APPENDIX G: Indirect Land Use Impacts Assessment

INDIRECT LAND USE IMPACTS ASSESSMENT

IH 35E: FROM IH 635 TO PRESIDENT GEORGE BUSH TURNPIKE

CSJs: 0196-03-138, 0196-03-180, 0196-03-240

CITIES OF DALLAS, FARMERS BRANCH, AND CARROLLTON

DALLAS COUNTY, TEXAS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
TEXAS DEPARTMENT OF TRANSPORTATION

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I. INTRODUCTION

Purpose

The purpose of this report is to identify and analyze the potential for indirect land use impacts related to the proposed improvements of Interstate Highway (IH) 35E from IH 635 to President George Bush Turnpike (PGBT) in Dallas County, Texas. By definition, indirect land use impacts are the longer-run and wider-spread changes to development patterns and comprehensive plans that are induced by the transportation improvement. The analysis of indirect land use impacts is intended to describe how land use will be different under two alternatives: one with the proposed transportation improvement, and one without it.

Project Limits

IH 35E is a major north/south thoroughfare constructed in the 1950s and early 1960s that bisects North Central Texas. Improvements are proposed for IH 35E from IH 635 in Dallas, Dallas County, Texas to United States Highway (U.S.) 380 in Denton, Denton County, Texas, a distance of approximately 28 miles. However, the IH 35E corridor is currently being evaluated in three separate sections, each having independent utility and logical termini. This indirect land use impact assessment was prepared for the Environmental Assessment (EA) and preliminary design associated with what is referred to as the "South Section." The South Section extends from IH 635 to PGBT (logical termini). The construction limits and EA account for transitions into the existing roadway and extend from IH 635 to PGBT for a distance of approximately five miles. Except for a small area at the intersection of IH 35E and IH 635, which is in the City of Dallas and has reached build-out, the proposed project is within the boundaries of the Cities of Carrollton and Farmers Branch in Dallas County, Texas. See **Appendix: Project Location Map.**

Methodology

This evaluation for indirect land use impacts follows the National Cooperative Highway Research Program (NCHRP) Report 25-25, Task 22, *Forecasting Indirect Land Use Effects on Transportation Projects*. Of the six land use forecasting tools provided in the NCHRP Report 25-25 (Task 22), the "Planning Judgment" forecasting tool was predominantly utilized as the framework for the analysis. The steps provided for this specific methodology come from *A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements* (2001) prepared by ECONorthwest and Portland State University for the Oregon Department of Transportation. *Guidance on Preparing Indirect and Cumulative Impact Analyses (TxDOT, June 2009)* was also consulted.

According to NCHRP 25-25, Planning Judgment techniques are "suitable for any jurisdiction," but especially for smaller jurisdictions with small staff or limited expertise. For this analysis, Planning Judgment was selected particularly because the planners within the jurisdictions affected by the project have relevant expertise to make determinations about land use development with or without the project. Information obtained from planners was utilized to document the analysis of land use goals and trends, build-out analysis, and regulatory mechanisms within the jurisdictions affected by

this project. This method was deemed appropriate to obtain information specific to potential indirect land use effects based on local expertise and the relatively high level of build out in the area. The Planning Judgement method was coupled with Cartographic Methods. Maps showing a study area around the proposed IH 35E improvements along with potential displacements and floodplains was distributed to planners for their input. Planners identified areas where they determined that development would likely occur partially attributable to the proposed project, where the corrider was not already built out. A quantified estimate of the project's potential to induce development is included with the results of the interviews in Section IV.

This analysis includes a discussion of Existing and Forecast Conditions and an Assessment of Indirect Land Use Impacts. The results of that analysis are included herein.

II. FRAMEWORK FOR EVALUATION

Definition of Indirect Land Use Impacts

According to the Council on Environmental Quality (CEQ) definition, indirect impacts are "caused by the action and occur later in time or farther removed in distance, but are still reasonably foreseeable" (40 C.F.R. §1508.8). Indirect impacts may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. **For the purposes of this analysis, the indirect impacts assessment is limited to land use and the effects of the proposed reconstruction of IH 35E.**

Potential impacts to land use include residential, commercial, and industrial development; floodplain encroachment; visual impacts; pre-emption of farm lands; regional economic growth; public improvements such as bus stops; and general increased demand for community facilities.

Measuring Indirect Land Use Impacts

The key variables suggested by the NCHRP Report 25-25 (Task 22) that might contribute to measurable changes in local development patterns in response to a transportation improvement include:

- **Change in accessibility**. This is typically the most important variable. The key measures are average trip time, volumes, and mobility.
- **Change in property value**. Likely changes in land price may influence development.
- **Expected growth**. Forecasted population and employment data may indicate the pressure to develop where good access and services are available.
- **Relationship between supply and demand**. Determine how much vacant, buildable land exists in the study area compared to the rest of a larger city/area/region. The more limited the supply is relative to demand,

the more likely improved access would increase the probability of development.

- **Availability of other services**. Access alone is not sufficient to trigger development; other key public facilities like sewer and water often must be available to the study area at a reasonable cost. If they are, improvements in access are more likely to facilitate land use change.
- **Other market factors**. Identifying areas of growth and comparing the study area market to other areas can identify other market factors.
- **Public policy**. Determine whether or not public policies that allow land uses to change can resist pressure for development.

The assessment of these key variables for indirect impacts should take into consideration two questions: (1) How likely is it that a transportation project will be followed by some noticeable change in the land use that would not have occurred in the absence of the project or sooner than anticipated? (2) If such changes did occur, would they be consistent with the comprehensive plan?

III. EXISTING AND FORECAST CONDITIONS

Description of the Proposed Project, the Study Area Boundary, and the Time Frame for the Indirect Impacts Analysis

Description of the Existing Conditions

IH 35E traverses portions of the Cities of Carrollton and Farmers Branch. Land uses are primarily commercial/retail, with some office use, throughout the project area. Some industrial properties are found in the City of Farmers Branch just north of Valley View Lane. Transit-oriented commercial businesses are clustered around the intersections at Beltline Road and PGBT.

Description of the Existing and Proposed Project

The current facility consists of six mainlanes (three in each direction) with two-lane frontage roads. The existing right-of-way (ROW) typically varies from approximately 250 to 300 feet (ft). From the project begin at IH 635 north to Valley View Lane, the ROW width is approximately 1,200 ft to accommodate interchange movements, a river crossing, and a nearby railroad. The ROW width near the project end at PGBT is approximately 300 ft to accommodate turning movements.

The Texas Department of Transportation (TxDOT) proposes the expansion of approximately five miles of IH 35E within the Cities of Carrollton and Farmers Branch in Dallas County. The project limits extend from IH 635 north to PGBT. The project location map in the Appendix illustrates the project limits for this environmental document. The proposed construction plans include:

- Eight mainlanes (four in each direction);
- Two to four collector distributor lanes (each direction) from north of Sandy Lake Road to PGBT;

- Four concurrent tolled High Occupancy Vehicles (HOV)/managed lanes (variable lanes and width) in the center median of IH 35E;
- Two to three-lane continuous frontage roads in each direction along the entire project corridor including auxiliary lanes at the cross streets;
- Proposed overpass and improvements/extension of Dickerson Parkway,
- Grade separation of the frontage roads and DART railroad tracks at Belt Line Road, and
- Approximately 86 acres of proposed ROW and approximately one acre of proposed easements.

IH 35E would be operated as a HOV/managed facility. According to the Regional Transportation Council's (RTC) *Managed Lane Policies*, utilitzing managed lanes would require toll collection for both single occupancy and high-occupancy vehicles. A reduced toll rate (half price) would be applied towards HOV and publicly-operated vanpools during the AM and PM peak periods. During the off-peak periods, HOVs would pay the same toll as single occupancy vehicles. The RTC may choose to phase out the HOV discount for the AM and PM peak periods once the air quality attainment maintenance period comes to an end. Mainlanes and frontage roads, including the proposed added capacity, would remain non-toll for all users.

Study Area Boundary

The context for the indirect land use impacts assessment is the municipalities located adjacent to the proposed project: the Cities of Carrollton and Farmers Branch in Dallas County. Any direct impacts associated with the proposed project would be absorbed by these; therefore, it is reasonable to assume any physical indirect impacts (e.g. land use) would also be concentrated adjacent to the facility. The municipalities are shown for reference.

With specific regard to indirect land use impact assessment, a 1,200 foot wide Area of Influence (AOI) on either side of the proposed right-of-way was identified for additional coordination about potential induced land use development. This boundary was later modified in accordance with suggestions from planners in each jurisdiction. This approximate 1,200 foot wide AOI was determined to be a reasonable distance from the existing IH 35E where induced land use development could be expected to occur partially attributable to the road way improvements. Other boundaries were not selected because they were not better than a 1,200 foot boundary. Roadway arterials were not selected to define the AOI because land uses are largely already built out between IH 35E and Luna Road or SH 161 to the west, and between IH 35E and Josey Lane to the east. In addition, roadway arterials only run parallel to IH 35E for the southern portion of the project, and IH 35E has no parallel arterials once it heads northwest at an angle from Beltline Road. Natural boundaries were not selected because the Trinity River is on average more than a mile west of IH 35E, with no clear natural barrier to the east. Upon review by local planners, suggestions were made to adjust the buffer based on local knowledge. Those adjustments were made and the resulting AOI is considered to be even more appropriate to the project as a result.

Time Frame for Indirect Impacts Analysis

The temporal boundary for the indirect land use impacts analysis is the year 2030. The year 2030 was chosen to correlate with planning horizon in the North Central Texas Council of Governments (NCTCOG) *Mobility 2030 - 2009 Amendment,* the City of Carrollton's *Comprehensive Plan* (2003), and the City of Farmers Branch *Comprehensive Plan* (1990).

Population and Employment Forecasts

The NCTCOG Demographic Forecast provides long-range, small area population, household, and employment projections for use in intra-regional infrastructure planning and resource allocations in the metropolitan area of North Central Texas. The forecast, which is conducted for the 10 counties surrounding the Dallas-Fort Worth (DFW) urban core (Collin, Dallas, Denton, Rockwall, Tarrant, Ellis, Johnson, Kaufman, and Parker Counties), predicts growth of almost 4 million persons between 2000 and 2030. By 2030, the area is expected to reach 9.1 million persons and approximately 5.4 million jobs. The forecast was developed using a federally recognized land-use model that allocated households and employment to the 10 counties for a regional control total, then disaggregated the totals to forecast districts, cities, and counties. Local municipalities worked with NCTCOG staff to ensure that local government land use and comprehensive plans were included in the forecast. A task force of local officials from city, county, and transportation entities acted as a governing body for the process and endorsed the forecast for approval by the NCTCOG's Executive Board.[1]

Table 1 summarizes the 10-County NCTCOG area as well as the study area's demographic forecast from 2000 to 2030. The study area's population and employment are anticipated to increase by approximately 22 and 67 percent, respectively, from 2000 to 2030. The City of Farmers Branch is expected to experience higher population growth and employment through 2030 than the City of Carrollton. Compared to the 10-County NCTCOG area, the study area's population forecasts reflect more conservative growth rates; however, the employment forecast for the City of Farmers Branch is higher than the 10-County NCTCOG area.

Table 1: 2030 Demographic Forecasts

Area	2000 Demographics		2030 Demographics		% Change 2000 - 2030	
	Population	Employment	Population	Employment	Population	Employment
10-County NCTCOG Area	5,067,400	3,158,200	9,107,900	5,416,700	79.7	71.5
City of Carrollton	109,364	68,199	124,086	83,148	13.4	21.9
City of Farmers Branch	28,028	75,013	43,978	156,798	56.9	109.0
Study Area Total	**137,392**	**143,212**	**168,064**	**239,946**	**22.3**	**67.5**

Source: North Central Texas 2030 Forecast, http://www.nctcog.org/ris/demographics/forecast.asp

[1] NCTCOG, http://www.nctcog.org/ris/demographics/forecast.asp

Relevant Plans and Policy Documents in the Study Area

A variety of plans and policies exist within the study area to promote, guide, and monitor various development activity ranging from regional transportation infrastructure to commercial development aesthetics. These plans are discussed to address planning goals and development trends in the jurisdictions traversed by IH 35E.

North Central Texas Council of Governments

Mobility 2030 - 2009 Amendment: The Metropolitan Transportation Plan

This plan defines transportation systems and services in the DFW metropolitan area. It serves as a guide for the expenditure of State and Federal funds through the year 2030. The plan addresses regional transportation needs that are identified through forecasting current and future travel demand, developing and evaluating system alternatives, and selecting those options which best meet the mobility needs of the region. The proposed IH 35E "Northern Link" project is included in this plan. The "Northern Link" project is shown in the plan as a proposed HOV/managed facility for which the existing lanes in the corridor would be improved and HOV/managed lanes would be added. The plan states that existing lanes would remain free, and tolls would be charged only on added capacity lanes, including the HOV/managed lanes.

