



RAILDCTA PROJECT

EXECUTIVE SUMMARY

JULY 2007

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EXECUTIVE SUMMARY

INTRODUCTION – WHAT IS THIS PROJECT?

The Federal Transit Administration (FTA), in cooperation with the Denton County Transportation Authority (DCTA), has initiated an Environmental Impact Statement (EIS) and Section 4(f) Evaluation for the RailDCTA project. The project consists of a 21-mile Regional Rail line along the former Missouri Kansas Texas (MKT) Railroad alignment between North Carrollton and Downtown Denton. The transit connection would provide service between downtown Denton and the Dallas Area Rapid Transit (DART) light rail system in Carrollton and would include five stations. The RailDCTA Study Area encompasses a number of municipalities, including the City of Carrollton, the City of Lewisville, the City of Highland Village, the Town of Hickory Creek, the Town of Lake Dallas, the City of Corinth, the Town of Shady Shores, and the City of Denton as shown in Figure ES-1.

Figure ES-1: RailDCTA DEIS Study Area



The primary purpose of this EIS is to assist decision-makers and the public in assessing potential impacts associated with the implementation of the RailDCTA project. The EIS documents the "purpose and need" for the RailDCTA project and presents a discussion of the Regional Rail alternative considered for implementation, as well as a No-Build Alternative, and a Baseline/Transportation System Management (TSM) alternative. It addresses, in detail, the potential social, economic, environmental, and transportation related impacts of each of the alternatives, and describes the recommended mitigation measures to offset the unavoidable impacts.

In accordance with federal regulations, full consideration of environmental effects as disclosed during the National Environmental Policy Act (NEPA) process is required before the RailDCTA project can be advanced to final design, right-of-way (ROW) acquisition, equipment and facilities procurement, and system construction. This Draft EIS (DEIS) will determine the environmental effects, while a Final EIS (FEIS) and Record of Decision (ROD) from the FTA will be required for advancement to the subsequent stages noted. This DEIS document will be made available and circulated for review to interested parties, including private citizens, community groups, the business community, elected officials, and public agencies in accordance with federal and state requirements. After consideration of the comments received during circulation of the DEIS and the public hearing, the resolution of any outstanding issues will be made by DCTA. The result of these decisions will be documented in the FEIS, which will also include responses to comments received during circulation of the DEIS.

The Executive Summary highlights the most significant findings for the DEIS relative to each chapter of the document:

- Purpose and Need
- Alternatives Considered
- Affected Environment
- Environmental Consequences
- Transportation Impacts
- Public and Agency Involvement

WHY IS THIS PROJECT NEEDED?

The purpose of proposed improvements to the transportation system being studied by DCTA in this DEIS is to:

- Improve mobility and travel capacity;
- Provide multi-modal transportation opportunities for residents and employees;
- Provide convenient, seamless, and cost-effective transportation alternatives in the study area; and
- Improve the geographic coverage of public transportation within the study area and throughout the region, with a connection with the DART LRT system in Carrollton.

The RailDCTA project is needed to provide mobility improvement to address travel deficiencies in the Carrollton to Denton corridor in particular and the north Dallas/Denton area in general. These deficiencies include constrained roadway capacity, particularly in the north-south direction along I-35E, which significantly increases auto travel time and reduces travel predictability. Currently, I-35E experiences severe congestion levels in both the morning and evening peak periods south of Lake Lewisville, and

moderate congestion north of the lake. This trend is expected to continue and worsen even with the expansion that is planned along the I-35E corridor, which will result in severe disruption to the corridor during construction, and for which the RailDCTA project can provide mitigation as a significant travel alternative in the corridor. The proposed project is intended to fulfill the following needs:

Population and Employment: Denton County's population is anticipated to grow by nearly 49% between 2005 and 2030 (increasing from 552,600 in 2005 to 1,085,343 in 2030) and employment is forecasted to more than double between 2005 and 2030 (growing from 193,627 to 413,453).

