The City of Dallas has developed a conceptual master plan for extensive development of recreational, transportation, and environmental restoration elements for the Dallas Floodway. This information is published in the *Trinity River Corridor, Master Implementation Plan (*MIP), *Lake Design and Recreational Amenities Report* (City of Dallas, 1999a) and amended by a supplementary city report *A Balanced Vision Plan (BVP) for the Trinity River Corridor* (City of Dallas, 2003a). The master plan incorporates three large lakes proposed to be located within the Dallas Floodway: two to be located between the Continental Avenue and Corinth Street Bridge crossings of the Trinity River, requiring the river channel to be realigned to the west around these berm-protected lakes; and a third lake to be located on the west overbank of the Dallas Floodway in the area of Westmoreland Road. All of the proposed lakes would be located off-channel, and subject to infrequent inundation so that a higher quality of lake water can be maintained. The

lakes would also have a mixture of edge treatments, ranging from promenades to natural banks. The water source for maintaining lake levels would be the effluent from the Central Wastewater Treatment Plant (CWWTP).

The master plan for the Dallas Floodway is closely related to the Trinity Parkway because lake excavation presents an available source of earth fill material for roadway embankments (see **FEIS Section 2.7.1.2**). Furthermore, for a Trinity Parkway alignment located within the Dallas Floodway, the excavation of embankment material from the lake areas would serve to mitigate the effects of the road embankments on floodwater conveyance and to some extent would offset the potential effect of embankments on valley storage. It is expected that the earth borrow needed for a tollway within the Dallas Floodway would require that all three city lakes be excavated in the first phase of tollway construction. Thus, if a Dallas Floodway Build Alternative is selected by the FHWA in the anticipated ROD, the tollway construction within the Dallas Floodway could create efficiencies for both the tollway construction and the ultimate development of Dallas Floodway lakes. Having such an available and close source of embankment material could benefit the tollway project, while the lakes could be excavated as part of the tollway project. These initiatives have been closely coordinated, and coordination would need to continue as the projects proceed.

In regards to the proposed improvements within the Dallas Floodway, the Trinity Parkway FEIS makes the following assumptions for a Build Alternative within the Dallas Floodway:

- For the purposes of hydraulic modeling, the roadway within the Dallas Floodway is configured to be compatible with possible levee raises and slope modifications under consideration by USACE in its ongoing DEIS for the Dallas Floodway Project (see **FEIS Sections 2.7.1.1 and 2.7.1.2**). Where earth material is required to be borrowed for construction of roadway embankments, this material is assumed to be excavated from the locations of lakes identified in the City of Dallas' BVP. The location of these lakes would be subject to full excavation, but not impoundment. A USACE/City of Dallas initiative may convert these excavated areas into lakes subsequent to the start of the tollway project. Any further city work concerning edge treatment for the lakes would not be part of the transportation project.

- For the purposes of hydraulic modeling for the evaluation of the Trinity Parkway in the DEIS, SDEIS, and this FEIS, the crest elevations of the Dallas Floodway levees were assumed to be the same as those shown in the existing conditions Corridor Development Certificate (CDC) model provided by the USACE at the time that

hydraulic modeling was performed. The levee side slopes are assumed to be as is, which varies from 3-horizontal/1-vertical to 4-horizontal/1-vertical side slopes.

- For the purposes of other environmental impacts (e.g., vegetation, wetlands, cultural resources), the levee modifications necessary for a Trinity Parkway alternative within the Dallas Floodway are addressed within **FEIS Chapter 4**. Any further environmental impacts of a levee raise would subsequently be addressed with the USACE's ongoing DEIS for the Dallas Floodway Project.

- Recreation and environmental restoration initiatives by the city would not be considered part of the transportation project and are assumed not to be in place.

Section 5141 of the Water Resources Development Act (WRDA) of 2007 authorized the implementation of the City of Dallas BVP and Interior Drainage Plan components if the USACE determines that they are technically sound and environmentally acceptable. On October 9, 2009, the USACE issued a NOI to prepare a DEIS in response to a U.S. Senate Committee on Environment and Public Works Resolution, dated April 22, 1988, and Section 5141 of the WRDA of 2007 seeking analysis of the potential comprehensive environmental consequences of the proposed improvements for the Dallas Floodway system (*Federal Register* [FR] Vol. 74, No. 195, Oct., 2009).