Managed Lanes Excess Toll Revenue Sharing Policy

The RTC has adopted the "managed lane" concept over the HOV concept due to the following factors: 1) the ability to provide and manage additional capacity in the corridor, 2) the provision of trip reliability for HOV and transit, 3) the potential for improved air quality through encouragement of increased vehicle occupancy and person movements, and 4) the generation of revenue to construct, operate, and maintain the facility.

A policy for TxDOT managed lanes projects, the *Excess Toll Revenue Sharing: Managed Lane Policy*, has been developed and approved by the RTC. This policy outlines the circumstances under which excess toll revenue would become available and distributed in the region. In the foreseeable future, the proposed IH 35E facility could substantially benefit communities in the project area by generating revenue for additional transportation projects that could also increase capacity, reduce traffic congestion, improve mobility, and improve design deficiencies within the region.

NCTCOG Development Monitoring

The NCTCOG maintains a development monitoring database that tracks over 8,000 major developments that are either existing, under construction, announced, or in the conceptual stages within the NCTCOG Metropolitan Planning Area (MPA). Major industrial, office, or retail developments are over 100,000 square ft and/or 400 employees. Major hotel or multi-family developments are more than 100 rooms or units. Major recreational sites are anticipated to attract high volumes of people (may be seasonal).

Regional Rail Corridor Study and the Regional Transit Initiative

According to NCTCOG, the proven ability of rail service to improve mobility will play a crucial role in meeting the future transportation needs of the region. *Mobility 2030* -

2009 Amendment recommends two rail lines, along with bus rapid transit that cross the proposed project.

The rail components would include a regional and light rail. The regional rail would provide regional rail passenger service between downtown Carrollton and downtown Denton. Approximately six regional rail passenger stations would be constructed between the downtown Carrollton Station at Belt Line and the downtown Denton Station. The light rail transit service would be constructed as an extension of the Dallas Area Rapid Transit (DART) planned North West Corridor light rail transit, generally paralleling IH 35E between downtown Carrollton and downtown Denton. Approximately ten light rail transit passenger stations would be constructed.

Bus rapid transit would provide express bus service operating along a fixed guideway located between downtown Carrollton and downtown Denton. Service would operate within the roadway in mixed traffic approaching downtown Denton. Approximately 10 bus rapid transit stations would be constructed.

Park-and-Ride Facilities
Mobility 2030 - 2009 Amendment identifies planned park-and-ride facilities located near the proposed DART rail stations in the Cities of Carrollton and Farmers Branch.

Bicycle and Pedestrian Facilities
The purpose of the veloweb routes is to provide regional routes, as well as connectivity to interregional routes, which would encourage the use of bicycles for utilitarian trip purposes. The veloweb is also designed to encourage concurrent pedestrian transportation use. Projects with high exposure levels, linkages to transit, and service provision to bicycle transportation districts justify priority investment in transportation funds and are recommended by NCTCOG. The *Mobility 2030 - 2009 Amendment* recommends the Cottonbelt Dallas County veloweb route, which crosses the proposed project.

City of Carrollton

Comprehensive Plan
On February 18, 2003, the Carrollton City Council adopted an updated *Comprehensive Plan*. The City of Carrollton's *Comprehensive Plan* is a statement of community values, ideals and aspirations about Carrollton's future environment, and serves as the official policy of the city regarding physical development. It is a guide for future decisions by the city.

The Plan is used to help set priorities for capital improvement expenditures, as a guide for the acquisition and development of sites for community facilities, as a guide for the acquisition and protection of major open space, as a response to the Texas Local Government Code stating that zoning regulations should be adopted in accordance with a Comprehensive Plan, as a basis for zoning and subdivision regulations, as a guide for reparation of detailed physical plans for sub-areas of the city, and to help guide the

establishment of program s and polic ies by which the city will achieve the typ e of development reflected in this Plan.

Transportation Plan

The City of Carrollton's current *Transportation Plan* was adopted on February 18, 2003 and was last am ended on December 6, 200 7. The prior *Thoroughfare Plan* was developed in 1982. The TRANP LAN com puter m odel was used in developing the current *Transportation Plan*. This traffic forecasting prog ram incorporates popu lation and em ployment estim ates to project the dist ribution and volum e of traffic on the city's streets. These projections were then used to develop a transporta tion network, including thoroughfare location and num ber of lanes ne cessary, to accommodate projected traffic volumes. The TRANPLAN m odel assists in implem enting the *Future Land Use* and *Transportation Plans* by assessing potential traffic impacts of projects before they occur.

The Transportation Plan has two com ponents: the *Thoroughfare Plan* and the *Transit Plan.* The *Thoroughfare Plan* addresses th e street n etwork. It analyzes existin g conditions and established design criteria. It recommends goals, objectives, and policies to achieve a desired t horoughfare network. The *Transit Plan* concerns itself with m odes of m ass transit. W hile presented se parately by the city, th e *Thoroughfare Plan* and the Transit Plan are interlinked, in that th e thoroughfare network supports m ass transit services and changes to the tho roughfare netw ork can im pact mass transit services. For example, reconstruction of intersections can result in easier bus movements.[2]

The existing IH 35E f acility is in cluded in the City of Carrollton's *Thoroughfare Plan* (2003) and is classified as a "c ontrolled access highway." See **Appendix: City of Carrollton Transportation Plan**.

Future Land Use Plan

The City of Carrollton's current *Future Land Use Plan* was adopted on February 18, 2003 and was last am ended on Decem ber 6, 2007. Land use designations along the IH 35E corridor presented in the City of Carrollton's *Future Land Use Plan* include medium intensity commercial, mixed use transit, and public park/recreation. See **Appendix: City of Carrollton Future Land Use Map**.

Both the *Transportation Plan* and *Future Land Use Plan* are components of the *Comprehensive Plan*.

[2] City of Carrollton, http://www.ci.carrollton.tx.us/development/planning/Comp%20Plan/Ch%207%20Transportation%20Plan.pdf

Capital Improvement Projects

According to the City of Carrollton, capital improvement projects and major development projects are anticipated to occur in accordance with the *Future Land Use Plan*.[3] Plans for transit-oriented developments continue to move forward in the City of Carrollton.

City of Farmers Branch

Comprehensive Plan

The City of Farmers Branch *Comprehensive Plan* was adopted in 1989 and is updated every five years. The *Comprehensive Plan* sets forth a generalized pattern of land use and transportation, and establishes policies and guidelines for the development of housing, parks, shopping areas, office and industrial areas, and public buildings; strategies for achieving goals outlined in the plan are explored, and the plan functions as a long-range statement of public policy for the City of Farmers Branch. See **Appendix: City of Farmers Branch Current Land Use Plan.**

The City of Farmers Branch has three *Comprehensive Plans* and a *Vision Plan* for different areas of the city. The City-wide Farmers Branch *Comprehensive Plan* (adopted May 8, 1989; amended February 1990) set the stage for the multi-faceted approach to land use planning required by the city's unique layout and history.[4] Once a major warehousing and goods distribution center for the Dallas metropolitan area, the east side of Farmers Branch (east of IH 35E) began to convert to office and office-complementary land uses that stressed roads and utilities while increasing property values. On the west side of IH 35E, the construction of levees along the Elm Fork of the Trinity River and the increased regional access provided by IH 635 and IH 35E provided prime planning opportunities for the city to shape development. City planners recognized the need to preserve existing residential areas while accommodating these changes. The priorities of the Land Use Element of the 1989 *Comprehensive Plan* included the following:

- Retain and enhance single-family housing function of the Central Area;
- Provide for increases in useable open space sufficient to meet the needs of the city's existing and future residents and employees;
- Encourage combinations of land uses which have the effect of diminishing the use of the private automobile, improving the availability of goods and services for residents and employees, and enhancing the attractiveness and vitality of the city's commercial districts;
- Maintain a citywide land supply which permits a full array of non-residential uses, including warehousing, goods distribution, community and region-serving retail, and first class and "back" office space;
- Develop the west and east sides of Farmers Branch as regional employment centers and provide for the full array of business and consumer services required by the businesses and their employees;
- Where appropriate, encourage inclusion of housing into commercial areas.

[3] Personal communication, City of Carrollton Urban Development Staff, 1/19/2009.

[4] *Farmers Branch Comprehensive Plan* (City Wide) 5/8/1989, amended 2/19/1990 Res. No. 90-036 (http://www.farmersbranch.info/work/planning/long-range-plans)

The *Comprehensive Plan* acknowledged that new land use development occurring on the east side at that time was construction of large office complexes. The west side, in contrast, had large undeveloped areas and faced two major challenges: if the heavy development of office uses continued, traffic pressures would increase and yet there would be a need to balance the amount of land zoned for commercial uses with the likelihood of that demand persisting over time. The 1989 *Comprehensive Plan* included a section for planning for the west side that has since been updated with a new planning effort for that area.

The *West Side Plan* was adopted October 13, 2003. [5] The land use plan builds on what was established in the *Comprehensive Plan*: the unique character of the west side of Farmers Branch being highly accessible to the Dallas-Fort Worth Airport and major highways, with a large amount of undeveloped land. According to the plan: "The land use plan reflects the west side's future role as a significant employment center. The west side represents an important opportunity to create an employment base – in response to the significant trend towards concentration of employment growth in the northern suburbs of the metroplex. The plan attempts to create integrated communities rather than large, single-use districts." Land uses depicted on the *West Side Land Use Plan* show centers ranging from Regional Centers down to Neighborhood Centers, and land uses divided primarily into Employment District and Industrial District. There are rail/bus corridors that intersect with IH 35E. See **Appendix: City of Farmers Branch – West Side Plan.**

The *Station Area Plan* is a plan for the area around the DART rail line and the City Hall. It was adopted July 22, 2002. [6] It includes three visions for land use, with various configurations of residential, office, retail, civic, and open space uses in relation to the DART rail line and the local roadway network. See **Appendix: City of Farmers Branch – DART Station Area Plan - Study Area and Option A, Option B, Option C**.

The *Four Corners Vision Plan*[7] applies to the area around the intersection of Josey Lane and Valley View Lane. It was adopted May 6, 2008 and provides a vision for the character of the area. Specific zoning ordinances are not in place, but are being pursued now. The two conceptual master plan schemes offer layouts for existing retail, proposed retail, and civic uses for development around Josey Lane and Valley View Lane, adjacent to Rawhide Creek. See **Appendix: City of Farmers Branch – Four Corners Vision Plan (Conceptual Master Plan Scheme 1 and 2).**

Together, these plans represent a well-orchestrated planning effort by the City of Farmers Branch to control the pace and character of development throughout the city.

[5] City of Farmers Branch West Side Plan, October 13, 2003, Resolution No. 2003-131 (http://www.farmersbranch.info/work/planning/long-range-plans/west-side-plan)
[6] City of Farmers Branch Station Area Plan, July 22, 2002; Resolution No. 2002-076 (http://www.farmersbranch.info/work/planning/long-range-plans/farmers-branch-station)
[7] City of Farmers Branch Four Corners Vision Plan, May 6, 2008; Resolution No. 2008-36 (http://www.farmersbranch.info/work/planning/long-range-plans/four-corners-report)

Thoroughfare Plan

The City of Farmers Branch *Thoroughfare Plan* was adopted in 2006. The plan shows IH 35E and IH 635 as interstates and shows three six-lane divided arterials crossing the interstate, along with several other smaller arterials.[8] See **Appendix: City of Farmers Branch Thoroughfare Plan.**

Future Land Use Plan

The City of Farmers Branch does not have "future land use plans"; see the discussion above under Comprehensive Plans.

Capital Improvement Programs

The City of Farmers Branch has an adopted 2008-2009 Adopted Fiscal Year Budget including their Capital Improvement Program (CIP). The CIP program is extensive and demonstrated on the map in **Appendix: Capital Improvement Program as Provided in the 2008-2009 Budget**.[9] Major projects near the interstate are included in the Hotel/Motel Fund, the DART Fund, and Tax Increment Financing District #2:

HOTEL/MOTEL CAPITAL IMPROVEMENT FUND (Numbers in parentheses indicate project location on the map in the Appendix):

- Historical Park Bridge: The Historical Park will be installing a new pedestrian bridge that will link the park to the DART Station Area and rose gardens. (B3)
- Historical Park Masterplan: The masterplan guides future development of the Park's programs and facilities.

DART LOCAL ASSISTANCE PROGRAM FUND

- Farmers Branch Station Streets: This project provides for the construction of various public improvements within the Station Area. The DART portion of the project has been increased to provide additional funds for construction. (A5)

TAX INCREMENT FINANCE DISTRICT #2

- Farmers Branch Station Streets: This project provides for the construction of various public improvements within the Station Area (funding for this project comes from both DART Local Assistance Funds and TIF #2) (A5).

NON-BOND FUNDED PROJECTS NEAR IH35E:

- Liberty Plaza: This project provides for the construction of a plaza south of the Dr Pepper StarCenter (D3).
- Transit Square: This project provides funding to construct public open space, which is identified in the Farmers Branch Station Area Code. The square will be located south of the DART Park and Ride, north of Buttonwood and bordered by Denton Drive and the DART rail line to the east and west, respectively. Amenities at the square will be complementary to urban vision of FB Station (E1).