Roadways: As a result of population and employment growth, highway congestion is forecasted to increase dramatically in Denton County over the next two decades. Corridor capacity is inadequate to meet growing travel demands, and levels of congestion in the corridor are increasing, further deteriorating air quality and other environmental factors in the RailDCTA study area. According to NCTCOG, 41 percent of all lane miles in Denton County will experience "severe peak period congestion" by 2010, and Denton County drivers will spend 40 percent of their travel time in congested traffic by 2010. In addition, the primary travel corridor between Denton and Dallas, I-35E, is forecasted to experience severe congestion in the next two decades, even with major improvements. The Major Investment Study (MIS) recently conducted by the Texas Department of Transportation (TxDOT) calls for expanding I-35E from its current six-lane cross-section to ten lanes from SH 190 to US 380; in addition, the MIS calls for two reversible HOV lanes from SH 190 to FM 407, then converting to a single reversible HOV lane to Meadows Oak/Dobbs in Corinth. Current construction plans call for improvements to the facility to Swisher Road by 2012. However, even with those additional improvements, the roadway is forecasted to experience severe congestion during peak periods by 2025, with even more severe congestion anticipated by 2030. Denton County is already classified as a "severe" nonattainment area for ozone; this congestion will result in more severe air quality problems in the study area.

Transit Service: Options for travel are limited in the corridor and expanded local bus and regional bus transit in the RailDCTA study area is not anticipated to meet all transit needs. Currently, I-35E is the only travel corridor available to residents and employees of Denton County that provides a direct connection between northern Dallas County and Denton. The geographic restrictions of Lake Lewisville, combined with limited additional ROW along I-35E, severely limit the options for providing new roadway improvements, including dedicated bus lanes, between Dallas County and Denton. In addition to limited transit service for residents and employees, three major higher education campuses, including University of North Texas (UNT), Texas Woman's University (TWU), and North Central Texas College (NCTC) are currently not served by long-haul, high capacity transit.

WHAT ALTERNATIVES WERE CONSIDERED IN THIS DEIS?

Three alternatives are being considered in this EIS: a No-Build Alternative, a Baseline/Transportation Systems Management (TSM) Alternative and a Regional Rail Alternative. These alternatives were derived from the DCTA Alternatives Analysis conducted between 2004 and 2005 and approved to carry forward into the EIS process by the DCTA Board of Directors on May 26, 2005.

WHAT IS THE NO-BUILD ALTERNATIVE?

The No-Build Alternative was developed to assess the impacts and the benefits if nothing more is done beyond what is currently provided or assumed in the Regional Long Range Transportation Plan. The No-Build Alternative would include existing and committed roadway and transit projects in the study area and is a way to compare the travel benefits for the Baseline/TSM and the Regional Rail alternatives.

Currently, transit service in Denton County consists of DCTA Commuter Express (regional service between Denton and Lewisville to downtown Dallas), DCTA Connect (local bus service), UNT shuttle and rural paratransit service. The No-Build Alternative would continue to provide a similar level of transit service in Denton County with some modifications of the DCTA Connect routes.

The No-Build Alternative assumes the background roadway, thoroughfare, and Transportation System Management network included in the financially constrained regional long-range plan developed by NCTCOG (*Mobility 2025 Metropolitan Transportation Plan, Amended April 2005*), including ITS improvements such as ramp metering, variable message signs, and incident management. It also includes improvements that are recommended in the *TxDOT I-35E Major Investment Study/Environmental Assessment*. That project assumes additional general-purpose lanes for I-35E in addition to a two-lane reversible HOV facility to as far north as Meadows Oak/Dobbs in Corinth. The DART Northwest/Southeast Corridor light rail system is assumed to Frankford Road in north Carrollton. The Regional Rail line along the Cotton Belt Corridor from DFW Airport to Fort Worth, and the Cotton Belt Corridor from Plano to DFW Airport through North Carrollton are also included in the No-Build regional rail network, meaning that these two rail lines are planned and would be constructed by the year 2030.

WHAT IS THE BASELINE/TSM ALTERNATIVE?

The Baseline/Transportation Systems Management (TSM) Alternative is designed primarily to provide a relatively low-cost alternative to the Regional Rail alternative. The Baseline/TSM Alternative consists of existing and committed roadway and transit improvements, enhanced bus service, and transportation management improvements. The primary purpose of the Baseline/TSM Alternative is to develop an enhanced and robust bus network in the study corridor without a major capital investment in fixed guideway infrastructure.