Proposed BVP alternatives for ecosystem restoration and recreation enhancement will be further developed and evaluated based on ongoing fieldwork, data collection, and past studies conducted by the USACE, the City of Dallas, and other regulatory agencies. Ecosystem restoration actions evaluated in the ongoing Dallas Floodway Project DEIS include creating meanders within the Trinity River; restoring, protecting and expanding the riparian corridor; improving aquatic habitat; creating riffle-pool complexes; and constructing wetlands. Recreation measures under evaluation include the West, Natural, and Urban lakes; terraced playing fields; multipurpose trails; whitewater facilities; pedestrian bridges; utilities; parking facilities; amphitheaters; promenade; concession pads; boat/canoe access points; and passive recreation features, such as interpretive guidance, media, and picnic areas. Proposed USACE and City of Dallas alternatives to address existing Dallas Floodway flood risk management and interior drainage concerns are being evaluated from both a non-structural and structural perspective. Non-structural measures include acquisition and removal of structures, or flood proofing of structures for protection from potential future flood damage. Structural measures include levee height modification by fill or addition of flood walls, changes in interior drainage by enlarging

storage areas or increasing widths and depths, removal of the existing AT&SF Bridge, and/or a combination of these measures (FR Vol. 74, No. 195, Oct., 2009).

With regard to the Dallas Floodway Project, it should be noted that a Statewide Transportation Enhancement Program (STEP) project utilizing a portion of the AT&SF Bridge as part of a bicycle and pedestrian trail (Santa Fe Trestle Trail) located within the Dallas Floodway has been completed with the legal requirement that the bridge must be open to the public for a period of ten years. Removing the steel truss that spans the Trinity River and other bridge elements that are functional components of the trail would violate the agreement between the City of Dallas and TxDOT. The bridge has also been determined by TxDOT, with concurrence from the State Historic Preservation Officer (SHPO), to be eligible for listing in the NRHP.

As stated above, in conjunction with the BVP components, the Dallas Floodway Project includes levee remediation, which plans to address certain floodway system deficiencies identified during the periodic inspection performed by the USACE in 2007. The USACE DEIS for the Dallas Floodway Project will include an assessment of the LRP (and potential impacts) proposed to address deficiencies preventing the levees from accommodating the SPF. Based on the best available information at the time of preparation of this FEIS, the Flood Risk Management Plan (developed based on USACE investigations) for the Dallas Floodway Project includes two primary actions to address SPF deficiencies. First, the plan includes raising low points at various locations along the east and west levees of the Dallas Floodway System to contain the SPF, which is estimated to produce flow of 277,000 cubic feet per second (cfs) with an annual probability of occurrence of 0.04 percent (i.e., 1/2,500 chance per year). Second, the plan includes modification to the AT&SF Bridge (i.e., removal of bridge sections not integrated into the Santa Fe Trestle Trail design) to prevent the build-up of storm debris in its piers, which cause floodwaters to back up into the system. Additionally, cut-off walls could be considered as part of the Dallas Floodway Project for their benefits to the BVP for river relocation features. It should be noted that plans for the Dallas Floodway Project are still under development and are subject to change.

The City of Dallas initiated a levee remediation study in 2009 to address floodway system deficiencies only to the extent of the levee's integrity with respect to the 100-year flood. In addition, corrective plans developed with a purpose of regaining 100-year levee accreditation were evaluated in an EA and FONSI processed separately from the USACE DEIS. In February 2012, the city received authorization from the USACE for the proposed 100-year levee fixes, which allowed the city to proceed with construction. Installation of approximately 3.0 miles of cutoff wall at the east levee and approximately 0.5 mile of cutoff wall at the west levee began in

2012 to address concerns with water seepage under the levees. Discussion concerning how the Trinity Parkway may relate to levee remediation is presented in **FEIS Section 2.7.1**.

In addition to the BVP elements and proposed USACE and City of Dallas alternatives to address existing flood risk management and interior drainage concerns, the ongoing USACE DEIS will evaluate several potential projects proposed by other agencies for the Dallas Floodway. The Dallas Floodway Project development process as it relates to the Trinity Parkway development process has evolved since the publication of the Trinity Parkway SDEIS, but retains its independent purpose and utility and could proceed with or without the Trinity Parkway. The foregoing discussion of efforts to coordinate city and federal projects with the Trinity Parkway are expected to result in overall planning efficiencies. However, these projects involving the Dallas Floodway are not connected actions as described in federal NEPA regulations (40 CFR Section 1508.25(a)(1)). That is, none of the projects automatically triggers any of the other actions requiring an EIS, each project may proceed independently of the others, and all projects address a separate and independent need and purpose. **FEIS Sections 1.6.3** and **1.6.4** provide additional information regarding the changes that occurred.