[8] http://www.farmersbranch.info/sites/default/files/Traffic%20-%202006%20Thoughfare%20Plan.pdf
[9] http://www.farmersbranch.info/sites/default/files/images/content-images/2008-2009%20Fiscal%20Year%20Published%20Budget.pdf

Major Developments

Several major office buildings[10] are under development in Farmers Branch. Other major developments in Farmers Branch[11] within the past two years include:

- Broadstone (the northwest corner of Inwood Road at Galleria Drive): Redevelopment of the property as a mixed-use development comprising of approximately 46,800 square ft of office, restaurant and retail uses at the street level and 301 residential units.
- Cambridge (northwest corner of Midway Road and Alpha Road/Sigma Road and Alpha Road): Conceptual site plan for 23.9 acres for a mixed-use planned development consisting of townhomes, retail and apartment uses.
- Other major developments (no detail available): Prairie Crossing, Laguna Vista, Portofino, Evergreen, Essilor (in the IH 35E corridor), Midway Commons.

Development Capacity of the Study Area

The planned future development outlined in the NCTCOG and municipal plans presented in the previous section, coupled with existing economic development efforts, create a demand on the development capacity of the study area. Current economic development trends include a range of activities from light rail systems to mixed-use retail development. Following a brief discussion of some major initiatives, a more detailed land use capacity analysis is provided. **Table 2** provides acreages of developed and undeveloped land, including undevelopable land and anticipated build-out acreage.

City of Carrollton

The Dallas Area Rapid Transit (DART) light rail system is proposed to travel through the City of Carrollton and connect with the future Denton County Transit Authority (DCTA) light rail system in northern Carrollton. The city has been coordinating with DART and preparing for this planned transportation development. The light rail system is currently under construction in the City of Carrollton and the DART Green Line is scheduled to open in December 2010.[12]

The City of Carrollton is in the process of developing transit-oriented communities which would include higher density, mixed-use areas with an urban aesthetic. The design of these communities would encourage walking and bicycling, reduce and manage parking, and provide mixed-uses in close proximity to the light rail stations. On January 31, 2009, the Dallas Morning News featured an article updating readers on the status of planning and development related to the construction of the DART Green Line.[13] High Street Residential plans to break ground this year for a 295 unit, four-building apartment project with street-level retail near downtown Carrollton station. A 300-unit apartment complex is planned near the North Carrollton station at Frankford Road. Overall, Carrollton has three station areas planned and has spent more than $10 million on land acquisition, infrastructure development, and zoning in anticipation of the interest in development.

[10] http://www.farmersbranch.info/work/economic-development/major-office-buildings
[11] http://www.farmersbranch.info/work/planning/recent-development
[12] Dallas Area Transit Authority. http://www.dart.org/about/expansion/otherprojects.asp
[13] Sandoval, Stephanie. 1/31/09. The Dallas Morning Newse: *Plans on track for development Near DART in Carrollton, Farmers Branch.*

The anticipated growth related to the development of transit could bring 8,000 to 10,000 residents to the area.

City of Farmers Branch

As shown in the discussion above, a high level of planning and development continues in the City of Farmers Branch. For the past decade, employment centers have been developing according to plan on the west side of Farmers Branch. According to the City of Farmers Branch, The Mercer Crossing Tax Increment Financing (TIF) District containing the bulk of the City's undeveloped land (808 acres) expires in 2018. The TIF District's inception was December 21, 1998. More than 10 years have elapsed, and approximately 800 acres of the area remain to be developed. An additional 10 years for the development of the TIF area is a possible estimate of time to elapse before buildout considering current economic conditions. **Table 2** shows estimated development capacity of Carrollton and Farmers Branch. In Farmers Branch, the total acreage of land, undeveloped land, and undevelopable land was provided. The developed acreage was estimated by removing utilities, ROW, and parks and open space from the total acreage. This includes some additional land for development, in addition to the primary area that remains to be developed within the TIF, likely over the next 10 years.[14]

Land Use Capacity Analysis

A primary tool for urban planning is land use control. The Cities of Carrollton and Farmers Branch actively monitor the acreage of developed versus undeveloped land, growth pressures, demographic trends, and development patterns in order to conduct land use capacity analyses. One form of land use capacity analysis is a build-out analysis. The purpose of a build-out analysis is to inform a municipality what land is developable, how much development can occur and at what densities, and what consequences may result when complete build-out of available land occurs according to the zoning ordinance. A build-out analysis can reflect changes in the zoning ordinance to illustrate the effects of those changes on future resources. A build-out analysis can also help quantify the costs of growth.[15]

For the purpose of this indirect land use impacts assessment, data obtained from the planning departments affiliated with the Cities of Carrollton and Farmers Branch can provide a general timeframe as to when the study area will reach a build-out status. According to the data provided in **Table 2**, the City of Carrollton expects to reach build-out by 2025 and Farmers Branch expects to reach build out in 2028. These data were provided by city planners based on their adopted planning documents and professional opinions about development trends. The cities of Carrollton and Farmers Branch have a relatively high percentage of developed land, although Farmers Branch has a higher annual growth rate. Both cities expect to reach their build-out at similar times (2025 for Carrollton and 2028 for Farmers Branch). It can be assumed the study area will reach build-out by 2030.

[14] Personal communication, Jim Sellards, Planner at City of Farmers Branch 1/14/09.

[15] *Build-Out Analysis in GIS as a Planning Tool*, Mary Zirkle, Virginia Polytechnic Institute and State University.

Table 2: Land Use Capacity Analysis

Area[1]	Developed Land (acres/percent of total acreage)	Undeveloped Land (acres/percent of total acreage)	Undevelopable Land (acres/percent of total acreage)	Total Acreage	Build-Out Acreage	Annual Growth Rate[2]	Build-Out Year
City of Carrollton	21,310 90%	2,300 10%	2,065 9%	23,610	21,545	0.065%	2025
City of Farmers Branch	5,637 74%	1,132 15%	263 3%	7,577	6,177	0.5%	2028

[1]City of Carrollton data based on 2008 estimates. City of Farmers Branch data provided by city staff, 1/14/2009. Total acreage is all defined land uses. Developed Land is Build-out acreage minus parks and open space.
[2]Annual growth rate = {(build out acreage-developed land)/developed land}/(buildout year-present year)
Sources: City of Carrollton Planning Department; City of Farmers Branch Planning Staff, 1/14/09.

Future Development Patterns in the Study Area

The forecasted developments embodied in the various plans and policy documents previously discussed assumes that the proposed IH 35E facility will be reconstructed and widened. The basic land use patterns surrounding the anticipated improvements to the IH 35E facility are reflected in the comprehensive plans and other vision plans of the Cities of Carrollton and Farmers Branch. The existing IH 35E facility has been in place for many decades, and land use planning for the region reflects the presence of the facility. The comprehensive plans and associated zoning would likely not change as the proposed IH 35E facility is a planned transportation corridor that would benefit from coordinated design, infrastructure, and compatibility of land uses set forth by the Cities of Carrollton and Farmers Branch. If the No-Build alternative were to be adopted, land use development patterns would still continue toward build out because IH 35E is already a major interstate and would continue to facilitate the transportation of goods and services throughout the region. However, land development patterns along the IH 35E corridor would occur at a slower rate in the long-term when compared to the Build alternative in which land development and redevelopment may be delayed in the short and mid-term during project construction but would rebound and accelerate in the long-term with improvements to mobility, a reduction in traffic congestion, and an increase in capacity. See the results of planner interviews in Section IV.

Summary of Travel Performance Estimates

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

Changes in Accessibility

Changes in accessibility are most readily analyzed by comparing differences in travel time, congestion delay, levels of service, and average speed along a particular facility or study area. For IH 35E, changes in accessibility using average free speed in miles per hour (mph) and level of service (LOS) were analyzed for the Build versus the No-Build Alternatives. Utilizing an 11 square mile area bound by the IH 35E corridor adjacent Traffic Serial Zones (TSZs), performance reports developed by the NCTCOG were generated for all expressway, frontage, arterial, and collector streets within the traffic study area. These performance reports allowed for direct comparison of changes in average speed and LOS within the IH 35E traffic study area.

According to the Complete Performance Reports provided by NCTCOG, vehicle hours of total delay (signalized delays and congestion delays) within the traffic analysis study area decreases 28 percent under the Build Alternative (6,524 hours of delay/day under the No-Build Alternative versus 5,115 hours of delay/day under the Build Alternative). **Table 3** illustrates the anticipated change in free speed for the Build and No-Build Alternatives. The Complete Performance Reports indicated the average free speed of local roadways [major arterials and minor arterials (in mph)] is virtually unchanged and that the average free speed along the frontage roads would increase approximately 5.3 percent or close to 2 mph when compared to the No-Build Alternative. Overall, the percent change in average free speed would result in a non-perceptible effect to users of the major/minor arterials and frontage roads in the traffic analysis study area.

Table 3: 2030 Average Free Speed of Roadway (MPH)

Roadway Classification	No-Build Alternative			Build Alternative			Percent Change in Average Free Speed		
	AM	PM	Daily	AM	PM	Daily	AM	PM	Daily
Major Arterials	34.32	34.55	34.38	34.38	34.33	34.24	0.17%	-0.64%	-0.41%
Minor Arterials	28.03	28.19	27.72	28.17	28.05	27.77	0.50%	-0.50%	0.18%
Frontage Roads	34.09	34.27	34.24	35.91	35.93	36.05	5.34%	4.84%	5.29%

Source: NCTCOG TransCAD® data for 2030 daily traffic Build and No-Build Alternatives (March 2009 Complete Performance Reports for the IH 35E South Project)

According to the Texas Transportation Institute (TTI), the most recent value of travel delay (2005 dollars) is $14.60/hour of delay for non-commercial vehicles and $77.10/hour for commercial vehicles.[16] Using the cost for non-commercial vehicles, there would be a cost of travel delay of $74,679 under the Build Alternative and a cost of $95,250 per day (2005 dollars) to the users within the traffic analysis study area under the No-Build Alternative.[17] The difference in user cost between Build and No-Build Alternatives is $20,571 per day.

[16] *2007 Annual Urban Mobility Report*, Texas Transportation Institute, the Texas A&M University System, 2007.

[17] The Annual Urban report was released on September 7, 2007.

Table 4 summarizes the anticipated number of lane-miles in 2030 for different LOS conditions during the AM peak hour for the Build and No-Build Alternatives. The LOS comparison indicates that there would be an increase in lane-miles operating under LOS A-B-C along both the mainlanes and HOV/managed lane under the Build Alternative.

Table 4: 2030 Level of Service for Traffic Study Area

Location	LOS No-Build Alternative	LOS Build Alternative	Percent Increase of Lane-Miles Operating under LOS A-B-C (Build versus No-Build Alternative)
Frontage Roads	A-B-C (25 lane-miles)	A-B-C (27 lane-miles)	8
	D-E (2 lane-miles)	D-E (0 lane-miles)	
	F (9 lane-miles)	F (10 lane-miles)	
Total lane-miles	**36**	**37**	
Local Arterials	A-B-C (44 lane-miles)	A-B-C (44 lane-miles)	0
	D-E (6 lane-miles)	D-E (10 lane-miles)	
	F (13 lane-miles)	F (10 lane-miles)	
Total lane-miles	**63**	**64**	
Local Collectors	A-B-C (30 lane-miles)	A-B-C (30 lane-miles)	0
	D-E (5 lane-miles)	D-E (4 lane-miles)	
	F (13 lane-miles)	F (14 lane-miles)	
Total lane-miles	**48**	**48**	

Source: NCTCOG TransCAD® data for 2030 daily traffic Build and No-Build Alternatives (March 2009 Complete Performance Reports for the IH 35E South Project)

Summary

The LOS comparison derived from the Complete Performance Reports reflecting the IH 35E Build and No-Build Alternatives reveal that there would be less delay [percent increase of lane-miles operating under most favorable LOS conditions (LOS A-B-C)] under the Build Alternative along the frontage roads, and no change in delay for the local arterials and collectors. The analysis also concludes that under the Build Alternative, vehicle hours of total delay (signalized delays and congestion delays) would decrease 28 percent within the traffic analysis study area in comparison to the No-Build Alternative. Additionally, the analysis reveals the average free speed of local roadways (in mph) is virtually unchanged between the 2030 Build and No-Build Alternatives. Overall, the percent change in average free speed would result in a non-perceptible effect to users of the major arterials, minor arterials, and frontage roads within the traffic analysis study area. The difference in user cost between the Build and No-Build Alternatives is estimated to be lower for the Build Alternative than for the No-Build Alternative by $20,571 per day.