The Baseline/TSM alternative assumes a regional bus service that would operate on I-35E between downtown Denton and the DART light rail system at the Trinity Mills LRT Station in north Carrollton. A transfer to DART LRT would be required to continue to Downtown Dallas. The service would operate much like the proposed Regional Rail Alternative, in that one route would travel from Downtown Denton to the Trinity Mills LRT Station, with stops at each of the intermediate stations to provide access to all Park-and-Rides. Buses would operate in the HOV lanes to the greatest extent possible, although the barrier-separated facility would not allow for full use of the HOV lanes due to the number of access points that are proposed on I-35E and the requirement of buses entering and exiting the freeway facility to access park-and-rides on the route. Stations are proposed in Downtown Denton, South Denton, North Lewisville, Downtown Lewisville and South Lewisville. Buses would operate at 20-minute frequencies during peak periods and 60-minute frequencies during off-peak periods.

A network of local and feeder buses would provide supportive service to the central element of the Baseline/TSM Alternative similar to the existing bus network, with some additional routes to better serve the study area. This feeder bus network would consist of the five DCTA Connect and ten UNT Shuttle routes with some modifications. Additionally, seven regional feeder routes would also be included to provide connectivity to municipalities in the outlying areas.

WHAT IS THE REGIONAL RAIL ALTERNATIVE?

The Regional Rail Alternative would operate on the former MKT rail line, which generally parallels I-35E between the DART station at Trinity Mills in north Carrollton and downtown Denton. Approximately 20.9 miles of new or upgraded track would be constructed on this alignment. Passenger stations for the Regional Rail Alternative are proposed for South Lewisville, Downtown Lewisville, Highland Village/North Lewisville, South Denton, and Downtown Denton. The approximately eight-mile

section of right-of-way (ROW) that includes the City of Denton's eight-mile Denton Branch Rail Trail (from downtown Denton to Swisher Road), currently located in the old trackbed in the center of the ROW, would be relocated to the side of the ROW, with the new rail line to be located on the old trackbed. A network of local and feeder buses would provide supportive service to the Regional Rail Alternative similar to that described as part of the Baseline/TSM Alternative.

What is the Recommended Alignment of the Regional Rail Alternative?

The Regional Rail Alternative would generally be an at-grade, single-tracked line connecting with the DART LRT system. From the south, the line would begin at the DART Trinity Mills LRT station (located just south of SH-190/President George Bush Turnpike) with a cross-platform transfer between DART and DCTA trains. It would continue north, sharing the railroad ROW with DART LRT to the DART Frankford Road LRT station using the freight track that would be relocated within the existing ROW between the Trinity Mills and Frankford Road stations to allow room for the DART light rail tracks. It is currently assumed that DCTA trains would not serve the DART Frankford Road station. North of Frankford Road, the Regional Rail line would serve the South Lewisville, Downtown Lewisville, and the Highland Village/North Lewisville stations before crossing over Lake Lewisville on the existing rail bridge. North of the lake, the line would serve the South Denton station before arriving at the Downtown Denton station.

What Passenger Vehicles are Proposed for the Regional Rail Alternative?

On-going discussions between DCTA and DART throughout the DEIS process have led to the decision to use, at least in the initial stages of the project, diesel multiple units (DMU) for the Regional Rail Alternative. The initial DCTA passenger trains would consist of one to two vehicles, with the seated capacity of a single DMU vehicle typically ranging from 90 to 130 passengers. Stations would be constructed to allow for future expansion to accommodate up to four-vehicle trainsets.

What are the Proposed Operating Hours and Frequencies of the Regional Rail Alternative?

The 2030 operating plan assumes that the operating days and hours for the Regional Rail Alternative are seven days per week, 365 days per year, 17 hours per day. Table ES-1 shows the proposed 2030 operating schedule for both weekday and weekend/holiday service.

Table ES-1: Regional Rail Alternative Service Levels

Time of Day	Hours	Headway
Weekday Service		
AM Peak	5 am – 8 am	20 minutes
Mid-day	8 am – 4 pm	60 minutes
PM Peak	4 pm – 7 pm	20 minutes
Evening	7 pm – 10 pm	60 minutes
Weekend		
Mid-day	6 am – 7 pm	60 minutes
Evening	7 pm – 11 pm	60 minutes

Source: URS Corporation, 2006.

Service hours could be extended later into the evening or early morning hours for special events. The service level hours and headways may be different for the initial year of operations depending upon ridership demand.