1.6.2 The MTIS and Trinity Parkway NEPA Documents

The decision-making process concerning the proposed Trinity Parkway began with the *Trinity Parkway Corridor MTIS* (TxDOT, 1998a). As described more fully in **FEIS Section 2.1**, the recommendations from this study were adopted in March 1999 into the regional MTP (*Mobility 2020* and subsequent plans). The MTIS concluded with a recommended plan of action, which included the Trinity Parkway reliever route, Canyon-Mixmaster improvements, the Woodall Rodgers Extension, and several other elements. The proposed reliever route is being processed independently from, but in coordination with the remaining elements of the MTIS recommended plan of action. These remaining elements, if not already completed, are being addressed in separate NEPA documents prepared by others.

As a project sponsor for the Trinity Parkway, the NTTA is assisting the FHWA with the NEPA process, which includes compliance with regulations and guidelines promulgated by the U.S. Council on Environmental Quality (CEQ) and the FHWA. These regulations and guidelines require a process ensuring that reasonable and feasible alternatives are evaluated and their related environmental impacts are thoroughly assessed. In June 1999, the NEPA project development process for the proposed action began with the public scoping and preparation of the DEIS. In keeping with federal transportation policies, as discussed further in **FEIS Section 2.1.1**, MTIS analyses are related to the NEPA process as such efforts involve scoping and

development of alternatives to address transportation challenges. Accordingly, the stakeholder involvement efforts and analytical results of *Trinity Parkway Corridor MTIS* helped to shape the scoping and development of initial alternatives that were first reported in the Trinity Parkway DEIS. The purpose of the DEIS was to assist decision makers in the assessment of impacts associated with the reasonable Build Alternatives, including the No-Build Alternative. The documentation presented in the DEIS was prepared in accordance with the CEQ (40 CFR Section 1500-1508) and FHWA (23 CFR Section 771) regulations.

The sponsoring agencies, consisting of the FHWA, TxDOT, and NTTA, approved the Trinity Parkway DEIS for circulation on January 28, 2005. A public hearing was conducted on March 29, 2005, and the public comment period ran from February 11 through April 8, 2005. In April 2005, the USACE, as a cooperating agency, provided the FHWA with comments on the DEIS. Additional coordination between the FHWA and the USACE followed in an effort to clarify and address environmental and technical issues of concern. Subsequently, in late 2005 the FHWA, in consultation with the sponsoring agencies and cooperating agencies, decided to prepare an SDEIS for the Trinity Parkway based on public and agency comments after determining that the purposes of NEPA would be furthered by doing so (40 CFR Section 1502.9[c][2]). The contents of the DEIS were reproduced in their entirety in the SDEIS, along with new and revised material. In addition, the SDEIS analyzed public and agency comments on the DEIS, and included public hearing transcripts and a summary and analysis of views. As the summary and analysis report of public and agency comments on the DEIS was previously published in the SDEIS, it has been attached to this FEIS by reference and is downloadable using the Web link provided in **FEIS Appendix K**. The sponsor agencies approved the SDEIS on February 19, 2009. A public hearing on the SDEIS was held on May 5, 2009 and the extended comment period ran from March 20 through June 30, 2009. **FEIS Appendix L** includes a summary and analysis of the SDEIS public hearing. The attachment of the DEIS and SDEIS summary and analysis materials to this FEIS is in accordance with the requirements of CEQ and FHWA regulations (40 CFR Section 1503.4(b) and 23 CFR Section 771.125(a)(1)).

As with the decision to prepare the SDEIS, the FHWA exercised its discretion under the CEQ and FHWA regulations to supplement the SDEIS after determining that the purposes of NEPA would be furthered by doing so. Three factors led to the development of the LSS to the SDEIS. First, new information was released from the USACE after the publication of the SDEIS, which triggered a need for further evaluation and public comment on some of the proposed Trinity Parkway alternatives with respect to possible impacts to levee remediation and overall flood risk associated with the Dallas Floodway levees (see **FEIS Section 1.6.4**). Second, prior to the release of this FEIS and recommendation of a Build Alternative, the FHWA sought an enhanced evaluation and another opportunity for public comment on the practicability of the Trinity Parkway

alternatives in accordance with EO 11988 (Floodplain Management) and EO 11990 (Protection of Wetlands). This analysis is contained in **LSS Chapter 4** and **FEIS Chapter 2**. Third, in accordance with 23 CFR 774 (Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites [Section 4(f)]) and prior to the publication of this FEIS, the FHWA sought additional analysis of feasibility and prudence to assess whether Trinity Parkway alternatives could avoid or would require the taking or use of resources protected under Section 4(f).