IV. ASSESSMENT OF INDIRECT LAND USE IMPACTS

Potential for Land Use Change Assessment

In addition to the broad discussion of development trends and planning tools in the project area, and in accordance with Planning Judgment methodology, it was determined that a more narrow investigation of specific areas where induced land use development may occur was needed. Therefore, additional coordination with planning professionals in

the various jurisdictions traversed by IH 35E was conducted in July 2009. The following questions were asked:

- As a planner, do you think that a 1,200 ft buffer is reasonable for an assessment of induced land use development? If not, how large or small of a buffer would you suggest for this type of assessment?
- What parcels (if any) do you think would likely be developed as a result of the proposed transportation improvements to IH 35E?
- In your opinion, will transportation improvements to IH 35E induce land use development in your jurisdiction, alone or in conjunction with other factors?
- Would improvements to IH 35E affect the rate of land use development in your jurisdiction?
- Please draw on the maps provided to indicate areas you think are likely to develop. Please indicate whether or not they are currently platted for development.

For this analysis, the term "planner" is used for city representatives including those in the urban development department (City of Carrollton) and planning department (City of Farmers Branch). Each planner was asked the above questions to help them identify where they thought induced land use development would occur as a result, at least in part, of the highway improvements. The first question was whether or not, in their opinion, a 1,200 ft buffer was a reasonable area to investigate for induced land use development. Both municipalities indicated that they felt the 1,200 ft buffer was too big:

"I think 1,200 ft is just a bit big. I would probably go with 1,000 feet, but this is not a significant enough difference to worry about." (City of Carrollton)

"On the west side of IH 35E, I think Diplomat is a good buffer distance for the northern half (close to Valwood). But Branch View is better for the southern half. 1,200 feet seems too much. On the east side, Denton Drive is adequate – since very little ROW will be taken from this side." (City of Farmers Branch)

The study area boundary was therefore revised to take into account these suggestions from the local planners. Within the City of Carrollton, the study area boundary was changed to 1,000 ft on either side of the IH 35E facility. Within the City of Farmers Branch, the study area boundary was changed to align with the roads suggested by the planner, resulting in a buffer varying from approximately 515 to 1,450 ft on the west side of IH 35E and approximately 300 to 880 feet on the east side of IH 35E. The revised study area boundary is depicted in **Appendix: Figures 1 through 6 -Potential Induced Development**.

Each planner was also asked to indicate on maps that showed the proposed ROW, potential displacements, floodplain areas, and the preliminary 1,200 ft buffer on either side of the right-of-way where development would likely occur. The question posed was: What parcels (if any) do you think would likely be developed as a result of the proposed transportation improvements to IH 35E? Their answers were digitized into a composite figure (**Appendix: Figures 1 through 6 – Potential Induced Development**) and each

parcel was measured for acreage. A total of approximately 37.7 acres within the AOI was determined to be potentially impacted at least in part as a result of the proposed roadway improvements (see **Table 5**).

Table 5: Potential Induced Land Use Development by Municipality

Municipality	Acres of Potential Induced Land Use Development
Carrollton 0.0	
Farmers Branch	37.7
TOTAL 37.7	

City of Carrollton

According to the City of Carrollton planner: "The problem is Carrollton is almost completely 'built out' in this area and has been for years. Widening IH-35E might induce development on the vacant parcels, and it might induce assembly of small, individually-owned parcels into larger, more developable parcels – or it might not. The reason it 'might not' is that widening the freeway will tend to draw new development further out, away from Carrollton. I don't really see that a wider IH-35E will necessarily induce ANY new development in Carrollton." Further, he notes that "There are so few vacant lots in the 1,200 foot buffer that could reasonably be developed that I think the answer is 'none' (i.e. that widening IH-35E will be unlikely to induce development on them that would not occur in its current configuration)."

Based on the professional judgment of the Carrollton planner, then, the Build Alternative would likely have the same induced land use effects as the No Build Alternative – no anticipated change to existing uses in either case because the area is essentially built out.

City of Farmers Branch

The planner from the City of Farmers Branch elected not to mark the potential induced development areas on the maps, but did provide a written description of those parcels anticipated to develop as a result of widening the roadway: "The NE and SE corner of Valley View and I-35. The NE corner of Valwood and I-35. Tracts D-45, D46, D54, D55, D56, D57, D58, D59, D60." These parcels were digitized and estimated to total approximately 37.7 acres, which are expected to develop or redevelop as a result, in part, of the proposed roadway improvements.

Based on these mapped areas and also on other responses from the Farmers Branch planners, the Build Alternative in conjunction with the construction of the DART Green Line would contribute to induced land use development totaling approximately 38 acres of land. Under the No-Build Alternative, the DART Green Line would still be a major influence on land use development even if IH 35E were not widened. Displacements would not occur, and some land use development would continue to occur in the areas identified by Farmers Branch but presumably less than 38 acres of the identified parcels would be developed within the planning horizon.

Planners were also asked the following: In your opinion, will transportation improvements to IH 35E induce land use development in your jurisdiction, alone or in conjunction with other factors? Answers included the following:

"For the parcel in the image provided, the answer is 'no'. For Carrollton as a whole, the answer is a very qualified 'maybe'. There are other factors, such as fragmented land ownership, making redevelopment more difficult." (City of Carrollton)

"Combined with the opening of the nearby DART new Green Line, the improvements to I-35 will greatly induce redevelopment." (City of Farmers Branch)

Based on a review of these comments, it appears that planners consider the expansion of IH 35E to play both positive and negative roles in land use development. Increased access increases the desirability of certain parcels for commercial development, however, the long timeline for this particular project has affected some individual development decisions. None of the planners indicated that they view the highway expansion as a development issue that is beyond their ability to accommodate.

Planners were also asked the following question: Would improvements to IH 35E affect the rate of land use development in your jurisdiction? The answers varied:

"For the parcel in the image provided, the answer is 'not really'. For Carrollton as a whole, the answer is 'probably not' for the following reasons: first, Carrollton is just about 'built-out'. Second, making it easier for people to get 'further out' from Carrollton can't have much of a desirable effect. On the other hand, Carrollton is fairly centrally located, so making it easier for people in Carrollton to get to other places could have a beneficial effect. I see the IH-35E expansion, as currently designed, as a 'wash' for Carrollton." (Carrollton)

"I would think it will accelerate development. How much I do not know." (Farmers Branch)

The planners feel that the proposed improvements to IH 35E, once completed, will have a beneficial effect in terms of land development and redevelopment from an economic development and traffic flow perspective. However, the delays in executing the project are currently having the effect of delaying some development and redevelopment projects.

Summary of Potential Indirect Land Use Impacts

As discussed in Section II, the potential for land use change can be measured by changes in accessibility, changes in property value, expected growth, the relationship between land supply and demand, availability of public services, market factors, and public policy. The population, employment, and land use forecasts described in this assessment generally presume the improvements to the IH 35E facility. Potential indirect impacts to land use associated with the proposed design and ROW required for the proposed IH 35E project are taken into consideration in **Table 6**.

Table 6: Indirect Land Use Impacts Assessment

Change	Data Sources	Anticipated Indirect Impacts	Potential for Land Use Change
Induced land use development *Measured as areas identified by professionals in jurisdictions as likely to develop as a result – at least in part – of construction of roadway improvements*	Personal communication with professionals in the Cities of Carrollton and Farmers Branch	Within the study area delineated by planners in the Cities of Carrollton and Farmers Branch (a buffer varying from 300 feet to 1,450 feet on either side of IH 35E), a total of approximately 37.7 acres of land could be converted from existing uses to developed uses (including redevelopment) between the present and 2030, partially attributed to construction of IH 35E improvements. Some of these lands are currently platted (already dedicated to developed uses). Many of these lands are adjacent to the roadway surrounded by developed uses.	Weak to Moderate
Change in accessibility *Measured as change in travel time or delay, if available. Otherwise, assessment of v/c or change in access*	NCTCOG Complete Performance Reports	The difference between the No-build and Build scenarios in terms of average speed, and LOS are negligible.	None to very weak
Change in property value *Measured in dollars*	Consultation with planning departments (Cities of Carrollton and Farmers Branch)	Detailed studies on the net fiscal impacts due to the addition of toll collection have not been conducted by the municipalities. A change in residential to commercial land use, regardless of improvements to IH 35E, would result in higher property value increases.	None to very weak
Forecasted growth *Measured as population employment, land development; for region, city, or sub-area*	NCTCOG 2030 Forecast Land Use Capacity Analysis (Data supplied by the Cities of Carrollton and Farmers Branch)	Average annual population growth rates for the Cities of Carrollton and Farmers Branch span from 13.4 to 56.9 percent. Average annual employment growth rates span from 21.9 to 109 percent. Annual land development growth rates span from 0.1 to 0.5 percent.	Weak to moderate
Relationship between supply and demand *Measured as population, employment, land development*	Land Use Capacity Analysis (Data supplied by the Cities of Carrollton and Farmers Branch)	The percentage of undeveloped land for the Cities of Carrollton and Farmers Branch range from 3 to 9 percent. The annual rate of land use development spans from 0.1 to 0.5 percent. The anticipated build-out year for the study area is 2030.	None to very weak

Change	Data Sources	Anticipated Indirect Impacts	Potential for Land Use Change
Availability of non-transportation services *Measured number of people or employees that can be served; or barriers to service provisions*	Capital Improvement Projects (Carrollton, Farmers Branch)	Various CIPs are scheduled for the study area, regardless of the changes in design, ROW, and method of toll collection along the proposed tolled facility. Improvements to non-transportation services such as utilities, sewer, and water provision are planned for the study area and take into account the construction of the proposed IH 35E South facility.	None to very weak
Other factors that impact the market for development	Current economic development activities Capital Improvement Projects Comprehensive Plans, etc.	The project area has been developing during the last few decades and plans exist for the continuation of development activities until build-out in 2030. The IH 35E project is not anticipated to affect the future opportunities for development.	None to very weak
Public policy	Cities of Carrollton and Farmers Branch Comprehensive Plans, Thoroughfare Plans, and Future Land Use Plans	The tolling of the IH 35E HOV/managed lanes has been taken into consideration with the development of the NCTCOG's Managed Lanes Excess Toll Revenue Sharing policy. Potential indirect impacts would result from the proposed acceleration and construction of the Regional Toll Revenue Funding Initiative projects. The IH 35E facility has been in operation for many years, and land use planning for the region reflects the IH 35E facility. The land use planning tools (Comprehensive Plans, Future Land Use Plans, Thoroughfare Plans) have already taken into consideration potential indirect impacts and exist to control the desired land use/transportation changes that would result from the improvements to IH 35E.	None to very weak

Potential Land Use Changes and Compatibility with Land Use Plans

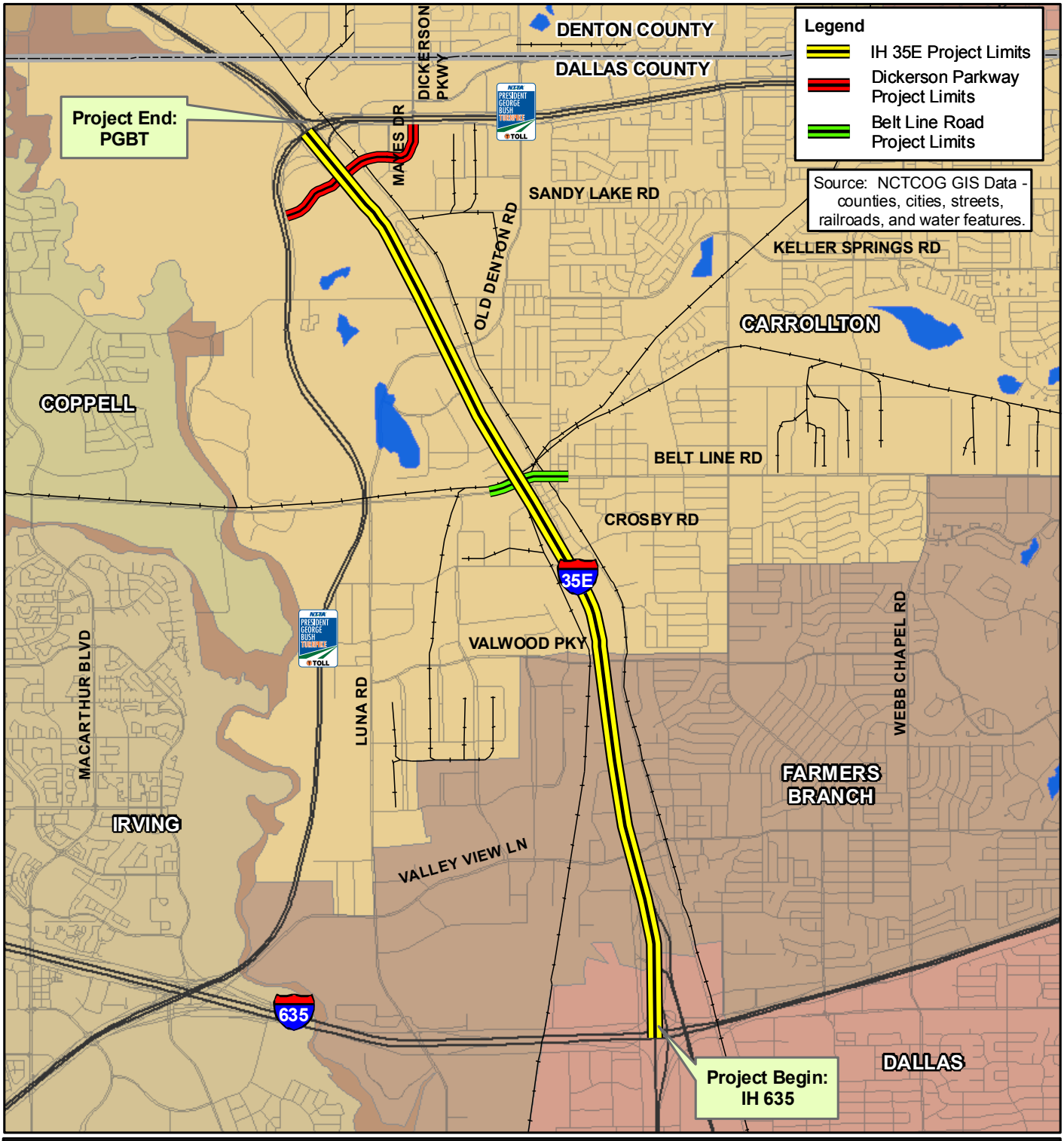
The indirect land use impacts outlined in **Table 6** overall suggest a very weak to moderate potential for land use change as a result of the proposed improvements. The proposed improvements would not adversely affect Notable Features identified in the AOI (specifically Historic Downtown Carrollton) and the roadway improvements would be consistent with the planning goal of economic development for Carrollton and Farmers Branch. The updated comprehensive plans that guide land use development in the study area presume the amount of growth and the level of services to remain consistent with the improvements to the IH 35E facility. The comprehensive plans of the Cities of Carrollton and Farmers Branch assume the IH 35E facility will continue to support the achievement of the development patterns the plans outline. The proposed improvements, deemed necessary to accommodate forecast growth, are implicit in the planned land use forecasts for the study area and are anticipated by planners in the jurisdictions that would be affected. Although some induced land use development is anticipated by local planners, many of them welcome completion of the proposed improvements to help move their development and redevelopment plans forward. The proposed improvements to the IH 35E facility should minimally alter the future land use patterns in the study area as none of the change indicators portrayed in **Table 6** indicate a significant change between the Build and No-Build alternatives.