How Much Will the Regional Rail Alternative Cost?

Capital cost estimates reflect basic engineering and understanding of the principal structural and system elements of the Baseline/TSM and Regional Rail Alternatives. Table ES-2 summarizes capital costs of the alternatives. The costs shown for the Regional Rail Alternative are for full build-out in 2030; initial start-up costs will be substantially lower.

Table ES-2: 2030 Capital Cost Comparisons Table

Component	No-Build Alternative	Baseline/TSM Alternative	Regional Rail Alternative
Feeder bus system	\$8.25 million	\$24.4 million	\$21.9 million
Park-and-rides	\$17.5 million	\$17.5 million	NA
Regional Rail system (including stations)	NA	NA	\$294.7 million
Total	\$25.75 million	\$41.9 million	\$316.6 million

Source: URS Corporation; Connetics Transportation Group, February 2007.

All costs in 2006 dollars.

How Much Will It Cost to Operate and Maintain the Regional Rail Alternative?

Operating and maintenance (O&M) costs for all bus components have been developed using the operating cost information for the existing DCTA fixed route service in year 2006 dollars. O&M costs for regional rail components were developed using data from other systems around the country, including the Trinity Railway Express (TRE) service operated jointly by the T and DART. O&M costs shown are for the full 2030 buildout; opening day costs will be lower. Table ES-3 summarizes annual O&M costs for the alternatives.

Table ES-3: 2030 Annual Operating and Maintenance Cost Comparison

Component	No-Build Alternative	Baseline/TSM Alternative	Regional Rail Alternative
Feeder bus system	\$8.0 million	\$13.1 million	\$12.3 million
DCTA Regional Rail	NA	NA	\$9.4 million
Total	\$8.0 million	\$13.1 million	\$21.7 million

Source: DCTA; URS Corporation; and Connetics Transportation Group, Inc., 2006.

All costs in 2006 dollars.

Where Will the Regional Rail Stations Be Located?

The project team worked with DCTA, local jurisdiction representatives, residents, local businesses and property owners in the corridor to ensure that proposed stations fit comfortably into the surroundings and that both the ridership associated with stations and adjacent areas benefit from increased access. Table ES-4 describes the general location and other characteristics of the proposed stations for the Regional Rail Alternative. Note these descriptions are based on station characteristics forecast for full system build-out in 2030. These station characteristics are also conceptual and subject to change based on additional analysis.

Table ES-4: Denton to Carrollton Corridor Regional Rail Station Characteristics (2030)

Station	Bus Transfer Plaza	Available Parking Spaces
South Lewisville	5 bus bays	740
Downtown Lewisville	10 bus bays	1,050
Highland Village/North Lewisville	6 bus bays	210
South Denton	4 bus bays	780
Downtown Denton	11 bus bays	300

Source: URS Corporation, 2006.

Each proposed station concept is described in more detail in the sections below.

South Lewisville Station: Based on consultation with City of Lewisville staff and public comments, and a resolution approved by the Lewisville City Council on September 18, 2006, the project team recommended that a station at Lakeside Circle be carried into the EIS process. Hebron Parkway to the northwest would provide good regional access to both I-35E and to populations east of the corridor. There are large parcels of vacant land that could serve as a regional Park-and-Ride, and the adjacent multifamily residential units would have a positive affect on potential ridership. Figure ES-2 shows the South Lewisville Station concept plan.

Figure ES-2: Recommended South Lewisville Station

Source: URS Corporation, 2006.

Downtown Lewisville Station: Based on consultation with City of Lewisville staff and public comment, and a resolution approved by the Lewisville City Council on September 18, 2006, the project team recommended a station location four blocks east of Old Town between College and Main. This location and layout would maintain the East Main Street/Church Street one-way couplet, as well as provide good access to the passenger rail system for the downtown Lewisville residents and businesses. The adjacent land uses include a mix of industrial, commercial, retail, and residential, which provide opportunities for future transit-oriented development (TOD). It would be in close proximity to FM 1171, which is Main Street, and SH-121 Bypass to the southeast, a major east-west connection. Figure ES-3 shows the Downtown Lewisville Station concept plan.

Figure ES-3: Recommended Downtown Lewisville Station



Source: URS Corporation, 2006.