Although additional analysis under Section 4(f) was one of the deciding factors in the FHWA's reasoning for the need to prepare the LSS, federal legislation (P.L. No. 111-212) was passed during the development of the LSS that had implications for the proposed Trinity Parkway in regards to Section 4(f). The legislation regarding Section 4(f) and an expanded description of the development of the LSS document, which also prompted a revised strategy for agency coordination and processing of the Trinity Parkway and the Dallas Floodway Improvement Project, is provided in **FEIS Section 1.6.4**.

The LSS was approved by project sponsors on March 7, 2012. A public hearing on the LSS was held on May 8, 2012 and the formal comment period ran from May 8 through May 18, 2012. A summary and analysis of comments received, as well as a transcript of the LSS public hearing, are included within **FEIS Appendix M**.

1.6.3 Project Development Strategy Prior to 2009 SDEIS Publication

This section outlines the previous strategy for development of the Trinity Parkway EIS, which has since been amended following the publication of the SDEIS. The FHWA originally recognized that there may be integration and coordination issues with foreseeable flood control and lake improvements proposed by the USACE and City of Dallas within the Dallas Floodway. However, the Trinity Parkway DEIS included alternative routes located within and outside the Dallas Floodway, and it was not possible to determine the degree of integration required with other proposed Dallas Floodway improvements, as they were less fully developed at the time. The original strategy involved a public hearing and comment period following the release of the Trinity Parkway DEIS, after which the FHWA, TxDOT, and the NTTA Board of Directors would recommend a Build Alternative. Dependent upon the recommendation of a particular alternative, one of the following development strategies was expected:

1. If a Build Alternative was recommended within the Dallas Floodway, subsequent NEPA documentation would be developed, which would further address the lakes, flood control,

environmental restoration, and recreational improvements proposed in the Dallas Floodway.

2. If a Build Alternative was recommended outside the Dallas Floodway, the FHWA/TxDOT/NTTA would proceed to finalization of the Trinity Parkway FEIS (i.e., an FEIS would be prepared) independent of the proposals by the USACE and the City of Dallas in the Dallas Floodway.
3. If the No-Build Alternative was recommended, the FHWA/TxDOT/NTTA would stop work on the Trinity Parkway EIS and pertinent study materials would be forwarded to the City of Dallas. The proposals by the USACE and City of Dallas in the Dallas Floodway would not be directly affected by this alternative, and would be processed independently.

The specific development strategies (Options 1, 2, and 3) were further described in a letter to the FHWA and were prepared and signed by representatives of the NTTA, the USACE, and the City of Dallas, dated January 29, 2003 (see **Appendix A-1, Page 44**).

The involved agencies consulted extensively after the publication and public comment period of the 2005 DEIS. A decision was made to prepare the SDEIS, followed by another public hearing, postponing recommendation of a Trinity Parkway alternative by the FHWA until after publication of the SDEIS and consideration of additional public comments. To maintain a high degree of coordination between the Trinity Parkway EIS and the USACE's EIS for Dallas Floodway improvements, in 2005, the FHWA agreed to become a Cooperating Agency with the USACE on the Dallas Floodway EIS, and the USACE agreed to become a Cooperating Agency with the FHWA on the Trinity Parkway EIS. By acting as cooperating agencies on each project and implementing, to the extent necessary or desirable, cooperative efforts to meet applicable regulatory requirements, the USACE and FHWA seek to assure a "hard look" under NEPA, as each agency proceeds toward final action.

1.6.4 Project Development Process Following Publication of the 2009 SDEIS

In 2009, after publication of the Trinity Parkway SDEIS, the USACE Fort Worth District and the City of Dallas released the *Periodic Inspection Report No. 9,* (USACE, 2009b), which prompted a revision of the coordination process for the Trinity Parkway and the flood risk management initiatives, interior drainage plans, and other proposed development within the Dallas Floodway. The *USACE Periodic Inspection Report No. 9* documented substantial deficiencies with the Dallas Floodway system which resulted in unacceptable ratings and subsequent de-certification of the Dallas Floodway levees (see **Appendix A-2, Pages 1-2**). In addition to numerous unacceptable ratings, the results of the inspection identified negative impacts during base flood

(100-year event) conditions, which would jeopardize performance of flood protections to function as authorized (FR Vol. 74, No. 195, Friday, October 9, 2009). The levee de-certification resulted in an urgent need for the City of Dallas to recertify the levees. As a result, the City of Dallas, in partnership with the USACE, developed a Maintenance Deficiency Correction Period (MDCP) Plan and a LRP for system-wide improvements to address the levee deficiencies and other issues within the Dallas Floodway.