Indirect effects would result from the proposed acceleration and construction of the Regional Toll Revenue Funding Initiative projects associated with the NCTCOG's Managed Lanes Excess Toll Revenue Sharing Policy. Under the Managed Lanes Excess Toll Revenue Sharing Policy, excess toll revenue would become available and distributed in the region in the form of Regional Toll Revenue Funding Initiative projects. In the foreseeable future, the IH 35E facility could substantially benefit communities in the project area by generating revenue for additional transportation projects that could also increase capacity, reduce traffic congestion, improve mobility, and improve design deficiencies within the region. Before implementation, Regional Toll Revenue Funding Initiative projects would be environmentally evaluated by NCTCOG or TxDOT and would comply with applicable federal, state, and local requirements.

Policies to Mitigate Potential Land Use Impacts

The responsibility for mitigation of the negative impacts associated with development within the study area considered for this assessment would rest with the agencies with the authority to implement such controls. This authority rests with the municipal governments and to a lesser extent, the county governments. Examples of municipal government regulations include tree ordinances and land development code. The responsibility of transportation providers such as TxDOT, local and regional transit agencies, and the local governments would be to implement a transportation system to complement the land use or development controls currently in place. As demonstrated here, all the affected municipalities have planning staff and various land use and thoroughfare plans in place. Based on interviews with planners in the jurisdictions traversed by the proposed improvements, the municipalities are prepared to address direct impacts, redevelopment effects, and even some land use development induced in part by the IH 35E improvements. None of the planners interviewed communicated that they

were unprepared to address land use changes that would occur as a result of the proposed highway improvements; to the contrary, they would prefer for the construction project to take place rather than remain "in limbo."

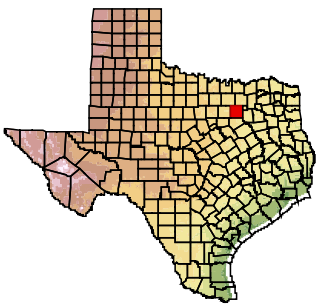


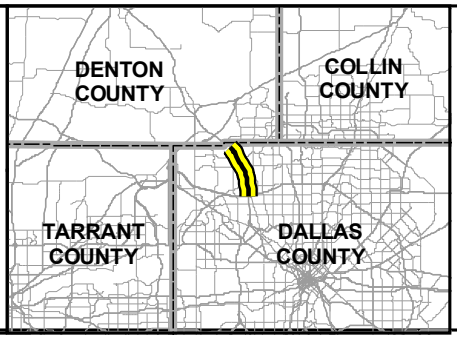
Northern Link

N

0 0.5 1 Miles

Texas Department of Transportation



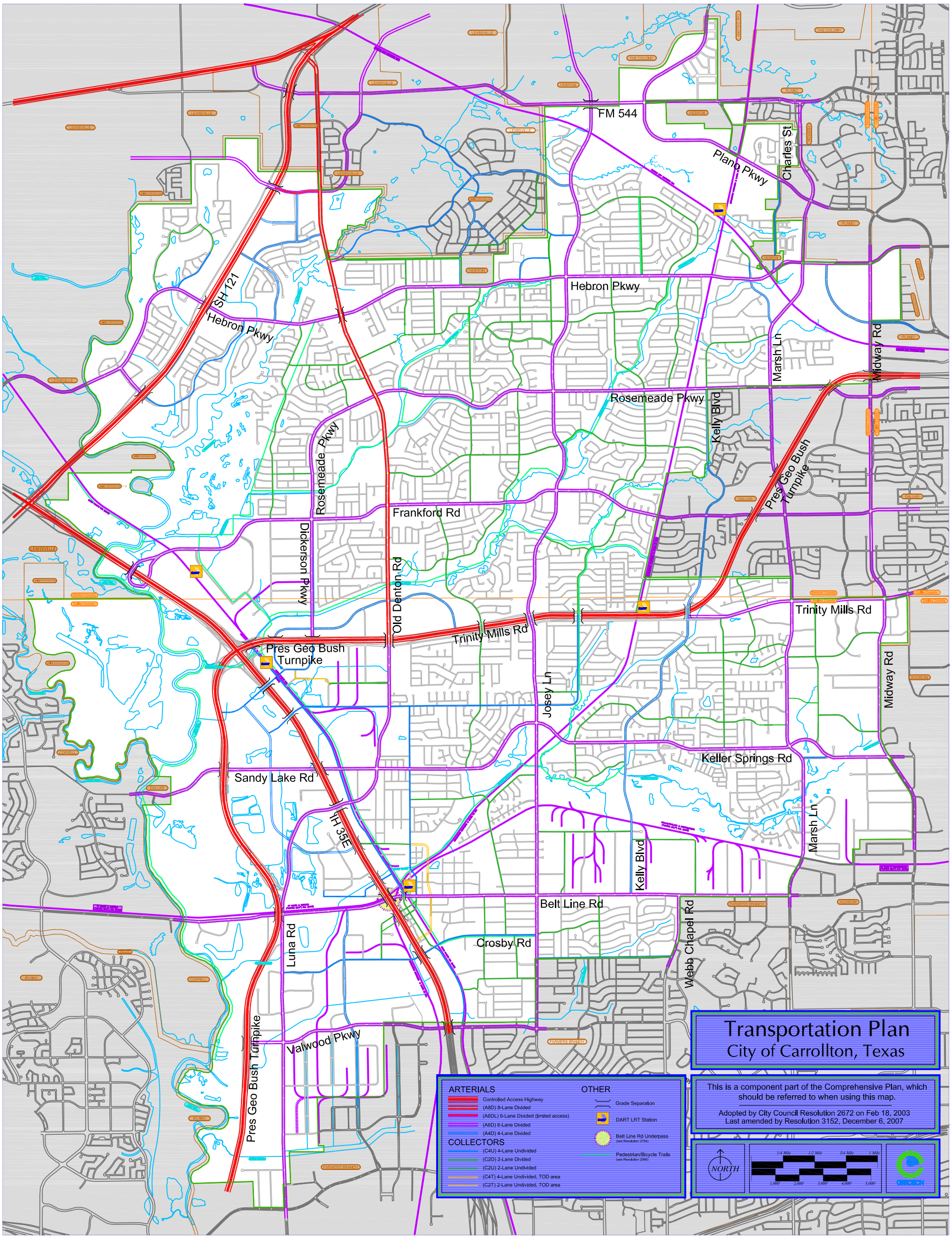


PROJECT LOCATION MAP

IH 35E
FROM IH 635 TO PGBT

CSJs: 0196-03-138, 0196-03-180, 0196-03-240

ENVIRONMENTAL ASSESSMENT
DALLAS COUNTY, TEXAS


FM 544
Plano Pkwy
Charles St
SH 121
Hebron Pkwy
Hebron Pkwy
Marsh Ln
Midway Rd
Rosemeade Pkwy
Kelly Blvd
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Rosemeade Pkwy
Frankford Rd
Dickerson Pkwy
Old Denton Rd
Trinity Mills Rd
Trinity Mills Rd
Pres Geo Bush Turnpike
Josey Ln
Midway Rd
Keller Springs Rd
Sandy Lake Rd
IH 35E
Kelly Blvd
Marsh Ln
Belt Line Rd
Webb Chapel Rd
Crosby Rd
Luna Rd
Pres Geo Bush Turnpike
Valwood Pkwy
Transportation Plan
City of Carrollton, Texas
ARTERIALS
Controlled Access Highway
(A8D) 8-Lane Divided
(A6DL) 6-Lane Divided (limited access)
(A6D) 6-Lane Divided
(A4D) 4-Lane Divided
COLLECTORS
(C4U) 4-Lane Undivided
(C2D) 2-Lane Divided
(C2U) 2-Lane Undivided
(C4T) 4-Lane Undivided, TOD area
(C2T) 2-Lane Undivided, TOD area
OTHER
Grade Separation
DART LRT Station
Belt Line Rd Underpass
(see Resolution 2784)
Pedestrian/Bicycle Trails
(see Resolution 2986)
This is a component part of the Comprehensive Plan, which should be referred to when using this map.
Adopted by City Council Resolution 2672 on Feb 18, 2003
Last amended by Resolution 3152, December 6, 2007
NORTH
1/4 Mile
1/2 Mile
3/4 Mile
1 Mile
1,000'
2,000'
3,000'
4,000'
5,000'

Future Land Use Map

City of Carrollton, Texas

CARROLLTON PKWY
OLD DENTON RD
SH 121
HEBRON PKWY
JOSEY LN
PLANO PKWY
MARSH LN
HEBRON PKWY
KELLY BLVD
MIDWAY RD
MARSH LN
ROSEMEADE PKWY
ROSEMEADE PKWY
FRANKFORD RD
FRANKFORD RD
DICKERSON PKWY
OLD DENTON RD
JOSEY LN
APPROXIMATE BOUNDARY
PRES GEORGE BUSH TURNPIKE
TRINITY MILLS RD
TRINITY MILLS RD
STEMMONS FWY (IH-35 E)
KELLY BLVD
MARSH LN
KELLER SPRINGS RD
SANDY LAKE RD
WHITLOCK LN
KELLER SPRINGS RD
MIDWAY RD
KELLY BLVD
BELT LINE RD
BELT LINE RD
JOSEY LN
WEBB CHAPEL RD
CROSBY RD
VALWOOD PKWY
HUTTON RD
PRES GEORGE BUSH TURNPIKE
LUNA RD

NORTH

1/4 Mile 1/2 Mile 3/4 Mile 1 Mile
1,000' 2,000' 3,000' 4,000' 5,000'

CARROLLTON

NOTE: This is not a zoning map.

This is only a graphic representation of the Comprehensive Plan, which should be referred to when using this map. This map is very general in its representation, and does not identify specific uses for individual parcels, as the Zoning Map does.