Highland Village/North Lewisville Station: The Highland Village/North Lewisville station concept would be located at Garden Ridge Boulevard and I-35E. This concept has fair land use and neighborhood compatibility, fair proximity to population and employment density and activity centers, fair station layout (including limited land available for parking) and expansion capability, fair station access (primarily due to its access being available only from the west), fair environmental impacts (due to its proximity to parkland and floodplains), and poor TOD potential. Figure ES-4 shows the Highland Village/North Lewisville Station.

Figure ES-4: Highland Village/North Lewisville Station



Source: URS Corporation, 2006.

Potential Future Station at the MKT/KCS Junction: During the initial station location analysis process, the project team examined the possibility of locating a station at or near the junction of the MKT and KCS ROW in north Lewisville. After consultation with local jurisdictions and public review, the project team recommended not retaining a station at this location for this project. However, this location should remain under consideration in any future additions to the recommended rail project should an extension be considered along the KCS alignment toward Highland Village.

South Denton Station: The South Denton Station would be located on Medpark Drive just north of Colorado Boulevard, and south of the railroad tracks. The City of Denton staff publicly expressed a preference for this location (mainly due to its close proximity to the Denton Regional Medical Center), and it was also supported by public review and comment. The surrounding land uses consist of a mobile home park, office uses, and industrial uses. The Denton Regional Hospital is located to the south of the station, directly across Colorado Boulevard. This concept would provide excellent access to I-35E and indirect access to Loop 288. Figure ES-6, shows the South Denton Station concept plan.

Figure ES-6: South Denton Station



Source: URS Corporation, 2006.

Downtown Denton Station: The Downtown Denton station would be located between Hickory and Sycamore Streets and Bell and Railroad Avenues. The station would be located adjacent to the future Denton Intermodal Center. Figure 2-13 shows the Downtown Denton Station concept plan.

Figure ES-7: Downtown Denton Station



Source: URS Corporation, 2006.

What About a Maintenance Facility for the Project?

The two primary types of operations facilities required for the Regional Rail Alternative would be an operating and maintenance facility and a layover facility. A regional rail operating and maintenance facility would provide the supporting infrastructure for train operations and would be used to inspect, repair, maintain, clean, and store regional rail vehicles. A layover facility is a much smaller facility that serves the opposite end of the corridor from where the maintenance facility is located and would be used for the mid-day and overnight storage of trains and could be used for light cleaning, daily train servicing, and minor inspection and repair. This DEIS assumes that the station in Downtown Denton would be sufficient for a layover facility at this time by using one of the tracks at the station for light cleaning and storage.

Based on the results of an extensive evaluation process, an operating and maintenance facility site located north of Bennett Lane and south of SH-121, just west of Railroad Street in Lewisville, was recommended for inclusion in the DIES. Figure ES-8 shows a schematic drawing of the recommended site.

Figure ES-8: Recommended Operating and Maintenance Facility



Source: URS Corporation, 2006.

WHAT TYPES OF BASELINE ENVIRONMENTAL INFORMATION WERE COLLECTED IN THE CORRIDOR?

Qualified professionals in their field have identified the existing natural and built environmental conditions in the Study Area. For purposes of this environmental evaluation, the RailDCTA study area generally encompasses a half-mile on either side of the alignment unless otherwise noted, and extends from Belt Line Road in Carrollton to downtown Denton. The environmental resources and issues identified include: Land Use and Development; Economic Considerations; Acquisitions and Displacements; Socioeconomic Characteristics and Community Facilities; Environmental Justice; Cultural Resources; Section 4(f) and 6(f) Properties; Public Safety and Security; Visual and Aesthetic Resources; Air Quality; Noise and Vibration; Biological and Natural Resources; Mineral Resources, Geology, and Soils; Utilities; Water Resources; and Transportation.

Detailed information regarding the affected environment in the project Study Area is provided in Chapter 3 of the DEIS.

WHAT ARE THE ANTICIPATED ENVIRONMENTAL IMPACTS OF THE PROJECT?

Potential adverse and beneficial environmental impacts associated with the RailDCTA Project are summarized in Table ES-5 on the following pages. Specific mitigation measures in response to anticipated impacts are also identified.

Chapter 4 provides a detailed comparison of the No-Build, Baseline/TSM and Regional Rail alternative impacts.