The USACE *Periodic Inspection Report No. 9* cited deficiencies in four levee systems in Dallas, including segments of the Dallas Floodway east and west levees adjacent to proposed Trinity Parkway Build Alternatives located in the floodway. The inspection report was acknowledged at the 2009 Trinity Parkway SDEIS public hearing with the stated intent to further study the reported levee deficiencies as they relate to the Trinity Parkway Build Alternatives, coordinate any effects to the LRP, and present further information to the public regarding the Trinity Parkway and the levees prior to the FEIS. Due to these and other issues requiring further evaluation, the FHWA decided to develop the LSS to supplement the SDEIS (see **Appendix A-2, Page 3**). The FHWA stated it would not recommend an alternative in the LSS, so that the additional analyses from the LSS and subsequent public input could be evaluated prior to the official FHWA recommendation.

In addition to the FHWA requirement for further studies directly related to the USACE *Periodic Inspection Report No. 9* and compatibility of Trinity Parkway Build Alternatives with the LRP, the FHWA determined that it was necessary to enhance certain information contained in the SDEIS before proceeding to the FEIS. In light of the potential impacts from the Trinity Parkway Build Alternatives to floodplains, wetlands, and Section 4(f) resources, the FHWA determined that the LSS should address whether each Build Alternative could practicably be achieved and whether there were any feasible and prudent avoidance alternatives to the use of Section 4(f) resources. During the development of the LSS, events occurred that had implications for the proposed Trinity Parkway in regards to Section 4(f). On July 29, 2010, the President of the United States signed the Supplemental Appropriations Act, 2010 into law (P.L. No. 111-212). This federal legislation contained the following language, which was pertinent for the Dallas Floodway and Trinity Parkway:

> *SEC. 405. (a) The Secretary of the Army shall not be required to make a determination under the National Historic Preservation Act of 1966 (16 U.S.C. 470, et seq.) for the project for flood control, Trinity River and tributaries, Texas, authorized by section 2 of the Act entitled ''An Act authorizing the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes'', approved March 2, 1945 [59 Stat. 18], as modified by Section 5141 of the Water Resources Development Act of 2007 [121 Stat. 1253].*

(b) The Federal Highway Administration is exempt from the requirements of 49 U.S.C. 303 and 23 U.S.C. 138 for any highway project to be constructed in the vicinity of the Dallas Floodway, Dallas, Texas.

Because of the above exemption, the FHWA determined that Section 4(f) requirements are not applicable to the proposed Trinity Parkway, and as such, no further Section 4(f) evaluation for any public parks; recreation areas; wildlife or waterfowl refuges; or historic sites of national, state or local significance is required for this project (see **Appendix A-2, Page 66**). However, supplemental historic-age resource surveys and a more comprehensive evaluation of the historic context of the project area were completed (see **FEIS Sections 3.3 and 4.7**) in order to advance coordination under Section 106 of the NHPA [16 U.S.C. Section 470(f)] prior to the FEIS.

Leading up to the FHWA decision to require an LSS document, representatives of the FHWA, USACE, USEPA, NTTA, TxDOT, NCTCOG, FEMA, and City of Dallas met on May 18 and 19, 2009 to discuss local and federal projects proposed along the Trinity River Corridor and how they relate to the Dallas Floodway. The various federal agencies shared information with the NTTA, TxDOT, and City of Dallas regarding their approval processes for the proposed improvements and provided direction on required activities and standards to be met to conclude the projects. These and other subsequent discussions among local, state, and federal agencies resulted in a revised strategy for environmental processing of the Trinity Parkway and other projects in or adjacent, parallel and near the Dallas Floodway. This revised strategy was published as part of the LSS (see **LSS Figure 1-3**) and recognized the primacy of flood protection in the Trinity River Corridor and the geographic proximity of the Trinity Parkway and the Dallas Floodway Project, and re-affirmed the commitment of the FHWA and the USACE to coordinate their efforts on these projects. The revised procedures replaced those outlined in the January 29, 2003 interagency letter and were intended to better facilitate timely development of the required environmental documents for these actions, while enabling the public and agencies to better understand the proposed projects and their impacts. The strategy was intended to ultimately allow the FHWA and USACE to make an informed decision regarding these projects in the context of various regulations and requisite analyses applicable to the processes of each agency.