Adopted by City Council on Feb 18, 2003
Resolution No. 2672

Last Amended by City Council on December 6, 2007
Resolution No. 3151

RESIDENTIAL
- Single-Family Detached
- Single-Family Attached
- Multi-Family

OFFICE
- Low Intensity (FAR less than 0.5:1)
- Medium Intensity (FAR between 0.5:1 and 1:1)
- High Intensity (FAR 1:1+)

COMMERCIAL
- Low Intensity
- Medium Intensity
- High Intensity

MIXED USE / URBAN
- Mixed Use
- Transit

INDUSTRIAL
- Industrial

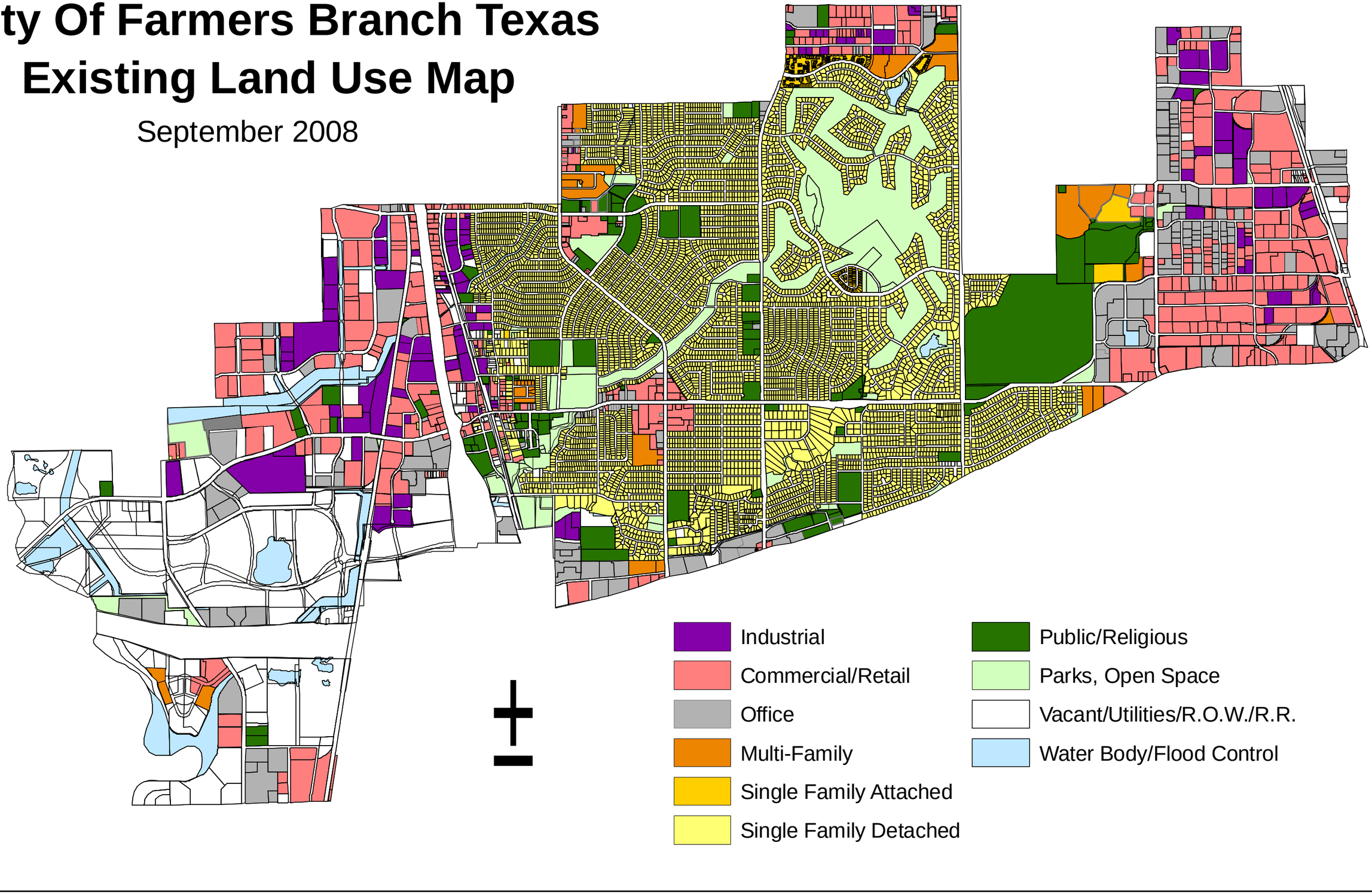
PARK, RECREATION, & OPEN SPACE
- Public Park / Recreation
- Private Park / Recreation
- Open Space

PUBLIC/SEMI-PUBLIC
- School, Police or Fire Station, Etc.
  - E Elementary School
  - M Middle School
  - H High School

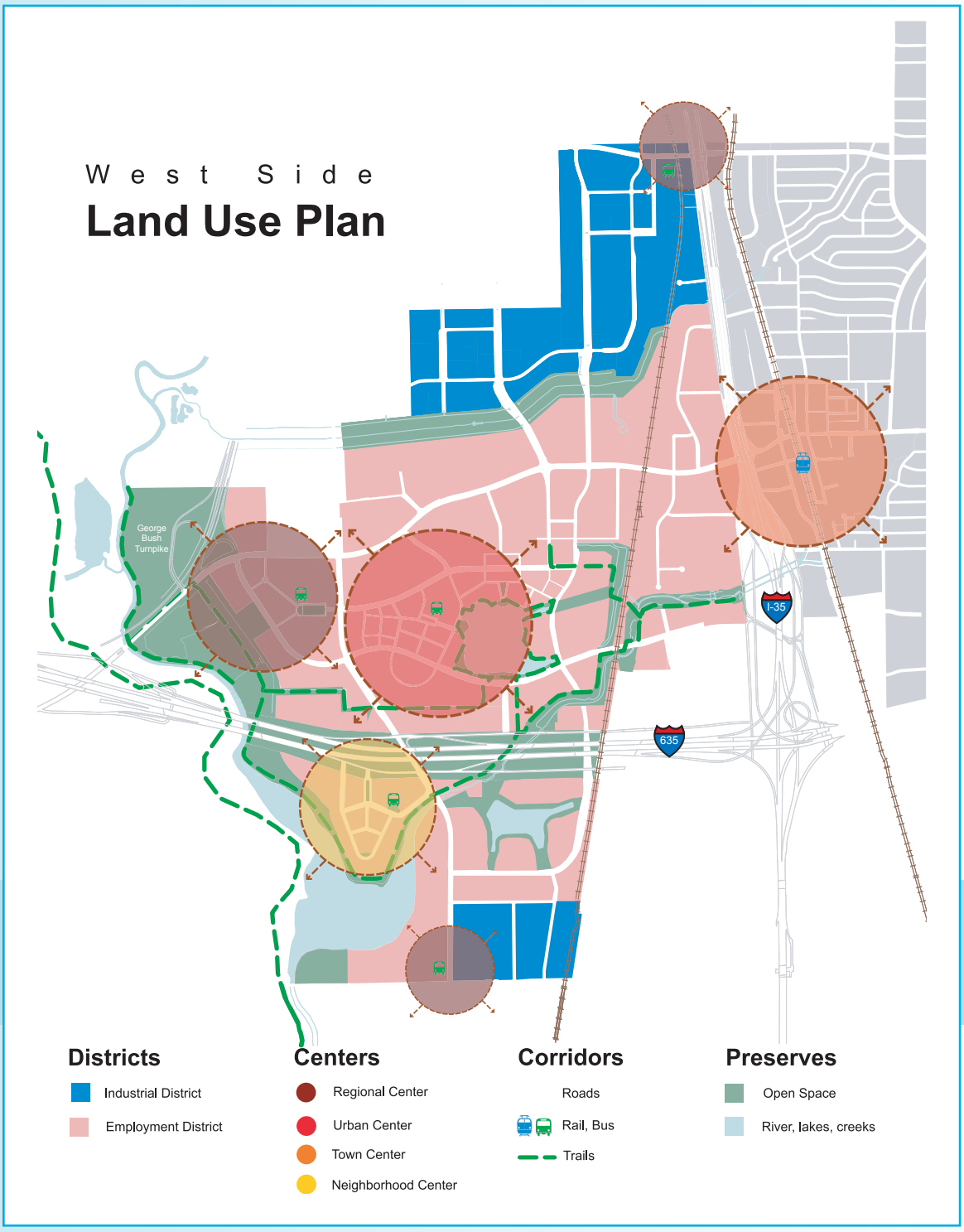
Possible Redevelopment Area

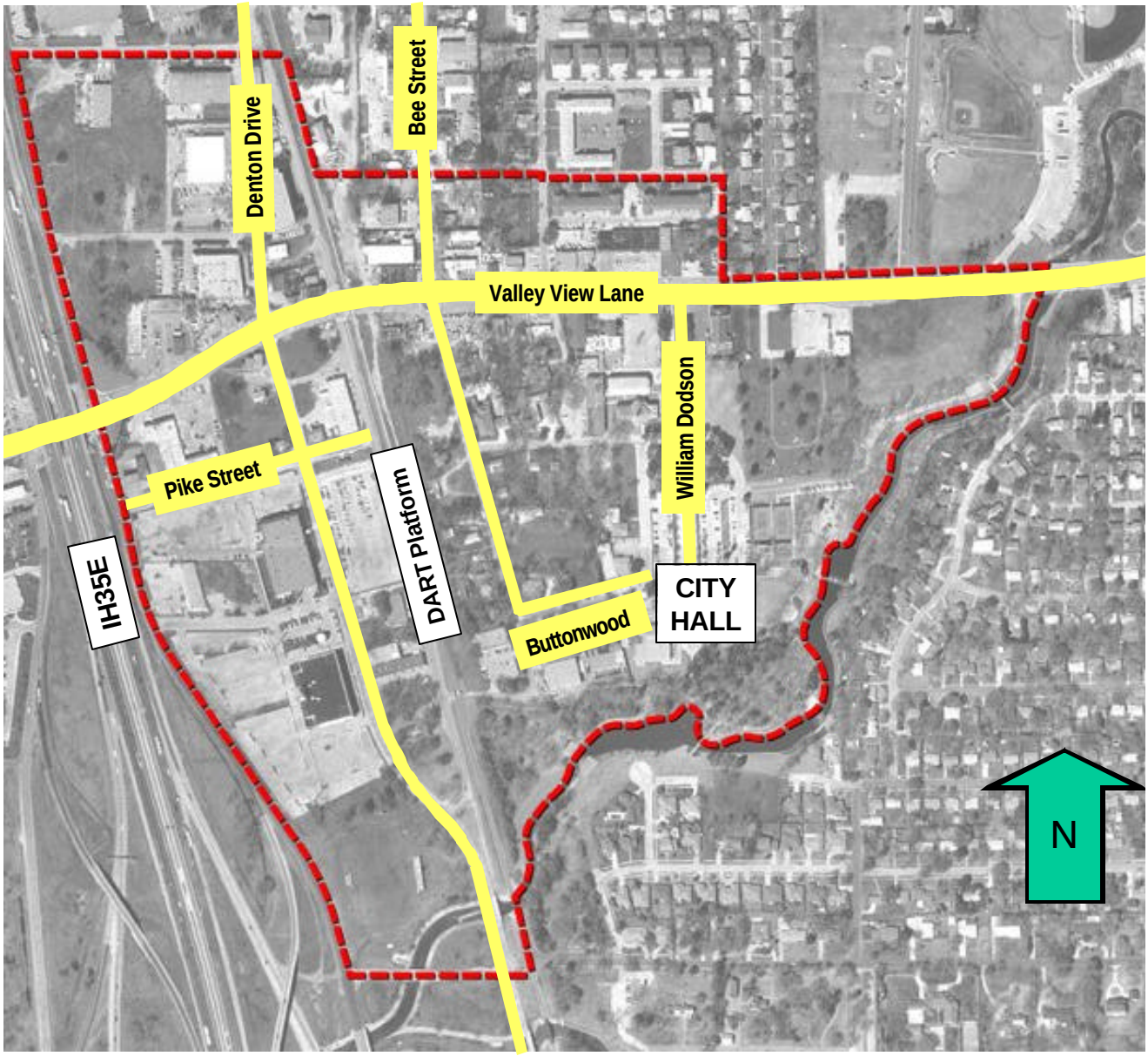
City Of Farmers Branch Texas
Existing Land Use Map