Table ES-5: Summary of Regional Rail Alternative Environmental Impacts

Section	Impact Type	Impact	Mitigation Measure
Land Use	Land Use	Displacement of existing land uses at some station sites due to property acquisition. Transit-oriented development may be stimulated within ½ mile of some stations. Regional Rail is consistent with regional and local land use plans.	Not applicable.
Economics	Regional Accessibility	Increased access to labor markets.	None required.
	Employment Impacts	Beneficial impact on employment opportunities due to greater regional access.	None required.
	Tax Revenue and Development Opportunities	New development around stations has potential to generate additional sales tax revenue.	None required.
Acquisitions and Displacements	Residences	No residences would be displaced.	None required.
	Businesses	Three businesses would be displaced due to acquisitions required for several stations.	Follow federal policies and procedures related to relocation.
Social Impacts	Neighborhood Integrity and Community Cohesion	All neighborhoods would remain intact. Improved mobility options and stations as meeting places could improve community cohesion.	None required.
	Community Services, Facilities and Resources	Enhanced mobility options to and from community facilities. No acquisition of facilities required.	None required.
	Schools and Universities	More mobility options for public university students in Denton. Potential safety impacts at rail crossings for elementary and secondary school students.	Reduce safety risks to students by potential fencing, signage, or other means.
Environmental Justice	Low Income or Minority Populations	Adverse impacts could potentially occur as a result of noise and vibration and acquisitions and displacements in four census tracts. Low income and minority census tracts could experience adverse impacts to land use and economics, visual and aesthetic, public safety and security, and/or traffic and circulation.	Work with affected residents to mitigate disproportionately adverse impacts.
Historic and Archeological Resources	Historic Resources	Possible impact to 3 historic properties in direct proximity to the proposed Downtown Denton station and one through-truss bridge northwest of West Frankford Road.	Continued coordination with and concurrent of Texas Historical Commission.
	Archaeological Resources	One archaeological site is within proximity to rail ROW.	Continued coordination with and concurrent of Texas Historical Commission.

Table ES-5: Summary of Regional Rail Alternative Environmental Impacts

Section	Impact Type	Impact	Mitigation Measure
Parklands	Direct Impacts	Relocation of 8-mile Denton Branch Rail Trail for Regional Rail tracks.	Relocation within ROW.
	Constructive Use Impacts (proximity impacts, e.g. noise/vibration, visual, access, ecological intrusion/ interference)	Potential impacts to constructive use of 12 park sites.	Construction coordination to minimize impact.
Public Safety and Security	Police Protection	Policing of stations and vehicles.	DCTA to coordinate with municipal police departments to provide security.
	Fire Protection	Possible fire related emergencies.	DCTA to coordinate with municipal fire departments.
	Pedestrian and Vehicle Accidents	Potential conflicts for at-grade and informal crossings along corridor.	At-grade crossing protection. Coordination with school officials.
Visual and Aesthetic Resources	Visual and Aesthetic Impacts	Visual impacts between Hickory Hills Boulevard and Downtown Denton. Impacts would include exposure of private spaces to transit patrons, altered views by trail users and visual elements at station areas.	Landscaping, fencing, and walls where required in coordination with local jurisdiction regulations. Continued coordination with local jurisdictions.
Air Quality	Mobile Source Air Toxics (MSAT)	Low potential to produce MSAT effects. Possible slight elevations in a few localized areas where rail activity occurs closer to homes, schools, businesses (but unquantifiable differences).	None required.
Noise and Vibration	Noise	Severe noise impacts at 3 single family residences and 2 multifamily residential buildings. Moderate noise impacts at 157 single family residences and 13 multifamily residential buildings.	Potential quiet zones, noise barriers/walls, and building sound insulation.
	Vibration	No vibration impacts according to FTA standards.	None required.
Biological and Natural Resources	Vegetation	Potential removal of vegetation along Regional Rail ROW; tree survey would be conducted during final design.	Compliance with local tree and landscaping ordinances, including tree replacement, if needed.
	Wildlife and Threatened and Endangered Species	Removal of vegetation would have minimal effect on wildlife species. Fourteen threatened and endangered species have a low to moderate potential of occurring within the project area and would be relocated in the event of habitat disturbance.	To be determined in final design with on-going coordination with U.S. Fish and Wildlife Service.
	Aquatic Habitat	No substantial impacts expected. Potential indirect impacts from construction-related surface water runoff.	Erosion control during construction using best management practices.