Technical committees and a partner agency executive team were established and monthly meetings were held to facilitate dialogue, assure tasks were being completed in compliance with applicable regulatory requirements, and maintain consistency and compatibility of the federal agency processes. During the development of the LSS and this FEIS, the partner agencies

participated in numerous meetings and workshops to discuss geotechnical, floodway, transportation, and historic resource issues, as well as progress on the NEPA documentation.

Through continued coordination efforts, the revised strategy discussed above was further refined in an interagency workshop held June 26, 2012. This further-refined environmental processing strategy is depicted in **Plate 1-1**. The flowchart illustrated in **Plate 1-1** gives a general overview of key tasks and project development relationships among these various key tasks associated with the Trinity Parkway and the City of Dallas/USACE Dallas Floodway Project.

Critical checkpoints established by the further-revised agency coordination strategy depicted in **Plate 1-1** are that 1) the Comprehensive System Analysis of the Dallas Floodway Project (completed by the USACE prior to the first agency review of the Trinity Parkway FEIS) must provide reasonable assurance that a Trinity Parkway riverside Build Alternative is technically sound and environmentally acceptable prior to the completion of the Trinity Parkway FEIS; 2) before the USACE DEIS for the Dallas Floodway Project can proceed to public hearing, the Trinity Parkway FEIS must recommend the FHWA's alternative for incorporation as the desired alternative in the USACE plan; and 3) the City of Dallas/USACE Dallas Floodway Project receives a ROD prior to Section 408 approval of the Trinity Parkway. The aforementioned checkpoints are shown as red lines and symbolized with blue check-marks in **Plate 1-1** at the end of this chapter.

1.6.5 Overview of USACE Permitting Processes

Part of the function of the project's NEPA process, including this FEIS document, is to assist the USACE in meeting its regulatory decision-making responsibilities. The USACE Fort Worth District intends to use the Trinity Parkway EIS, to the extent possible, to support its obligations under NEPA with respect to decisions related to Section 404 of the Clean Water Act (CWA) (33 U.S.C. Section 1344) and Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 U.S.C. Section 403) as they may apply to Trinity Parkway. An important aspect of the CWA Section 404 permit process and the RHA Section 10 permit process is the public interest review requirements of the USACE regulations governing regulatory evaluations of permits (see 33 CFR Section 320.4). This evaluation includes consideration of the need for the proposed project, whether there are reasonable alternative locations and methods to accomplish the objective of the project, and the extent to which the project would have beneficial and detrimental effects on the uses to which the area is suited. The evaluation of the probable impact which the proposed project may have on the public interest requires careful weighing of all those factors which may be relevant, such as conservation, economics, aesthetics, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, water quality, energy needs, safety,

considerations of property ownership, and, in general, the needs and welfare of the people. The specific weight the USACE gives to each factor is determined by its importance and relevance to the proposed action. The USACE must also comply with the standards in the Section 404(b)(1) regulations issued by the USEPA (40 CFR Part 230). Under these regulations, the applicant must demonstrate that there is no "practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem" (40 CFR Section 230.10(a)). These regulations further provide: "The term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose" (40 CFR Section 230.3(q)). To assist the USACE in its regulatory actions under Section 404, a preliminary analysis pursuant to Section 404(b)(1) has been included in **FEIS Appendix G-1**.

As noted above in FEIS **Section 1.6.1.2**, if a Build Alternative located primarily within the Dallas Floodway is selected by the FHWA, then USACE authorization pursuant to Section 408 would be required. Prior to issuing such authorization, the USACE would have to determine that any proposed use of federal flood control features in the Dallas Floodway is not injurious to the public interest and would not impair the usefulness of the federal works (USACE, 2006). This FEIS contains information to assist the USACE in regulatory actions and decision making related to its flood control mission (e.g., **FEIS Section 4.14** and **Appendix F**).