September 2008



5.) Land Use Plan Map

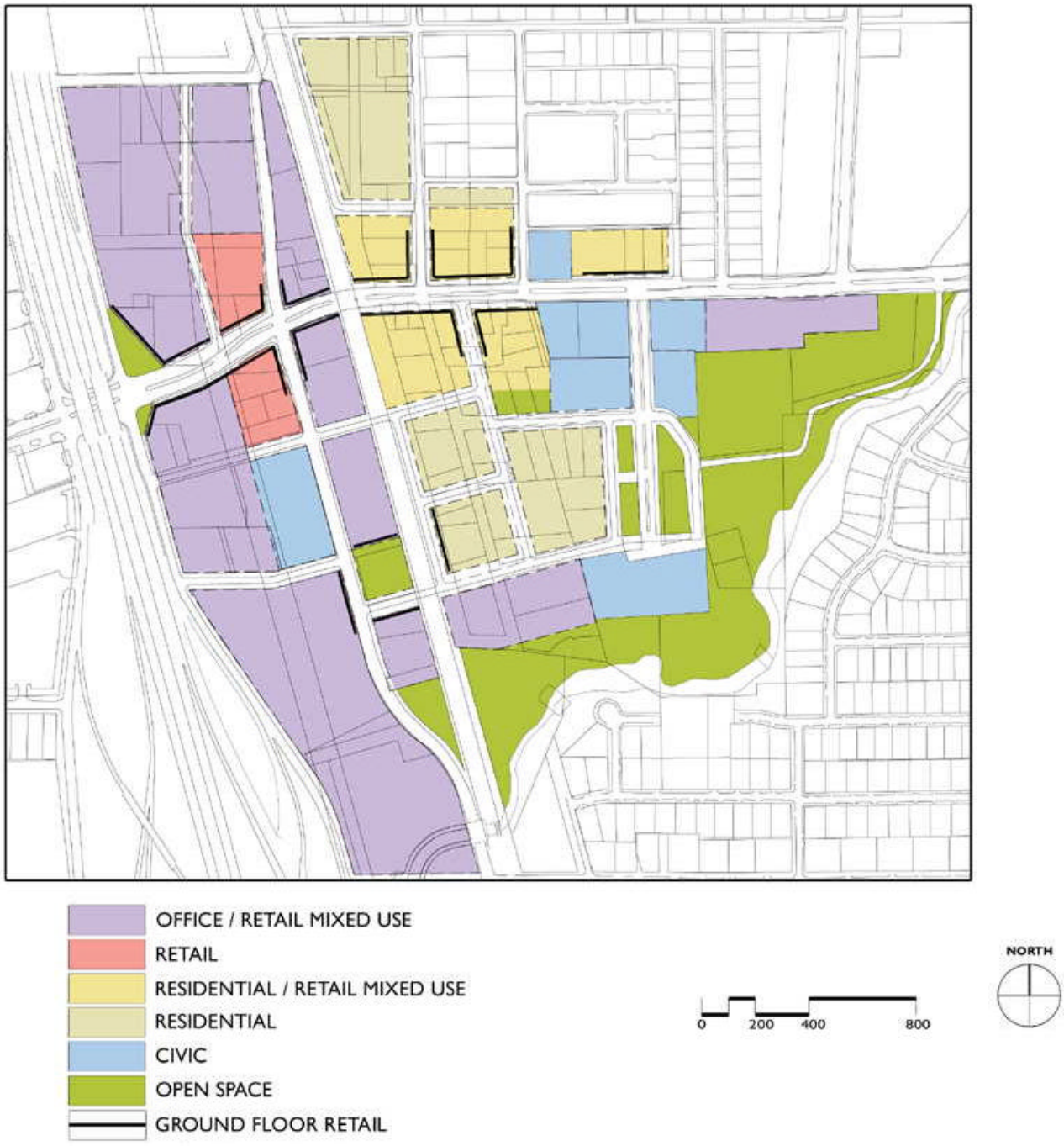




S t u d y A r e a

The vision for the station area is intended to allow for creative and imaginative implementation. The three options all reflect slightly different realizations of the guiding principles for the station area. However, there are also important features in all three plans that are essential to the vision's integrity such as the inclusion of a public plaza, the location of the light rail station platform, the extension of certain streets to enhance the incomplete grid that exists today and the preservation of the grove of post oak trees.

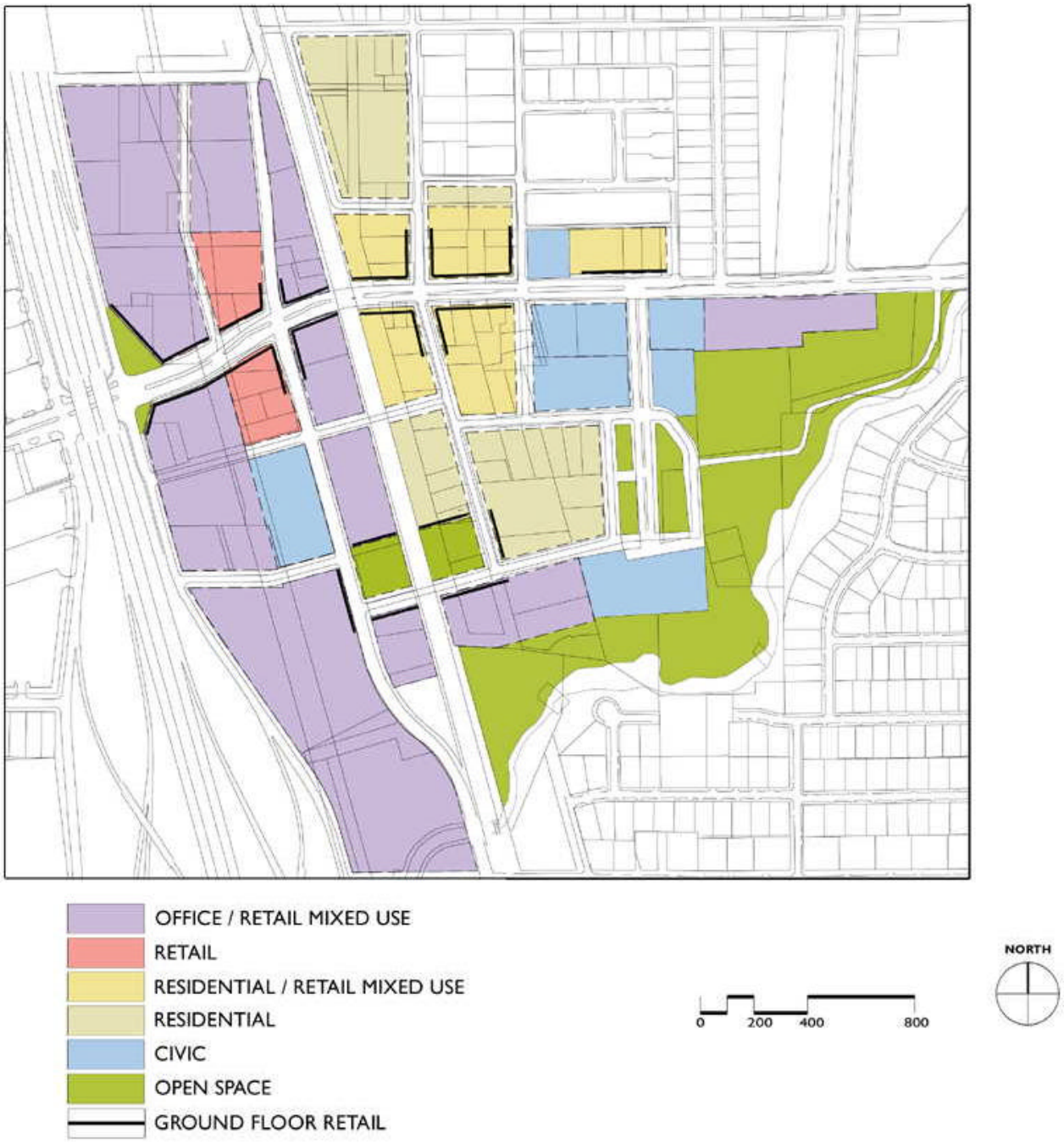
The descriptions of the three options refer to several streets and other features in the station area not labeled on the accompanying illustrations. The map shown above provides basic orientation to the station area that may be helpful to the reader in understanding the option descriptions.



Option A - Land use plan

Key Features of Option A

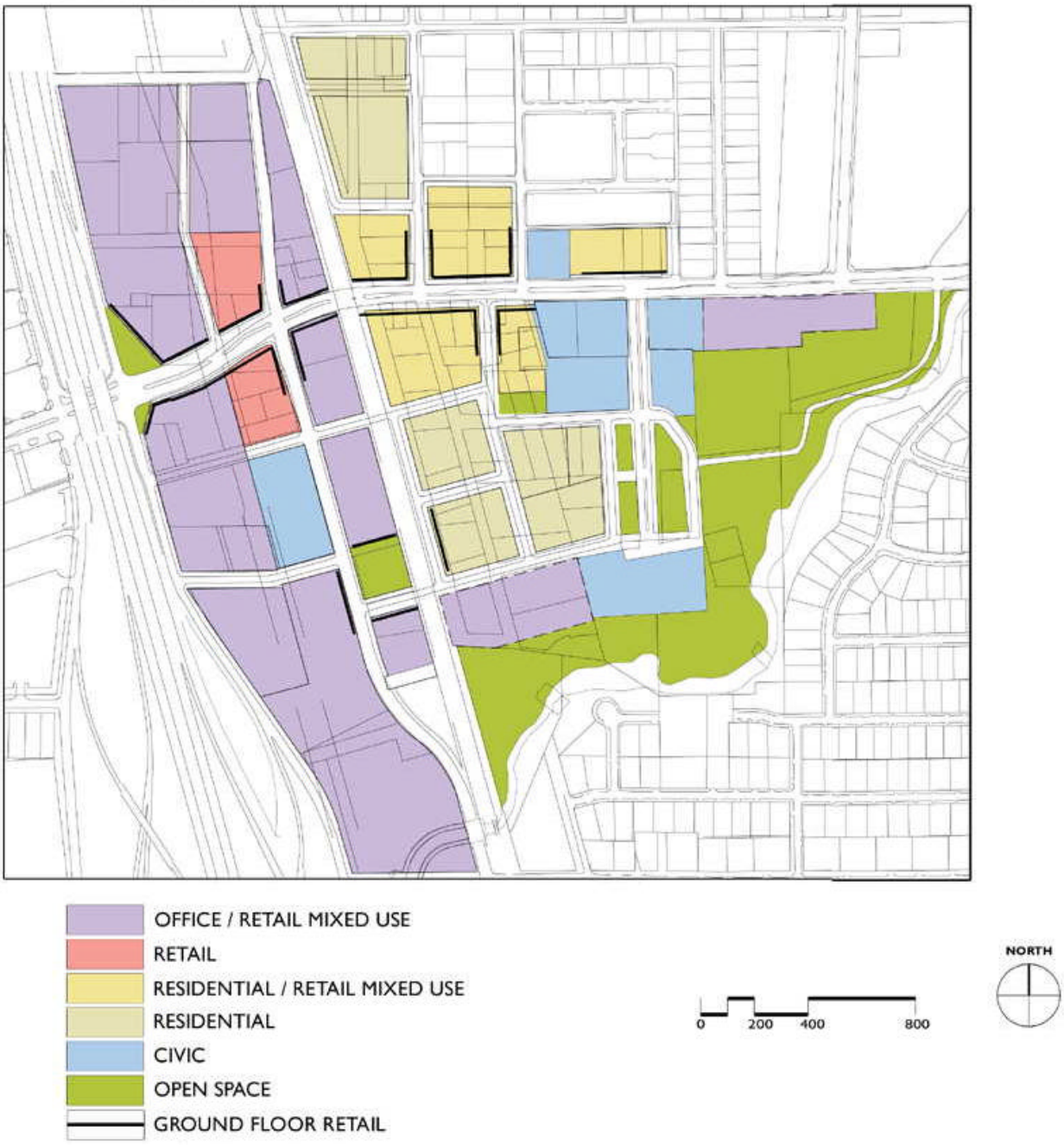
- Relocation of Bee Street approximately 150’ east
- Extension of Pike Street east of rail line
- Extension of Buttonwood Drive to Denton Drive
- William Dodson Parkway linked to Buttonwood Drive via City Hall Plaza



Option B - Land use plan

Key Features of Option B

- Bee Street remains at existing location
- Reduced residential density between rail line and Bee Street
- Local access (mews street) on east side of rail line deleted
- Open space civic plaza is mirrored on east and west sides of rail line
- Introduction of additional residential types including town homes north of City Hall
- William Dodson Parkway linked to Buttonwood Drive via City Hall Plaza