Table ES-5: Summary of Regional Rail Alternative Environmental Impacts

Section	Impact Type	Impact	Mitigation Measure
Mineral Resources/ Geology/Soils	Soils	Increased potential for erosion and sedimentation from construction activities. Differential soil movements and loss in soil support strength.	Erosion control during construction using best management practices. Improvements to rail and rail station subgrade soils.
Utilities	Aerial and Underground Utility Lines	Minimal relocations anticipated.	To be determined in final design and in conformance with requirements of the appropriate owning/operating utility company and government agency.
Water Resources and Water Quality	Water Resources	Direct impacts to 33 jurisdictional waters, including 10 wetlands.	To be determined in continued consultation with US Army Corps of Engineers to document Section 404 permitting and mitigation requirements. Compliance with all local, state and federal agency requirements.
	Surface Water Quality	Potential minor, short-term impacts from project construction and potential impacts from impervious surfaces of station platforms and parking associated with station areas.	Compliance with local, state, and federal agency requirements. Stormwater discharge permits and stormwater pollution prevention plans to be coordinated through continued consultation with the Texas Commission on Environmental Quality, under the Texas Pollutant Discharge Elimination System, and the U.S. Army Corps of Engineers.
	Groundwater Resources	No anticipated impacts.	None required.
	Floodplain	Rail alignment within the 100-year flood plain at 12 locations. Direct impacts due to minor amounts of fill associated with retaining walls and structures.	Compliance with all federal, state and local regulations regarding construction and operation of the project within floodplains. Mitigation may include channel improvements or design modifications.
Hazardous Materials	Hazardous or Toxic Materials	Potential to uncover or disturb existing hazardous and toxic materials, as well as fill from unknown sources.	Compliance with all applicable federal and state regulations. Follow Occupational Safeway and Health Administration and local standards in handling of storage of fuels and other materials. Disposal of construction waste at approved sites.
Construction Impacts	Construction	Minimal impacts to environmental resources. Resources typically impacted include air quality, noise and vibration, utilities, water resources and traffic.	Applying water to disturbed soil, revegetating disturbed areas, covering and maintaining trucks.

Table ES-5: Summary of Regional Rail Alternative Environmental Impacts

Section	Impact Type	Impact	Mitigation Measure
	Air Quality	Impacts would occur from fugitive dust from earthmoving, ground disturbance, etc. and products of combustion from construction equipment.	Implement dust control measures.
	Noise and Vibration	Generation of noise from construction equipment. Minimal vibration impacts expected from pile driving.	Avoid nighttime construction in residential areas, use of mufflers or enclosed engines, and construct temporary noise barriers.
	Utility Disruptions	Short term impacts to area utilities due to line disruptions, relocations and general improvements.	Plan and schedule construction activities to minimize utility service interruptions and provide notifications of disruptions.
	Water Resources	Temporary removal of vegetation, increased stormwater runoff, and increased sedimentation.	Implement of Stormwater Pollution Prevention Plan and adhere to appropriate permitting programs.
	Traffic Disruptions	Traffic and circulation impacts due to roadway closures.	Coordinate with appropriate traffic control divisions to maintain reasonable and safe traffic operations at affected crossings. Develop temporary traffic control plan, schedule equipment movement during non-peak periods, etc.

WHAT TRAFFIC AND TRANSPORTATION IMPACTS ARE ANTICIPATED?

Transit Levels of Service: While the bus system would evolve to better accommodate future travel demand patterns in both the No-Build and Baseline/TSM Alternatives, buses would still operate under unpredictable, mixed traffic conditions on area roadways and highways. The proposed DCTA Rail Services would provide an exclusive guideway that would provide increased reliability and the potential for travel time savings. When connected to the existing DART LRT system, the proposed Rail Service would also provide increased transit mobility to origins and destinations throughout the DART Service Area and in member DCTA cities that do not have transit services. The DCTA transit system would experience increased ridership, increased passenger miles, and increased passenger hours with the Rail Alternative compared to the No-Build and Baseline/TSM Alternatives. These levels of service measures are commonly used to assess transit system performance.