Since the publication of the SDEIS, a Regional General Permit (RGP) 12 - Modifications and Alterations of Corps of Engineers Projects (CESWF-09-RGP-12) was developed to eliminate unnecessary duplication during the Section 408 process. Activities authorized by RGP 12 are limited to the discharge of dredged or fill material into waters of the U.S., including wetlands, and work in, or affecting navigable waters of the U.S., associated with modification and alterations of USACE projects subject to Section 408 review and which meet the conditions of the RGP (USACE, 2010c). RGP 12 could potentially be utilized as the Section 404/10 authorization for the proposed Trinity Parkway. Because the project would disturb more than 0.5 acre of waters of the U.S., including wetlands, the Texas Commission on Environmental Quality (TCEQ) water quality certification pursuant to Section 401 of the CWA would be obtained during the Section 408 review process.

1.6.6 Prohibition of Heavy Trucks from the Trinity Parkway

The *Trinity Parkway Corridor MTIS* (see **FEIS Section 2.1**) refers to a proposed prohibition of heavy trucks from Trinity Parkway in the event that the roadway is located in the Dallas Floodway. The heavy truck prohibition was requested by the City of Dallas in 1998, and is included in Chapter 7.0 *Recommended Plan of Action* of the MTIS as an "unresolved issue"

(TxDOT, 1998a). MTIS Section 7.3 states the prohibition of heavy trucks "must be resolved prior to the approval of the environmental and schematic design of the Trinity Parkway."

The discussion of the truck prohibition issue in Section 7.3 of the MTIS is as follows:

> ***Prohibition of Heavy Trucks:*** *To improve compatibility with the proposed adjacent park development, it is recommended that heavy vehicles (trucks) be prohibited on the Trinity Parkway reliever route, except for emergency services and special delivery vehicles specifically permitted by the City. This prohibition could apply from the northern terminus down to the interchange of Cedar Crest Boulevard (Martin Luther King, Jr. Boulevard). Heavy trucks could be allowed to enter the proposed Trinity Parkway and go east from Cedar Crest. Westbound in the area of the southern terminus, heavy trucks would be forced to exit the Trinity Parkway no later than Cedar Crest. The process to prohibit heavy trucks would involve concurrence from Federal and State transportation agencies after the Dallas City Council passed a City Ordinance to ban heavy trucks on the Trinity Parkway (if Federal and/or State money is used for construction).*

The foregoing statement from the MTIS reflects planning concerns raised at the time, but this is not binding on the City of Dallas. For example, the City may determine that truck traffic would not be safe and appropriate in the southern segment between IH-45 and Cedar Crest. Should the City pursue a heavy truck restriction by adopting an ordinance, federal and state approval may still be required depending on funding sources for the proposed project and would likely involve submitting a description of the proposed restriction with supporting rationale and analyses justifying such restriction. A heavy truck restriction could also involve additional public involvement by the City to inform the public, agencies, and industry groups and to provide an opportunity for comment. Subject to City of Dallas success in securing passage of a city ordinance to regulate truck traffic on some or all of the proposed toll road, NTTA would support the prohibition of heavy trucks from the Trinity Parkway for roadway alternatives located in the Dallas Floodway and would cooperate with city, federal, and state authorities to implement such a prohibition. This issue would be expected to be further developed during final design should a Build Alternative be selected by the FHWA as part of the anticipated ROD. For the purpose of evaluating potential environmental impacts and in an effort to provide a conservative estimate of such impacts, given that this issue is still unresolved, the proposed Trinity Parkway Build Alternatives are considered to include truck traffic in the analyses presented in this FEIS. The schematic design of each Build Alternative has been developed to accommodate truck traffic if necessary.

[END OF CHAPTER 1 EXCEPT FOR PLATE]

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PLATE 1-1
AGENCY COORDINATION FLOWCHART

Coordination of Environmental Impact Statements for Proposed Dallas Floodway and Trinity Parkway Projects (Swim Lane Exhibit)

Dallas Floodway Improvement Project

City of Dallas

U.S. Army Corps of Engineers

- FRM Conceptual Alternatives Design
- FRM Conceptual Alternatives Analysis
- FRM Plan Formulation and Evaluation
- FRM Public Meeting
- FRM Risk Assessment
- 35% FRM Design
- Draft FR/EIS Prep
- Comprehensive Analysis
- DP2 - TSP IPR (w/ VT)
- DQC / Prep RAM
- USACE receives In-progress applicable sections of TP FEIS
- CA Risk Assessment
- Checkpoint 1: USACE approval of CA prior to start of 1st Agency Review
- IEPR Process
- Draft PR/EIS Review Process
- Overall TSP IPR
- IEPR Process on Hold During Public Comment Period
- Compete DRAFT DR/EIS Revisions Based on DQC/ATR/Sponsor Review
- Overall Project TSP MS
- HQ Review
- Tentative HQ Coordination IPR
- Final Revisions Prior to Public Release
- Checkpoint 2: FHWA SFP and NOA for TRP FEIS Prior to USACE FEIS Public Review
- File NOA
- Public Review - Draft DR/EIS
- Public Hearing
- IEPR Process
- Final DR/EIS Preparation
- Final DR/EIS HQ Review
- Senior Leaders Mtg MS
- ASA Signs ROD MS
- 30 Day NEPA Review
- Final DR/EIS HQ Approval MS
- Checkpoint 3: TRP Initial Section 408 Approval Prior to USACE ROD