Option C - Land use plan

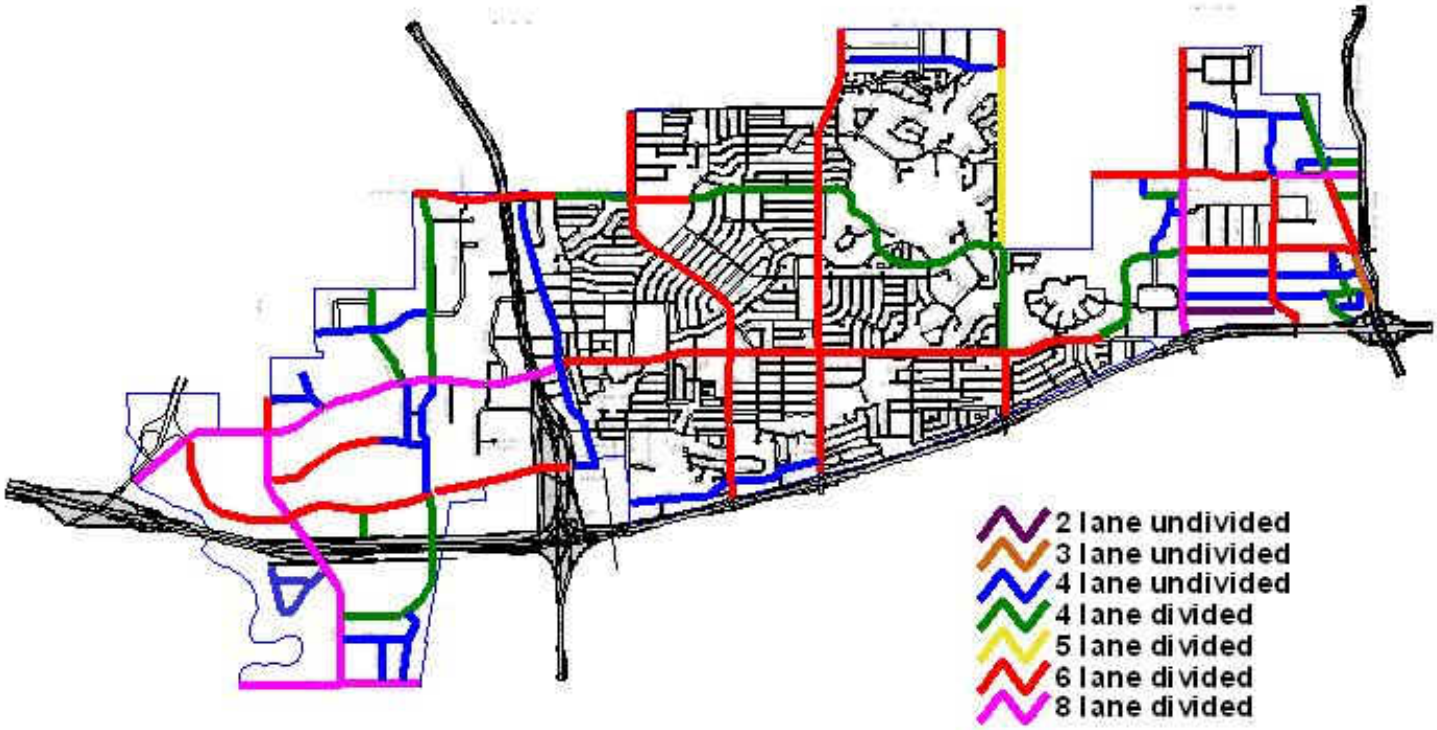
Key Features of Option C

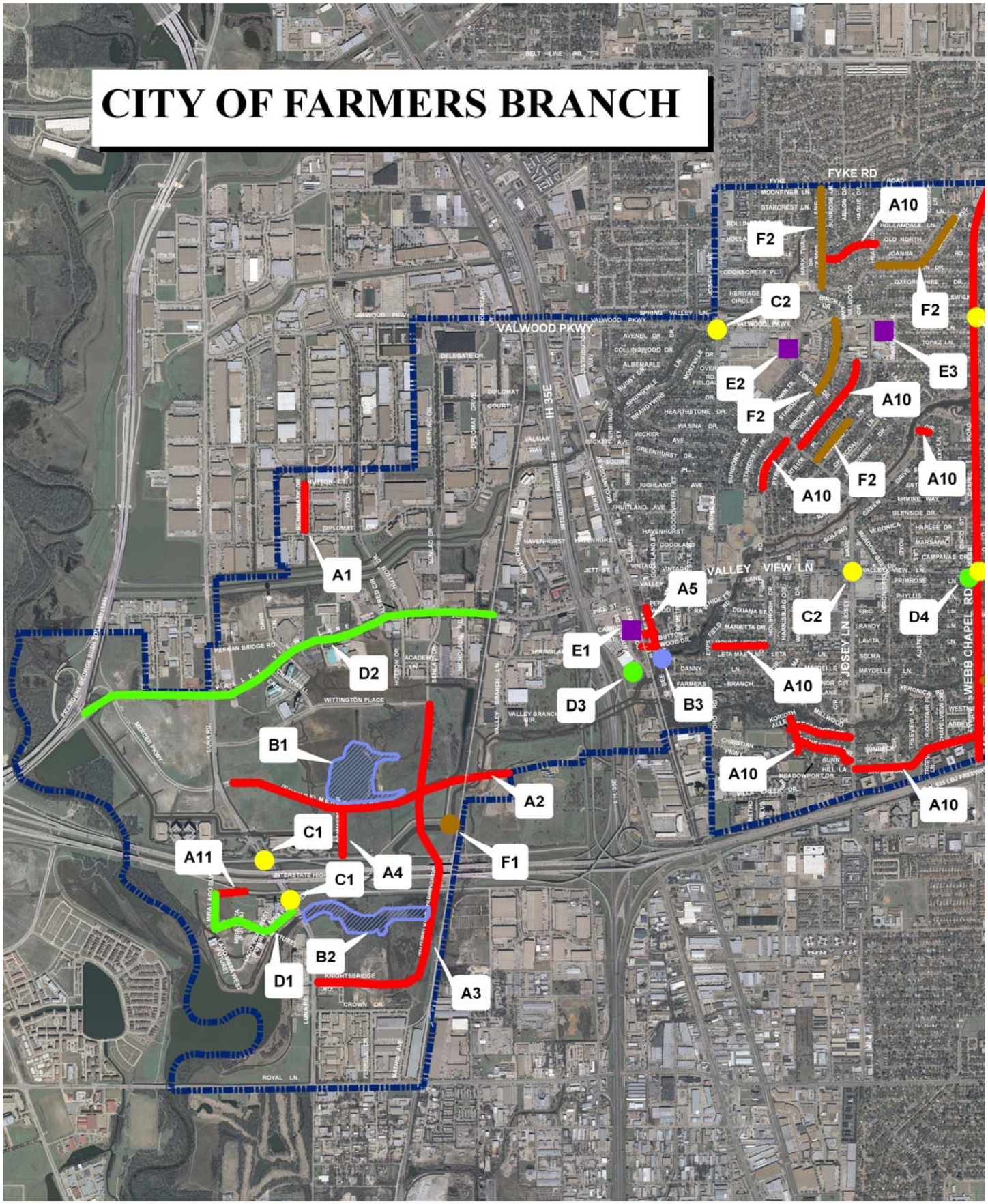
- Relocation of Bee Street approximately 150’ east
- Bee Street realigned north of Pepperwood Street
- Extension of Pike Street east of rail line
- Extension of Buttonwood Drive to Denton Drive
- No vehicular link between William Dodson Parkway and Buttonwood Drive via City Hall Plaza

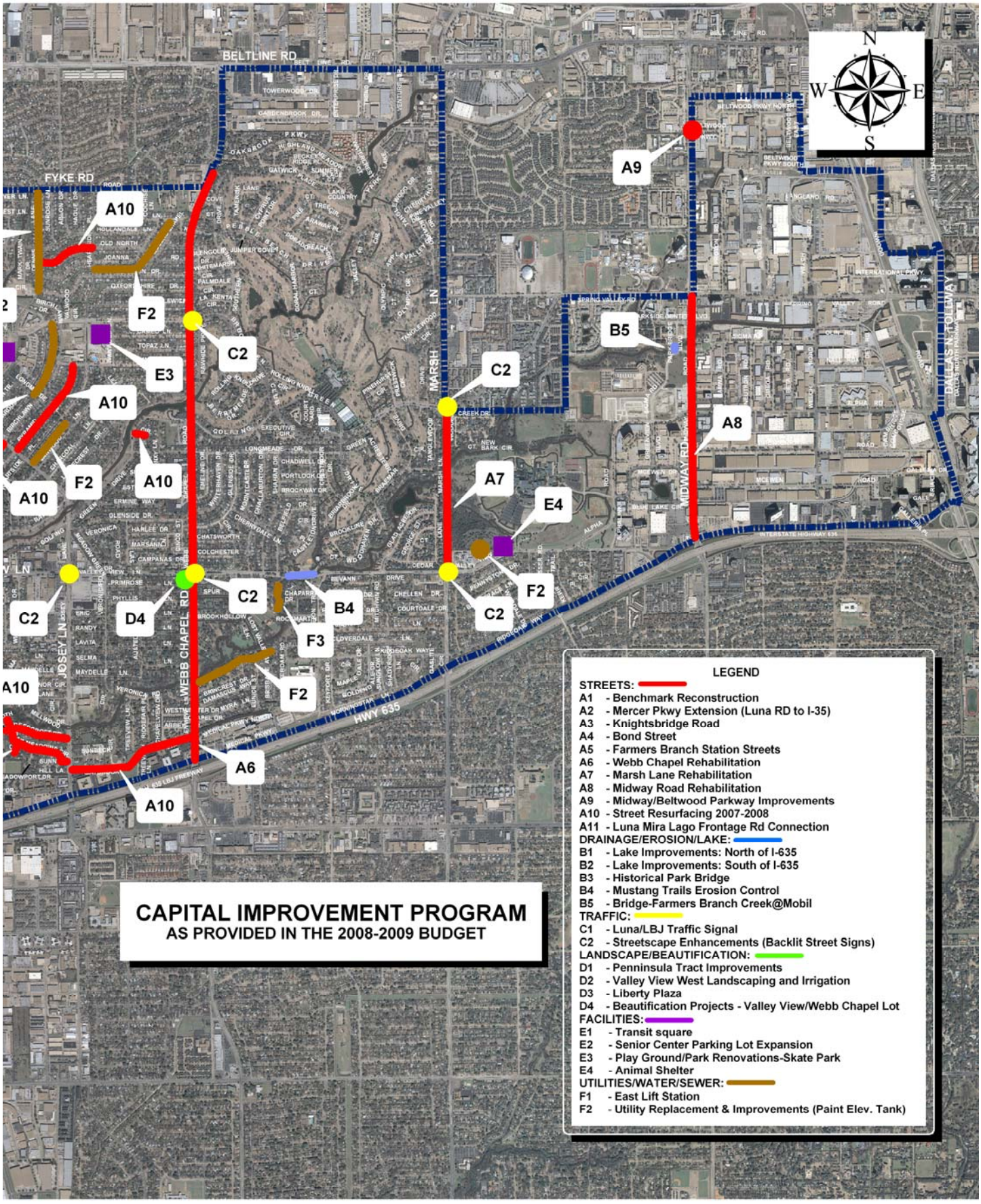

Conceptual Master Plan - Scheme 1
Existing Rawhide Creek
Proposed Green
Proposed Residential
Proposed Greenway
Proposed Civic Building
Proposed Paved Plaza
VALLEY VIEW
Proposed Paved Plaza
Proposed Paved Plaza
Proposed Parking Structure
Proposed Retail Street
Proposed Anchor Retail with Small Plaza off of Valley View
Proposed Street
JOSEY LANE
Existing Turner Hardware
Proposed Residential
Existing Chase Bank
Existing Retail
Proposed
Civic


Conceptual Master Plan - Scheme 2
Existing Rawhide Creek
Proposed Green
Proposed Residential
Proposed Greenway
Proposed Civic Building
Proposed Paved Plaza
VALLEY VIEW
Proposed Paved Plaza
Proposed Parking Structure
Proposed Retail Street
Proposed Street
JOSEY LANE
Proposed Civic Building
Proposed Residential
Existing Turner Hardware
Proposed Residential
Existing Chase Bank
Existing Retail
Proposed
Civic

2006 Thoroughfare Plan




CITY OF FARMERS BRANCH
FYKE RD
VALWOOD PKWY
IH 35E
VALLEY VIEW LN
JOSEY LN
WEBB CHAPEL RD
A1
A2
A3
A4
A5
A10
A11
B1
B2
B3
C1
C2
D1
D2
D3
D4
E1
E2
E3
F1
F2


BELTLINE RD
FYKE RD
WEBB CHAPEL RD
MARSH LN
MIDWAY RD
JOSEY LN
HWY 635
A10
F2
C2
E3
A10
A10
F2
A10
C2
D4
C2
B4
F3
F2
A10
A6
A10
A9
B5
C2
A8
A7
E4
F2
C2
N
W
E
S
CAPITAL IMPROVEMENT PROGRAM
AS PROVIDED IN THE 2008-2009 BUDGET
LEGEND
STREETS:
A1 - Benchmark Reconstruction
A2 - Mercer Pkwy Extension (Luna RD to I-35)
A3 - Knightsbridge Road
A4 - Bond Street
A5 - Farmers Branch Station Streets
A6 - Webb Chapel Rehabilitation
A7 - Marsh Lane Rehabilitation
A8 - Midway Road Rehabilitation
A9 - Midway/Beltwood Parkway Improvements
A10 - Street Resurfacing 2007-2008
A11 - Luna Mira Lago Frontage Rd Connection
DRAINAGE/EROSION/LAKE:
B1 - Lake Improvements: North of I-635
B2 - Lake Improvements: South of I-635
B3 - Historical Park Bridge
B4 - Mustang Trails Erosion Control
B5 - Bridge-Farmers Branch Creek@Mobil
TRAFFIC:
C1 - Luna/LBJ Traffic Signal
C2 - Streetscape Enhancements (Backlit Street Signs)
LANDSCAPE/BEAUTIFICATION:
D1 - Penninsula Tract Improvements
D2 - Valley View West Landscaping and Irrigation
D3 - Liberty Plaza
D4 - Beautification Projects - Valley View/Webb Chapel Lot
FACILITIES:
E1 - Transit square
E2 - Senior Center Parking Lot Expansion
E3 - Play Ground/Park Renovations-Skate Park
E4 - Animal Shelter
UTILITIES/WATER/SEWER:
F1 - East Lift Station
F2 - Utility Replacement & Improvements (Paint Elev. Tank)