The DCTA Regional Rail Service would have a 2030 ridership of about 5,600 riders per day, and total DART/DCTA system-wide transit usage would increase by about 17,300 unlinked trips daily (an increase of three percent over the No-Build Alternative and an increase of one percent over the Baseline/TSM Alternative). Unlinked trips measure total system mode shift or increase in transit trips. Total system-wide transit passenger miles are estimated to increase from 3.23 million in the No-Build Alternative to 3.32 million in the Rail Alternative (an increase of about three percent over the No-Build Alternative and an increase of less than one percent over the Baseline/TSM Alternative). Similarly, total system-wide passenger hours would increase about three percent in the Rail Alternative over the No-Build Alternative.

Travel Times: The Rail Service would provide travel time savings to riders destined to Downtown Dallas from within the project corridor. Depending on the time of day, the Regional Rail Alternative would save up to 13 minutes for transit riders from the South Lewisville Station and up to 17 minutes from the Downtown Denton Station compared with bus riders in the No-Build Alternative. Compared to the Baseline/TSM alternative, the Rail Alternative would save five minutes for transit riders from the South Lewisville Station, 11 minutes from the South Denton Station, and 15 minutes from the Downtown Denton Station. In addition, the savings would be even greater on days when the buses experience additional congestion due to construction or incidents on the highway.

Vehicle Miles Traveled (VMT): The Regional Rail Alternative is anticipated to have beneficial impacts to the regional transportation system by helping to reduce regional VMT. It is important to reduce the number of vehicles miles of travel for many reasons, the most important being that of benefits to air quality. It is estimated that VMT in the corridor would increase by about 3,983,000 vehicle-miles daily from 2006 levels to 2030 levels under the No-Build Alternative and by about 3,977,500 vehicle-miles daily from 2006 levels to 2030 levels under the Baseline/TSM Alternative. The Regional Rail Alternative would result in 54,300 fewer vehicle-miles daily than the No-Build Alternative, and 48,800 fewer vehicle-miles daily than the Baseline/TSM Alternative, in 2030.

Traffic Volumes: The Regional Rail Alternative and the Baseline/TSM Alternative would both result in less peak-period roadway congestion in the corridor than in the No-Build Alternative. However, under the Regional Rail Alternative, some localized areas may experience limited increases in traffic congestion due to the introduction of crossing gates at Regional Rail grade crossings. In addition, new Regional Rail stations, and the traffic they would attract, could have some limited impact on traffic operations near those stations.

Grade Crossings and Intersections: The Regional Rail Alternative introduces a new Regional Rail guideway that would cross 70 roadways and two freight railroads in the corridor from Belt Line to

downtown Denton. An extensive grade crossing analysis concluded no new grade-separations would be needed for crossings and nearby intersections to operate satisfactorily, through additional signalization may be needed in some areas.

Freight Movement: The construction of the RailDCTA project may require the relocation of freight tracks to accommodate passenger and freight service within the same right-of-way, the removal or realignment of freight storage track/sidings at several locations and a rescheduling of freight operations.

Transportation impacts are defined in greater detail in Chapter 5.

HOW IS PUBLIC AND AGENCY INVOLVEMENT HANDLED DURING THE PROJECT?

During the scoping and planning of the proposed project, DCTA actively engaged agencies and interested parties along the alignment in a proactive and iterative public involvement process. The public and agency involvement program has been accomplished through ongoing meetings with the DCTA staff and Board of Directors, city councils, DART, regional, state and federal agencies, a Technical Advisory Group (TAG), and a Citizens' Advisory Group (CAG), which is comprised of neighborhood, property owner, business, minority, and local government interests along the project corridor. Three sets of public meetings, with two locations in each set, were conducted during the DEIS process. Two sets of Community Roundtables, with two locations in each set, also took place. In addition, Technical Roundtables were conducted to bring local government representatives together at key times during the development of project concepts and basic engineering plans.

Once the Draft EIS is approved for public circulation by the FTA, copies of the document will be made available in hard copy and on the RailDCTA website to members of the community and organizations, as well as appropriate federal, state and local agencies for their review and comment during a 45-day review period. Consistent with FTA guidance, formal public hearings will be conducted in the project corridor to give interested parties the opportunity to formally submit comments on the Draft EIS. Written comments will be accepted at the hearings, or may be mailed to DCTA.