Trinity Parkway Project

City of Dallas

U.S. Department of Transportation
Federal Highway Administration

NTTA
North Texas Tollway Authority

Texas Department of Transportation

- NCTCOG Develop Traffic, MSATs, & EJ Tolling Data based on Mobility 2035, 2013 Amendment Alt 3C and No-Build Modeling, Corridor EJ Analysis, Regional RTA Analysis, MOVES MSAT Analysis (2013, 2028 3C/No-Build, 2035 3C/No-Build)
- FHWA Section 106 Coordination on Eligibility/Effects for the Dallas Floodway
- Prepare Draft FEIS with Updated Data/Analyses & Refine Preliminary Mitigation Plans (Placeholders for NCTCOG Data). Complete and submit SDEIS & LSS S&A prior to submitting draft FEIS for review.
- TIP/STIP & Mob. 2035 Coordination, Incorporate Updated COG Traffic Data & Perform Updated Analyses for CO, MSATs, EJ Tolling, Noise, Traffic Redistribution
- Prepare Schematic, update traffic data, AJR, & DE Report
- WACO Workshop
- 1st Agency Review of FEIS (30 days) (1)
- Revise FEIS format and supplement Appendix G based on direction from Waco Workshop and comments from initial concurrent reviews.
- 2nd Agency Review (30 days) (1)
- Revise and Resubmit FEIS (30 days)
- FHWA Legal Suff. Review and HQ Prior Concurrence (45 days)
- Final FEIS Revision, Approval and SFP (30 days)
- WACO Workshop
- Prepare Draft PMP (NTTA) (120 days)
- PMP Review by TxDOT/FHWA and Finalize PMP (120 days)
- PMP Approval (90 days after Anticipated TRP ROD)
- NOA and Notice of Public Hearing (45 days)
- Prepare Draft PH Notices & Agency Review
- Public Hearing
- Prepare FEIS PH Summary & Analysis (S&A) Report (60 days)
- Agency Review & Final Revisions of FEIS PH S&A Report (60 days)
- Finalize ROD
- Anticipated ROD (TRP)
- Schematic, IAJR, & DE Report Review & Revisions for Contingent Approval prior to NOA
- Prepare Draft ROD and FHWA Review
- Tentative Initial Cost Estimate Review
- Chief of Engineers Decision (simultaneously to or immediately following TRP ROD)
- Revise Section 408 Package
- Initial Section 408 Reviews SWF, SAR, ATR
- Revise & Resubmit for HQ Review
- USACE HQ Review of Initial 408 Package (60 days)

Abbreviations Key

ATR	Agency Technical Review	EJ	Environmental Justice	LSS	Limited Scope Supplemental	RAM	Read Ahead Material	SWD	Southwestern Division
CA	Comprehensive Analysis	FEIS	Final Environmental Impact Statement	MS	Milestone	ROD	Record of Decision	SWF	Fort Worth District
CO	Carbon Monoxide	FR	Feasibility Report	MSAT	Mobile Source Air Toxics	RTC	Regional Transportation Council	TIP	Transportation Improvement Program
DE	Design Exceptions	FRM	Flood Risk Management	NOA	Notice of Availability	S&A	Summary and Analysis	TPP	Transportation and Programming Division
DP	Decision Point	IAJR	Interstate Access Justification Report	PD	Project Delivery	SAR	Safety Assurance Review	TRP	Trinity River Parkway
DQC	District Quality Control	IEPR	Independent External Peer Review	PH	Public Hearing	SFP	Satisfactory for Further Processing	TSP	Tentatively Selected Plan
EIS	Environmental Impact Statement	IPR	In-Progress Review	PMP	Project Management Plan	STIP	Statewide Transportation Improvement Program		

(1) Concurrent Agency Reviews by TxDOT DAL, TxDOT ENV, FHWA DIV, FHWA HQ, USACE SWF and NTTA